

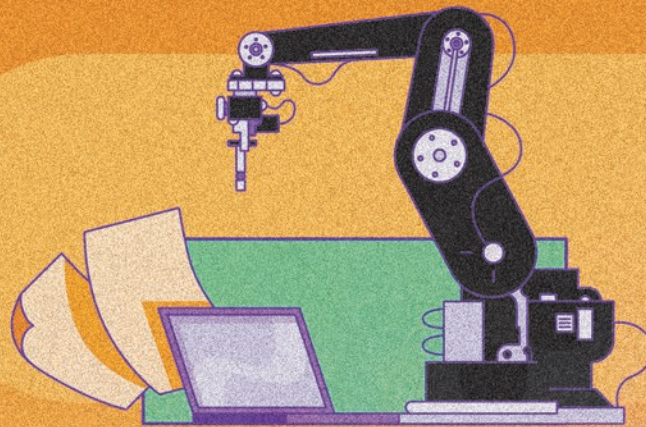
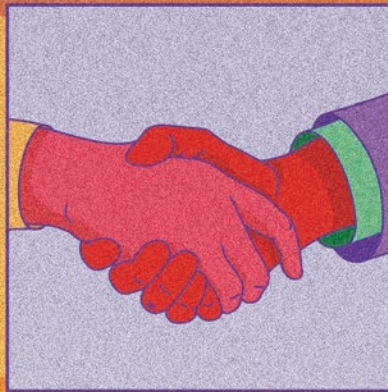
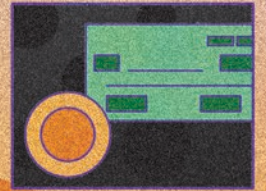
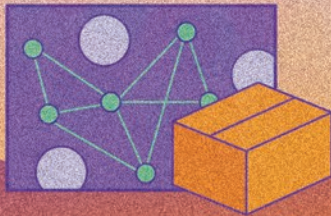
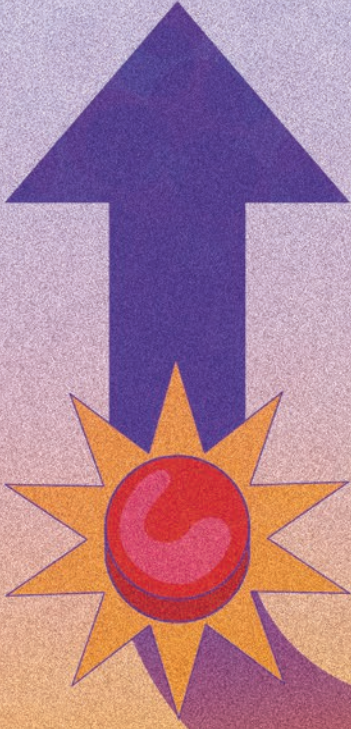
OCTOBER 2022 / ISSUE 68

WATERLOO ENGINEERING ALUMNI LETTER

FOUNDER FUEL

Waterloo Engineering's entrepreneurship ecosystem puts game-changing startups on the road to success

weal



weal

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CONTACT US:

Waterloo Engineering
Alumni Affairs
University of Waterloo
200 University Ave. West
Waterloo, ON N2L 3G1
engineering.alumni@uwaterloo.ca

We respect your privacy and communication preferences. To learn more, please go to: uwaterloo.ca/alumni/about-alumni-relations/privacy-policy

EDITORS:

Carol Truemner
Brian Caldwell

WRITERS:

Brian Caldwell
Angie Docking
Josh Martin
John Roe
Julie Stauffer
Carol Truemner

DESIGN:

University of Waterloo
Creative Services

ILLUSTRATION:

Laura Woodall (BAS '21),
Master of Architecture
student



FROM THE DEAN

TACKLING BIG QUESTIONS AND CELEBRATING OUR LOST LEADERS

There's nothing quite like the energy on campus early in the fall term.

It was an exhilarating honour in September to welcome a new cohort of Waterloo engineers and architects to our classrooms and labs, where they are now taking the first steps in their careers.



As you well know, our first-year students have joined a first-class institution. And at the core of our excellence remains a willingness to identify and create solutions to the world's most complex problems.

How can technology drive the future of health care towards a more resilient, patient-focused system? How can we reduce plastic waste and clean up the environment at the same time? How can we improve, redesign and reinvent in fields big and small?

As the feature story in this edition of WEAL demonstrates, members of the Waterloo Engineering community are stepping up once again to tackle all those questions. You'll read about fellow alumni who were nurtured in the deep entrepreneurship ecosystem at Waterloo and inspired to launch transformational start-up companies.

In faculty news, I am grateful that we are celebrating the lives of two of our most influential leaders – former engineering deans Douglas Wright and Pearl Sullivan – along with the broader University of Waterloo community this fall.

In September, the University held a celebration of life for Wright, the inaugural dean who laid a sturdy foundation for Waterloo Engineering's reputation for excellence and its growth into Canada's largest undergraduate engineering school.

In November, we will be celebrating the life of Pearl Sullivan at a special event in E7, the building forever tied to her legacy. As I'm sure many recent graduates can attest, there was no one quite like Pearl. Her dedication and determination helped ensure Waterloo will remain a leader in engineering for decades to come.

We miss them both tremendously.

Thank you for taking the time to read this edition of WEAL, our annual alumni magazine. I hope it inspires you to stay connected and keep us updated on your wonderful career achievements so we can continue to celebrate together.

Sincerely,

Mary Wells

MARY WELLS
Dean, Faculty of Engineering

FACULTY NEWS

Getting his due after decades

More than three decades after leaving to make his mark on the world, Taly Williams (BASC '94, civil engineering) has been honoured by his Ontario hometown for his athletic achievements.

A mural of Williams, who played for the Waterloo Warriors before suiting up in the Canadian Football League (CFL), was unveiled this summer on the wall of the local arena along with other successful athletes from Haliburton.

It was the culmination of a campaign by a class of Grade seven and eight students who discovered Williams and his sister, Lesley Tashlin, a sprinter for Canada at the 1996 Olympics, had been overlooked and set out to right a wrong.

A co-founder and managing partner at AQORA Capital, a Los Angeles investment firm focused on water infrastructure, technology and services, Williams recalled in a speech what it was like belonging to one of the few Black families in town.

"I don't know if Haliburton was proud of me," he said. "It didn't feel like it. I felt unaccepted in many places."

Thrilled by the belated recognition, Williams urged people everywhere to include and acknowledge others, especially those who seem different.

Making the fashion world greener

Iris Redinger is out to make the fashion world greener with an innovative approach to producing all-natural, biodegradable dyes using micro-organisms.

By growing colour, essentially, the Waterloo School of Architecture graduate hopes to launch commercial products next year that could be substituted in existing manufacturing processes. The technology also has potential applications in industries including cosmetics and plastics.

Redinger (BAS '21) launched her Waterloo-based startup, Material Futures, with support from entrepreneurial programs at Waterloo, including Velocity and the Engineer of the Future Fund, in 2018. This year, her efforts won her recognition with a Mitacs Entrepreneur Award.

After learning to sew at a young age, she gained invaluable insight into the fashion industry during a co-op term with Dutch designer Iris van Herpen in her first year at Waterloo.

"That was my first exposure to the fashion world and that was all possible through the architectural program," Redinger said.

Believing in the power of experience

Sanjeev Bedi, founding director of the busy IDEAs clinic for hands-on learning at Waterloo Engineering, was honoured as a "trailblazer" by a national engineering organization.

A professor of mechanical and mechatronics engineering with a deep belief in the power of experiential education, Bedi was named the 2022 winner of a Medal of Distinction in Engineering Education awarded at a gala in Toronto by Engineers Canada.

"Sanjeev Bedi believes that to be a great teacher you need to give students the chance to learn by doing," Engineers Canada said. "You need to give them the kind of hands-on opportunities that will build confidence and expand their understanding."

The IDEAs clinic in Engineering 7 hosts two-day Design Days events for all 14 programs at Waterloo, giving 2,000 students hands-on learning experiences each year.

Bedi was also recognized for innovation and ingenuity beyond the classroom, including volunteer work that has had an impact in India.

One of his proudest achievements was motivating a team of students to build a computer-controlled machine to help low-income young people in India support their families by making and selling table legs.

Supporting 2SLGBTQ+ students on campus

Michelle Liu and her partner Allie Kennington are doing something tangible to fill a gap they felt during their own student days at Waterloo.

To help provide more support for 2SLGBTQ+ engineering students on campus, they created a scholarship – believed to be the first of its kind in Canada – based on contributions to that community through extracurricular or volunteer involvement.

The Liu-Kennington Award for the 2SLGBTQ+ Engineering Community, which launched last year, awards \$1,000 annually to a student in year two, three or four of any engineering program at Waterloo.

“Engineers often respond to our 2SLGBTQ+ identities with ‘what you do in your spare time doesn’t matter at work’ and that is precisely the kind of marginalization that we need to move away from,” they said.

The couple now live in Ottawa, where Kennington (BASC ’19 and MASc ’22, geological engineering) is an environmental engineering specialist with SNC-Lavalin and Liu (BASC ’18 and MASc ’20, civil engineering) is pursuing a law degree and an engineering PhD at the University of Ottawa.

Printing in 3D with wet clay

The reception area of a high-rise office in downtown Toronto now features a one-of-a-kind privacy wall thanks to a research team from the Waterloo School of Architecture.

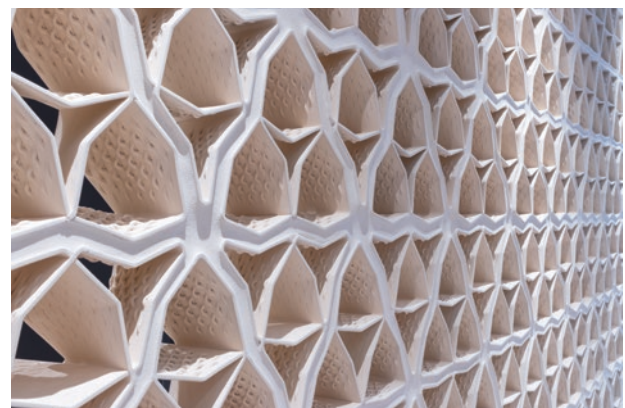
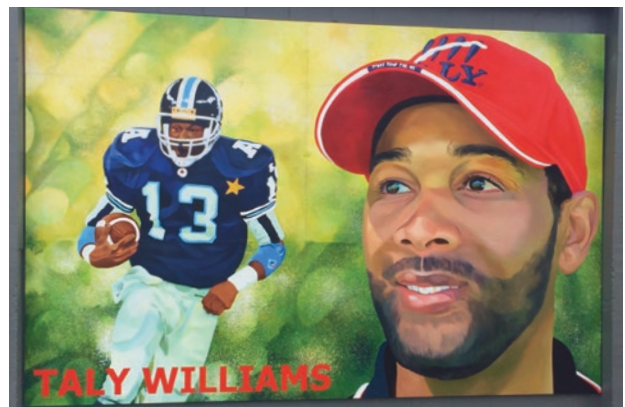
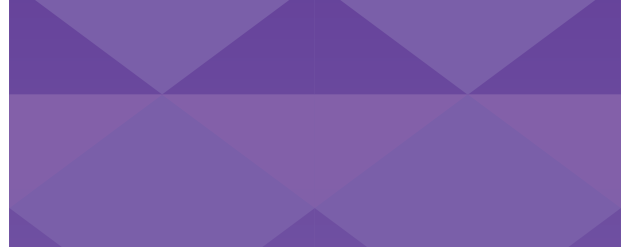
Comprised of 175 interlocking clay bricks, the Hive project combined an ancient building material with modern digital design and 3D printing technologies.

“This approach embraces the spirit of traditional ceramic craft with robotic precision, offering new avenues for material expression and geometric complexity within this field,” the team wrote in a project description.

Professor David Correa and his students have been working with clay since acquiring a 3D printer capable of making large-scale objects with it in 2018.

The honeycomb wall features variations in light and privacy as the apertures of its bricks – each one of them unique – gradually open and close.

“It was a great applied research experience,” Correa said. “We were super thrilled when it all came together and it worked out – even better than expected.”



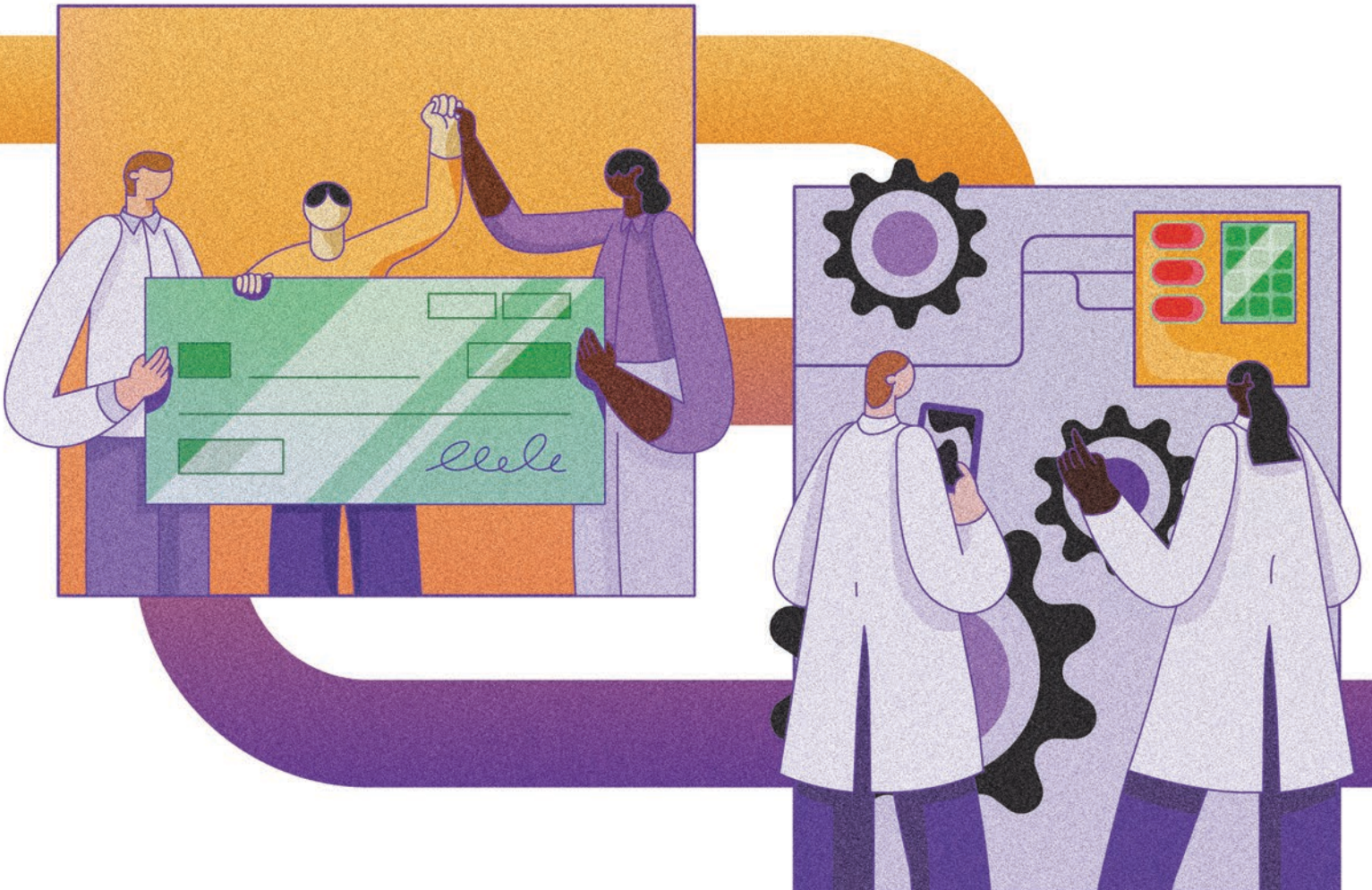
TOP PHOTO: Michelle Liu (left) and Allie Kennington launched a scholarship for 2SLGBTQ+ students.

MIDDLE PHOTO: A new mural in Haliburton celebrates the professional football career of Taly Williams.

BOTTOM PHOTO: Architecture researchers created this unique clay wall for a downtown Toronto office.

FOUNDER FUEL

WATERLOO ENGINEERING'S
ENTREPRENEURSHIP
ECOSYSTEM PUTS
GAME-CHANGING STARTUPS
ON THE ROAD TO SUCCESS



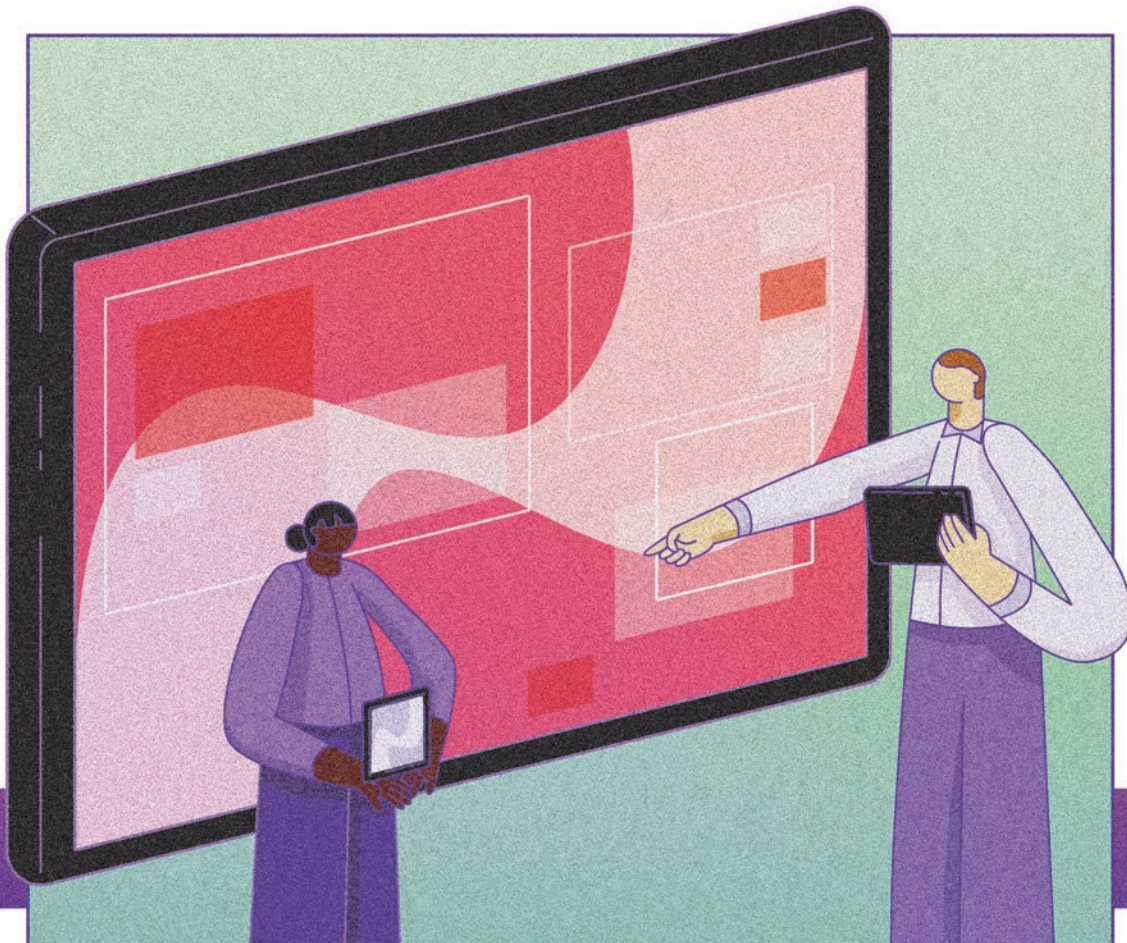
Waterloo Engineering attracts some of the brightest minds from around the world. Many come with an entrepreneurial fire in their belly already. For others, a spark ignites when they experience startup life during a co-op placement, see alumni create billion-dollar companies or realize their Capstone Design project has commercial potential.

The entrepreneurship ecosystem that surrounds them is designed to fan those flames.

Even modest amounts of money can make a big difference early on, so Waterloo Engineering hands out dozens of financial awards each year. Meanwhile, facilities like RoboHub and the Engineering Machine Shop provide the cutting-edge tools to prototype disruptive technologies.

Within the broader ecosystem, the Conrad School of Entrepreneurship and Business offers a variety of entrepreneurship courses. There are also numerous mentoring and financing programs offered through the Accelerator Centre, Velocity, the Waterloo Commercialization Office and more.

It's a powerful combination. And as the following profiles demonstrate, that synergy has fostered extraordinary startups that are poised to make an impact – or are already shaking up the status quo.



FEATURED STORY

YOU CREATE IT, YOU OWN IT:

HOW THE UNIVERSITY OF WATERLOO'S BOLD IP POLICY SPURS INNOVATION

Waterloo Engineering is a magnet for entrepreneurial professors and students alike. And Policy 73, which states that the rights to intellectual property (IP) created at the University belong to the inventor, is a big reason why.

Unlike most Canadian universities, Waterloo recognized early on that giving faculty and students ownership of the IP they create is a huge incentive for innovation, turning research into breakthroughs that benefit society.

Today, Waterloo is a national leader in transferring ideas and technology to the private sector.

No other university in Canada produces more entrepreneurs backed by venture capitalists, while Waterloo Region – the municipality it is situated in – has become a global high-tech hub.

It's all thanks, in part, to Policy 73.



CREATING CARBON-CAPTURE TECHNOLOGY FROM PLASTIC WASTE

**NICOLE HOWARD, RACHEL
BLANCHARD, STEVEN VILCACUNDO
MOLINA** and **KRIS MA** (all BAsc '22,

chemical engineering) set out to develop a Capstone project that could improve the world.

"I know that sounds cheesy," says Howard. "But we did want to make a difference."

They targeted the mountain of PET water bottles discarded every day, developing a novel thermochemical process to break down that plastic waste and convert it into an important commodity: activated carbon. It's a product widely used in the textile industry to remove dyes from wastewater. It's also increasingly sought for its carbon-capture capabilities.

As their results revealed, the activated carbon created by Howard and her teammates outperforms what's currently on the market, which is made from either environmentally destructive coal or expensive biomass. That creates big wins for the planet – and a seriously compelling business case.

This spring, the team won a \$50,000 Palihapitiya Venture Creation Fund award through Waterloo Engineering. Suddenly, the four engineering classmates were entrepreneurs, with money to move their technology forward.

But they knew they had a lot to learn on the business side. That's where Velocity's Concept Cornerstone Program came in. It provided a community of advisors and fellow student founders who worked with the team to explore potential business models.

"It helped us really nail down our target market and helped us really understand our problem statement," says Howard.

Busy months lie ahead to get their fledgling venture – Reduce, Carbonize, Adsorb – off the ground, launch bench-scale testing and start hunting for the next round of funding. But the idea of creating technology that could achieve so much good is a powerful incentive.

“

We're really passionate about what we're doing as a company”

NICOLE HOWARD



UPPING THE IQ OF VENDING MACHINES

In 2010, **TOMMY CHAN** and **JASON YEUNG** (both BAsc '12, systems design engineering) were sitting in the Student Life Centre, brainstorming ideas for their fourth-year design project. As they debated, they watched a worker laboriously taking notes of the inventory in the vending machines and then returning with dolly-loads to restock. It was a classic entrepreneurial aha moment.

At the time, vending machines were very much a low-tech, mom-and-pop industry. Chan and Yeung saw the opportunity to disrupt it using emerging Internet of Things (IoT) technology.

The pair bought their own unit for \$400 and equipped it with telemetry and remote monitoring devices. They got permission from the dean of engineering to install their prototype on campus. And they proved that their technology could track inventory remotely, tell them what to refill and when, and alert them to coin jams or other malfunctions.

After graduation, a \$60,000 fellowship from the University and FedDev Ontario helped them expand to a full-time business. Guidance and connections through Communtech were equally important.

“All entrepreneurs in the beginning face the same issues,” Chan says. “And that’s really where mentorship and reaching out for help matters.”

Yeung agrees, stressing it takes the right personality and drive to become an entrepreneur, as well as the right support at the right time to boost the chances of success.

The result in their case is Adaria, a company that boasts 1,800 vending machines across the Greater Toronto and Hamilton Area – including units at Pearson Airport, the CN Tower and Canada’s Wonderland – making them the biggest independent operator in the region.

Now they are preparing to shake up the retail sector once again. Chan and Yeung are creating unattended “micro-markets.” Equipped with cameras, weighing sensors, artificial intelligence and a payment system they’ve recently developed, these markets could potentially replace traditional cafeterias and convenience stores.



TURNING DRONES INTO INDUSTRIAL WORKHORSES

Unmanned aerial vehicles (UAVs) – commonly known as drones – have huge potential, according to **MATT MCROBERTS** (BAsc '15, mechanical engineering). They’re easy to operate and cost-effective, and can venture into environments

that aren’t safe for people. What holds them back is endurance. Currently, batteries can’t provide enough power to keep drones in the air for long periods of time or take heavy payloads.

McRoberts and his teammates set about solving that problem for their Capstone project. The result is a hybrid powertrain that enables drones to shift seamlessly between gasoline and batteries as needed, creating a viable solution in all kinds of industrial and commercial settings.

Actually launching their startup, Pegasus Aeronautics, was “pretty brutal,” McRoberts says, because “you see all your friends go off and take lucrative engineering jobs and you’re sitting there eating spam and rice.”

But support and funding from Velocity and the Accelerator Centre’s JumpStart program, plus the mentorship of Waterloo Engineering faculty members, helped the new company navigate the unfamiliar business world and cultivate an entrepreneurial mindset.

“These are people who have done it before, who understand the trials and tribulations of starting a company,” says McRoberts. “That advice is worth its weight in gold.”

He’s proud of what they’ve accomplished so far. Pegasus is now selling the technology to billion-dollar UAV manufacturers for use around the world in applications from precision agricultural to navigating ice floes.

But they’re not resting on their laurels. Their team – which is comprised almost entirely of Waterloo grads – is focused today on building even better, more powerful systems.

Starting a business may be a big undertaking, McRoberts says, “but with the right people around you, you kind of feel undefeatable.”





FORGING CONNECTIONS IN A POST-PANDEMIC WORLD

SPURRYA JAGGI (BASc '18, mechatronics engineering) always had entrepreneurial ambitions. Combining an engineering degree with courses from the Conrad School of Entrepreneurship and Business at Waterloo Engineering was perfect preparation to start realizing them.

In one of those Conrad courses, the instructor challenged students to create something that could help 25 million people. In response, Jaggi and her teammates developed Prava – a peer-to-peer marketplace designed to give people in India access to renewable energy.

The strength of the concept took them all the way to Ecuador for the regional summit of the Hult Prize, a million-dollar competition for young social entrepreneurs. Although they didn't win, the process of developing a business model and showcasing it to judges was invaluable.

Jaggi recognized she needed more experience under her belt to successfully execute a startup vision. A stint in Silicon Valley filled the gaps. When she moved back to Canada last year, she returned with the skills needed to launch Lichi, a meetup app to help Torontonians connect in a post-COVID world.



After the pandemic, a lot of people found it hard to make social connections”

SPURRYA JAGGI

Lichi makes it easy to build friendships through low-key meetups in bars, restaurants and cafés.

The platform came together in less than three months. Meanwhile, a savvy social media campaign allowed Jaggi to collect the email addresses of 500 potential customers before she wrote the first line of code, while Instagram buzz led to a pre-launch interview on CityTV.

Today, Lichi has hundreds of users and an enthusiastic response from meetup participants.

“Now it's all about sustaining and growth,” says Jaggi, who is riding the wave of success, honing her entrepreneurial skills further – and meeting lots of new friends in the process.



SAVING STROKE VICTIMS WITH THE WORLD'S SMALLEST CAMERA

According to high-profile venture capitalist Chamath Palihapitiya, launching any startup is hard, so you might as well aim high.

MICHAEL PHILLIPS and his roommate **PHILLIP COOPER** (both BAsc '17, mechanical engineering, entrepreneurship option) took that advice seriously when they co-founded Vena Medical.

For their Capstone Design project, the pair decided to create a camera that could help surgeons remove blood clots from the brains of stroke patients. That meant making the world's smallest camera – and making it flexible enough to travel through a maze of veins and arteries.

They knew they would need all the help they could muster, plus a whole lot of money, so they lined up advisors from Waterloo Engineering and the Conrad Centre and started sending out funding proposals.

In 2017, their focused approach secured support from the Esch awards, the Engineer of the Future Fund and the Palihapitiya Venture Creation Fund.

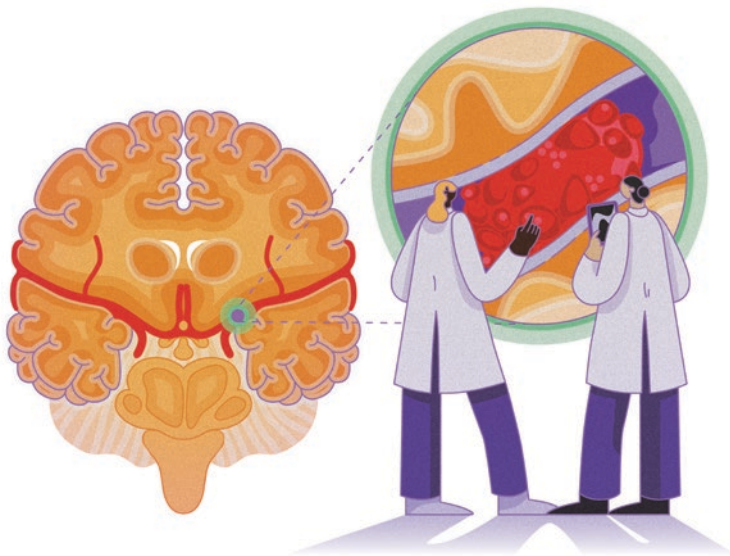
“By the time we graduated, we had \$150,000 in grants,” Phillips says.

One success led to the next, including patents, pre-clinical trials and widely cited journal articles. The team also invented a complementary device that recently received Health Canada approval: a balloon distal access catheter that allows doctors to get much closer to a clot, making it easier to remove.

“It's been a pretty exciting five years,” says Phillips, adding it was immensely rewarding when surgeons began using their catheter device during trials involving stroke patients this summer.

Clearly, aiming high has paid off, but Phillips also credits the Accelerator Centre, Velocity, Communitech and other early stage supporters for helping Vena Medical hit the mark.

“They make it easy to start a company,” he says.



KEEPING SUN-SEEKERS SAFE

Sunscreen can help prevent skin cancer, but only if it is used correctly.

ANDREW MARTINKO (BAsc '15, nanotechnology engineering, MBET '16) and his Capstone team decided to give sun-seekers a little nudge.

They developed UV-activated ink you apply with a marker before slathering on sunscreen. When the ink turns purple, it's time to reapply. The idea attracted all kinds of attention, especially after they were named runners-up for the prestigious international James Dyson innovation award.

To bring their marker to market, the group founded Suncayr. What followed next was a lot of pivoting. Initial feedback on the product was good, but when they dug a little deeper, questions started to emerge. How much ink do I need? Will kids think it's okay to draw on themselves with other kinds of markers? The team went back to the drawing board and created UV-sensitive stickers instead.

Then, just before their U.S. retail launch, COVID-19 hit and people stayed away from stores.

Martinko and co-founder **CHAD SWEETING** (BAsc '15, nanotechnology engineering) persevered. They brokered an acquisition by Dig It Apparel, which brought substantial branding and sales experience, and focused on online sales. Today, they've attracted hundreds of thousands of Amazon customers and a raft of five-star reviews.

Martinko gives a lot of credit to early support from the Waterloo entrepreneurship ecosystem, including backing from the Engineer of the Future Fund and the Esch awards. He particularly cites Velocity Science, a “phenomenal program” where they could see other entrepreneurs struggle, be inspired by their successes and talk through issues over a beer.

So what advice would Martinko now share with young entrepreneurs over a beer?

“Just start,” he says. “Even if it goes belly up, it's all going to look pretty good on a résumé.”



DELIVERING LIFE-SAVING DATA TO DOCTORS

YOUSSEF HELWA (BASc '15, nanotechnology engineering, MASc '17, electrical and computer engineering) arrived at Waterloo not long after Velocity launched and new ventures like Thalmic Labs were creating big buzz.

He quickly got seduced by the excitement of the startup world, co-founding NERv (scheduled to be renamed FluidID) in 2014 with **AMR ABDELGAWAD** (BASc '16, nanotechnology engineering, MBET '17). Their smart monitoring system detects bleeding, leaks and infections after abdominal surgery so doctors can treat complications sooner.

The innovation earned them a place in Velocity, funding from the Engineer of the Future Fund and international attention as the 2019 winners of the Entrepreneurship World Cup.

Developing medical technology isn't cheap. That early support was critical to pay for research and development materials and refine the technology enough to attract private capital.

"The first \$5,000, \$25,000 or even the \$50,000 cheque that we obtained, those were massive for us," Helwa says.

Advice from professors, the Waterloo Institute for Nanotechnology and other up-and-coming companies in the Waterloo ecosystem was also invaluable. Startups like Intellijoint Surgical – another Waterloo Engineering medical technology success story – helped fuel their ambitions.

“

These pioneers provide guidance down the chain”

YOUSSEF HELWA

Today, the Kitchener company has raised about \$65 million, employs more than two dozen people and, most significantly, recently received approval for its technology from Health Canada.

The company's big challenge now is finding talent to continue growing. The highly regulated med-tech space requires advanced knowledge to navigate everything from patents to patient privacy, but Helwa is committed to staying in the region.

"We love it as founders," he says. "We love it as a company. We love it as individuals."

They are also committed to paying forward the support they received and helping the local ecosystem continue to grow and thrive.

CLASS NOTES

ROCKING THE CAMPUS

JOE RECCHIA

**BASC '68, CHEMICAL; MSEM '71,
MANAGEMENT SCIENCES AND SYSTEMS DESIGN**



Recchia never dreamed he'd become a concert promoter when he entered Waterloo Engineering in 1963. But when his love for music went unrequited in his new social setting, he took matters into his own hands and brought some of the era's biggest pop stars to campus and the surrounding community.

Ever heard of Elton John, Led Zeppelin, Kiss, the Bee Gees, Alice Cooper or Cat Stevens? Recchia had, probably long before you did. And he signed them all, plus others, to rock the town.

"When you want me to get something done, I don't know the word 'can't'," the gregarious grandfather says.

Campus life nearly six decades ago, Recchia recalls, didn't offer much in the way of culture, and since nature abhors a vacuum of any kind, he filled it his own way. At first organizing engineering student dances, he persuaded popular Canadian acts like Little Caesar and the Consuls to come to Waterloo.

And after he connected with New York City promoters, things really took off. Recchia had to deal with prima donnas like Ike Turner. But he got to party with Supertramp. He set up a circuit that brought megastars to 75 universities across Canada.

And then in 1975 he moved on to an engineering career that eventually led him to a senior vice-president's office with Michelin Canada.

"I've had an incredible life," Recchia says.

1963

CLASS REUNION – 60-YEAR ANNIVERSARY JUNE 3, 2023



HUGH WILLIAM (BILL) MCKIBBON (CIVIL '63) currently living near Halifax, Nova Scotia, says "I am continuing to pursue small format sketching and watercolour painting." hwmck37@eastlink.ca

1964



MICHAEL GOSS (CHEM '64, '65, '69) reports that "Thanks to University Waterloo co-op, my wife Patricia and I have just celebrated our 30th retirement anniversary with family at our home in Nanaimo!" mikegoss@shaw.ca

MURRAY LENNOX (ELECT '64) has been comfortably retired since 1998, enjoying extensive golf games (up to five days a week), and amazing worldwide travel (up to 10 weeks a year). He has had the opportunity to visit nine provinces, 47 states and 16 countries. Murray says "There is a full life after a 45-year career." murray.lennox@rogers.com

ROBERT N. K. LOH (ELECT '64, '68) has taught at various universities since graduation and has won three endowed chair professorships on two continents. He retired in 2016 and is grateful to the University of Waterloo for his education. loh@oakland.edu

1968

CLASS REUNION – 55-YEAR ANNIVERSARY JUNE 3, 2023

1969

RUSSELL BAIRD (MECH '69) published historical ad-maps of cities (1972-2003) after being plant manager of Traveliner Trailers, Ajax, ON (formed in 1969 by GM Oshawa engineers with whom he worked on co-op). Served as a reservist from 1959-2009. He now writes, often on Canadian history. commanche2003@yahoo.com

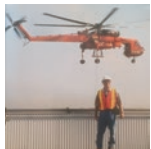
DENNIS BEKER (CHEM '69) says "I think of my career as 'a different path.' After graduation, I studied in the UK as one of the last Athlone Fellows. On my return to Canada, I worked for a variety of companies, mostly large corporations (because that's what you did back then). After 20 years of corporate life, I decided that I was not cut out for that lifestyle, so my wife Pam and I founded a small business. We sold it after 21 years. I had the time of my life. Now happily retired."

dbeker@rogers.com

ROBERT FISH (CIVIL '69) retired after 18 years design construction and maintenance of Canadian railways, 12 years safety regulation of railways and 23 years consulting in railway safety both within Canada and internationally (South Africa and Peru).

fish@jockvalley.com

1971



HANS ZANDER (CIVIL '71) semi-retired in 2015 from his project management company, Winstall Corp. Hans continues to enjoy providing part-time advisory

services in the high-rise facade maintenance equipment industry.

winstall@rogers.com

1972



DANIEL ANDERSON (CIVIL '72, '74) has worked since 1990 as a full-time professor at Algonquin College teaching courses in electrical engineering technology,

photonics engineering technology and fire protection and safety. He conducted research on a new and innovative traffic signalization head. He's the former chief building inspector for the City of Kanata and special projects engineer for the City of Windsor. He worked for 14 years with Canada Mortgage and Housing Corporation as program manager in Sudbury, regional engineer in Toronto and senior engineer and section head in Ottawa responsible for the Canadian Construction Materials Centre. Retirement is on the horizon.

andersd@algonquincollege.com

1973

CLASS REUNION – 50-YEAR ANNIVERSARY JUNE 3, 2023

RALPH SORENSEN (ELECT '73) says "Our 50th reunion is coming next year. Make sure you are on our email list by contacting any one of the class reps: **BRUCE MOTTERSHEAD** (ELECT '73, SD '74), **KEITH RUTHMAN** (ELECT '73) and myself."

1974



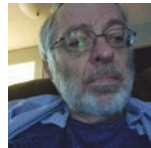
SHAHEERA BIEBER (MECH '74) says "Hi Guys, I'm now retired and travelling post-Covid.

I live in Toronto part-time and Memphis, TN. Chris and I celebrate our 50th

wedding anniversary this year. Drop a note and let's celebrate any occasion soon."

shaheerabieber@comcast.net

1975



ALAN ROWNTREE (MECH '75) asks "is anybody still working?"

alan.rowntree@sympatico.ca



CHERIAN SEBASTIAN THACHENKARY (MSCI '75, '81) has retired after a 35-year academic career in Atlanta, including Harvard Summer School sessions in Cambridge. Cherian and his

wife, Pauline, enjoy travel and the theatre.

thachenkary@comcast.net



DAN YOUNG (CHEM '75) reports "I retired after 40 years with Inco/Vale (cobalt/precious metals refining) in 2014, and I built a passive solar house on a tree farm in Sherston,

ON. I've been doing a little consulting since then. I'm also building furniture, planting trees, teaching chemistry to 19 grandkids (when they listen, rarely)."

danielyoungcompany@gmail.com

1976



DAVID JEFFERIES (ARCH '76) joined AECOM in January 2022 as a senior architect in its Ontario Buildings & Places division focusing on public safety projects.

david.jefferies@aecom.com

ANN MCMILLAN (MECH '76) has enjoyed retired life after a career working with Environment and Climate Change Canada and Fisheries and Oceans Canada. She has reinvented herself as a writer with Jon Peirce of the almanac "Plague Take It" in the fall of 2021, see plaguetakeit.ca. Ann and Jon are planning a sequel this coming fall, following up on the theme of elders and COVID.

1977

DAVID BEAN (ELECT '77) retired after 35 years with Sandwell and Ausenco Engineering Consultants as industrial and municipal projects' senior design lead. David and Monica reside in West Vancouver and have two sons, Bjorn and Erik.

dbean@telus.net

TIM BOWLAND (ELECT '77) says "After working in Canadian broadcast video industry for 13 years, I started a consulting/manufacturing company, The Baranti Group, with two partners and grew it from zero to \$2.7M in 12 years. Finally retired in 2007 to relax and make some RV trips with my wife and dog and cat."

STEVE STEPHENS (MECH '77) recently retired from Danfoss in Denmark, having had assignments throughout USA, Italy and Denmark. He now lives near Arnprior, ON, about one hour west of Ottawa.

Stephens_essex@hotmail.com

1978

CLASS REUNION – 45-YEAR ANNIVERSARY JUNE 3, 2023

IAN SMITH (CIVIL '78) reports that "After 38 years at EPFL in Switzerland, I am now director of the Georg Nemetschek Institute, AI for the Built World at the Technical University of Munich."

Ian.Smith@tum.de

1979



HUGH ALLEY'S (SD '79) second book, "The Supervisor Memory Jogger," was published in March 2022. It provides a practical how-to guide for three core skills for all leaders: instructing, fostering performance, and improving methods.

halley@firstlinetraining.ca



MARTIN GOEBEL (CIVIL '79, '81) semi-retired in 2017 as assistant deputy minister from the Newfoundland and Labrador, Department of Environment. Martin

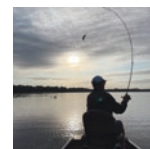
continues part-time as senior advisor on Methylmercury in connection with the Muskrat Falls Hydroelectric Project.

Goebel@nf.sympatico.ca

1980

RODGER BLAIR (CIVIL '80) has been a self-employed consultant since 2010 after a career in the food industry. With his latest Six Sigma Green Belt certification, he is expanding his project management services to include lean business assessments, value-stream mapping, FMEA studies, and root cause analysis.

rodger.blair@rgenuity.ca



PAUL VERHEYEN (MECH '80) has retired and is living the dream on Lake Martin, Alabama. He shares that "I am boating, fishing and golfing with my beautiful

wife, Tracy. Our children and grandchildren keep us very busy."

ptverheyen2@gmail.com

1981

ANDREA BROADLEY (NEE GRIFFIN) (MECH '81) is retired. Her final two roles before retirement were senior vice president, lending products at Canada Trust, and executive director of The Ontario Human Rights Commission. Andrea and her husband David Broadley (Elec '81) live in Toronto and have two adult sons, one of whom is also a Waterloo alumnus. Andrea says “hello to all my classmates, especially to those who nicknamed me “The Token Female.”

416-727-2050



PETER SEVILLE (CHEM '81) says “retirement happened in 2011 from environmental engineering in the petroleum industry. I’ve been in southern Portugal since then enjoying the climate, food, people, and mountain biking. Thank you, Waterloo!”

cruzdapedraportugal@gmail.com

LUNNY SUNSHINE (CIVIL '81) retired in December 2021. His career included 11 years in construction sales and project management, three years in legal publishing project management, and 26 years implementing enterprise project and resource management portfolio software. He spent the last 15 years with Planview Inc. lunny.sunshine@gmail.com

1982



BRIAN BUTTERS (MECH '82) developed technology at Purifics in 1993 to filter-destroy-recover contaminants in water based on SiC membrane technology to purify water in municipal, industrial, nuclear and defense markets. He continues to be active in R&D

and hold 30+ patents.

marketing@purifics.com

1983

CLASS REUNION – 40-YEAR ANNIVERSARY
JUNE 3, 2023

1984

FRANK GERENCSEK (SD '84) is celebrating 30 years as CEO and co-founder of triOS Corporation, which has trained over 60,000 graduates between triOS & Eastern Colleges, Eastern Online and the GTA partnerships with Sault & Mohawk Colleges. frank.gerencsek@trios.com

ERIC LOI (CHEM '84) reports that “I’ve been working on greenhouse gas emissions (GHG) carbon pricing for the last 12 years at the Ontario Ministry of Environment. Setting GHG standards and reporting requirements for industries, a relatively new and growing environmental field.” ericloi@hotmail.com

FRANK PIETERS (MECH '84) is married and living in Rigaud, Quebec. He’s president of RNP Industries Inc. The firm designs and builds semi-robotic machines for the global pneumatic tool market. The machines relieve the weight, vibration and dust for the operators in the construction, foundry and mining fields. He shares “my wife and I like to cycle, hike and travel.” frank.pieters@rnpind.com

TURNING OVER A NEW LEAF

JACQUELINE WHITE

BASC '86, CIVIL



White is someone you might call a late bloomer. After a successful 31-year career with the City of Toronto, mainly with municipal transportation and traffic services, she turned over a new leaf and put a long-standing passion to work as a landscape gardener.

But it wasn’t as if White shunted aside everything she’d learned before graduating with a civil engineering degree in 1986. Far from it.

Today, whether it’s deciding how to best grade a property or determining how to best use precious rainwater that runs off the roof of a client’s house, she’s living the lessons she learned at Waterloo Engineering.

“One of the most important things I learned was problem solving,” White explains. “I’ve used it all my career and I’m using it with gardening.”

Hers wasn’t an overnight career transition. She returned to school for a two-year environmental landscape management program. Then she created Raindrop Gardening, a boutique, five-employee landscaping business that transforms people’s yards, largely in downtown Toronto.

Lawns are often replaced with native plants that attract bees and other essential pollinators. Her rain gardens are a defence against the increased incidents of flooding associated with climate change.

There’s a love of nature and beauty in everything she does. There’s also a mission.

“I want to create gardens that are environmentally responsible and help people who can’t do that themselves,” she says.

1986

ERIC BOUTIN (MECH '86) is currently working for Hatch on the Onaping Depth project. He says "I'm part of a team making a fully electrically driven mine a reality."

eric.g.boutin@gmail.com



CHRIS OMIECINSKI (SD '86) is now working and living in Singapore, adding on to the five years spent in China. Chris says "a few more years, then back to Canada to hang my ring up for good and be a grumpy old man!"

comiecinski@gmail.com



ROB VANDENBRINK (MECH '86) consults in IT and information security (coherentsecurity.com). He volunteers and blogs at the Internet Storm Center and the Center for Internet Security and has written a book titled "Linux for Networking Professionals" that is also security-focused.

rob@coherentsecurity.com

1988

CLASS REUNION – 40-YEAR ANNIVERSARY JUNE 3, 2023

1990



GLEN BANDIERA (SD '90) says "I am enjoying a new position as executive director of specialty education at the Royal College of Physicians and Surgeons of Canada."

glen.bandiera@utoronto.ca

WILLIAM MAN-KEONG CHIANG (COMP '90) has started a new venture designing an innovative VR system offering therapeutic treatment to mental patients.

williamchiang@chinam.com.hk



JIM WENTZLAFF (MECH '90) retired this March after 31 years of designing, building and testing off-highway construction and mining trucks at Hitachi

Construction Truck Mfg. Ltd.

wentzlaffjim@gmail.com

1993

CLASS REUNION – 30-YEAR ANNIVERSARY JUNE 3, 2023



MATT MANUEL (SD '93) reports "I'm entering my fifth year at Microsoft and thriving at work. Looking forward to travel opening up again.

I'm focusing on people with disabilities by being an ally to family, friends and colleagues."

matt@mattmanuel.com

1994



AMY CHARETTE (MECH '94) returned to business process management consulting in 2019. She recently joined The Poirier Group and is thrilled to be working with

a talented team of mechanical and industrial engineers in addition to strong financial business advisors. She is very excited that both daughters are now studying science and math themselves. Her favourite activities still include time at the lake, creative crafts and travelling.

amy@appletreemc.com



MARCELO SAMPAIO DE ALENCAR (ELECT '94) will publish his 29th and 30th books this year – "Communication Systems," 3rd Edition (Springer), and "Cryptography and Network

Security," (River Publishers). He is currently president of the Institute for Advanced Studies in Communications (iecom.org.br). He retired as chair professor from the Federal University of Campina Grande, Brazil. Marcelo and Silvana have two grandchildren, Vicente and Cora, who live in France.

sampaio.alencar@gmail.com

1996



JONATHAN EVANS (ELECT '96) shares "my first new novel in a decade, 'EXADELIC', is a Philip K. Dick meets Michael Crichton tale of artificial intelligence, Silicon

Valley, ancient conspiracies and programmable reality. It will be published by Tor Books in 2023."

jon@rezendi.com

1998

CLASS REUNION – 25-YEAR ANNIVERSARY JUNE 3, 2023



JAY SENIOR (COMP '98) retired in 2020 after stints at Microsoft and Amazon. Jay and his wife Summer are chasing the wind kiteboarding, primarily on the American

west coast and Baja, Mexico.

jaysenior@gmail.com

1999



RYAN VANDERPUTTEN (CIVIL '99) says "I have moved into the position of director, business and engineering services, with The City of Calgary, in the Infrastructure Services

Department. I am also the president of the Canadian Institute of Transportation Engineers for 2022-23."

ryan.vanderputten@outlook.com

2000



CHRISTOPHER CASTLETON (MECH '00) is closing in on five years since founding CyNexo in northeastern Italy, focused on designing and building innovative

custom solutions for research applications, and looks forward to hearing from old and new contacts alike.

c.castleton@cynexo.com

EDWARD KIM (SD '00) is a user experience designer at Goldman Sachs in New York. He lives in Park Slope, Brooklyn with his wife, Claire, and his two children, Teddy and Libby.

eddy@eddykim.com

2002

DAVID BRUCE (ENVIRO '02), in a mere 20 years, found his path back to academia and is now an assistant professor at the University of Ottawa. He says "please reach out to explore how perspectives in engineering education are growing."

dbruce@uottawa.ca

2003

CLASS REUNION – 20-YEAR ANNIVERSARY JUNE 3, 2023



STEFANO DI GIULIO (ARCH '03) is enjoying two decades of designing custom homes and additions, with architecture that ensures form follows function.

SDG Design achieves excellence in preparing Colonial, Heritage, Modern Barn and American Craftsman Farmhouse style homes.
sdgdesign@rogers.com

2005

BEN TSHIN (SD '05) after 10+ years in international development and relief, was ordained a deacon in the Anglican Diocese of Toronto on May 1, 2022. He continues to apply his background as an engineer in the church ministry.
rev.benjamin@tshin.com

2006



DAVID BUTLER (MBET '06), ESQ., HAS recently joined Rousseau Mazzuca LLP, a small, fast-growing firm in downtown Toronto. David was previously admitted to the New York State Bar. He was scheduled to be called to the Bar of Ontario in

June 2022.

dbutler1@law.cardozo.yu.edu



ARVIND CHAHAL (SD '06) recently left Shopify after four years to join mmhmm, a video communication company, as the head of sales operations and strategy. He currently lives in Kitchener-

Waterloo with his wife and two kids.



SURESH SRISKANDARAJAH (ELECT '06) reports "I am now a technology and business lawyer at Suresh Law PC. I look forward to staying in touch."
suresh@suresh.law

2007

ALEX CIGUTTINI (GEO '07), after five years in Oman, returned to Edmonton in June 2022. He has taken on a project engineering role at the Scotford Upgrader. He recently celebrated his 15-year anniversary with Shell.

2008

CLASS REUNION – 15-YEAR ANNIVERSARY
JUNE 3, 2023

2009



NIK KAPAUAN (COMP '09) recently joined Access Holdings, a Baltimore-based private equity firm specializing in middle market essential service-based businesses. As a principal on the deal team, Nik supports the origination,

execution and value creation activities, and leads Access Holdings' digital capabilities. Prior to joining Access, Nik was an associate partner at McKinsey & Company, where he advised clients on business building and commercial growth strategy.

nkapauan@gmail.com

STAGE PRESENCE

GARY ABBOTT

BASC '10, SYSTEMS DESIGN

For Abbott, learning how to style Hercule Poirot's iconic moustache and copy his Belgian accent was all part of getting into character as Agatha Christie's most famous male detective for a community production of *Murder on the Orient Express*.



His interest in performing grew after two years of conducting tours of the University as a student campus ambassador and roles in a couple of *Engineering EngPlays*.

Abbott not only caught the acting bug but also the attention of a fellow Waterloo student, who cast him in the co-leading role of Leo Bloom in his local production of *The Producers* by Mel Brooks.

Since then, Abbott has performed in a variety of community theatre shows including *Urinetown: The Musical*, *The Rocky Horror Picture Show* and *12 Angry Men*, in which he played Juror #5.

Initially auditioning for a secondary part in *Murder on the Orient Express*, Abbott was offered the lead in *The Community Players of New Hamburg* production in May.

"Poirot was such a fun character to play," he says. "He's smart, but vain. Particular, but quirky."

Currently working as a solutions consultant for Shopify, Abbott says he values his systems design engineering background.

"I learned a lot about psychology and human factors in systems design," he says. "Both have served me well in my career and my productions."

Photo credit: Narcis N Popa

2011



LESLIE MERRITHEW (CIVIL '11) reports that after spending three years as the technical advisor on a P3 airport project in Bermuda, she moved to Boston to

help lead the aviation infrastructure team working on projects across North America and the Caribbean.

leslie.merrithew@stantec.com



KIM OSBORNE RODRIGUEZ (MTRON '11) is celebrating 11 years at HH Angus & Associates and is now a manager with their Angus Connect division, providing

digital strategy, planning and design services across Canada.

kim.m.osborne@gmail.com

2013

**CLASS REUNION – 10-YEAR ANNIVERSARY
JUNE 3, 2023**

2014



MOISES ALMEIDA CASTELO BRANCO (ELECT & COMP '14) has been working as a senior IT leader at Bank of Northeast of Brazil since 2000. He has helped the company

develop digital and core banking products and services.

mcbranco@gsd.uwaterloo.ca



SACHET SIWAKOTI (ENVIRO '14) is a water resources engineer at Aquafor Beech Limited, where he supports projects in the disciplines of hydraulics, river

engineering, fluvial geomorphology, and stormwater management for various municipalities and private sectors in southern Ontario.

siwakotisachet@gmail.com



MODUSSER TUFAIL (CHEM '14) works as a fire protection engineer with Strathcona County, Alberta. He introduced Process Safety Management Reviews of

Industrial Businesses, the first time in Canada that safety reviews were conducted by a municipal fire department. The program is appreciated by Engineers Canada for its public safety benefits and was recognized as an example in its publication Public Guideline on Risk Management 2020.

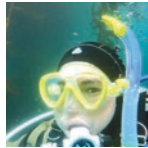
modusser@gmail.com



ERIC ZILLINGER (ELECT '14) has retired from engineering and now operates a high-tech organic cannabis farm. ezillinger@gmail.com

2015

TARJOTE S. CHAGGAR (MTRON '15) has been working as a staff firmware integration engineer at Tesla, focusing on powertrain systems. He spends time digging into in-car customer experiences to make a seamless 'brain on wheels!'



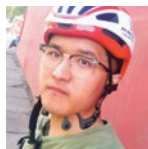
STEPHANE LEE (COMP '15) is getting narc'ed doing underwater kelp restoration. seflee@uwaterloo.ca



CARLIE LO (ELECT '15) is designing PCBs for stabilized camera systems and living life. Carlie is looking to encourage more women to pursue engineering.

locarlie@gmail.com

2016



KEVIN AI XIN JUE LUO (MECH '16) says that "after graduating, I did a master's in biomedical engineering at the University of Toronto. Now, I am working as a project manager

designing surgical robotics for neurosurgery. I have worked at SickKids Hospital in Toronto, and I'm currently working in China for an exciting surgical robotics company."

sersarsor@yahoo.ca



BROKOSLAW (BROCK) LASCHOWSKI (MECH '16, SD '22) says "I'm a postdoctoral researcher in the Temerty Faculty of Medicine at the University of Toronto and the

Toronto Rehabilitation Institute developing wearable robotic exoskeletons for persons with mobility impairments due to aging and/or physical disabilities."

brock.laschowski@mail.utoronto.ca



JEFFREY KENT (MBET '16) is the senior product manager at Routeware Global in Portland, OR. His work is focused on providing municipalities and private

haulers with integrated software and hardware solutions for their solid waste and recycling hauler fleets, helping municipalities deliver on their smart city agenda.

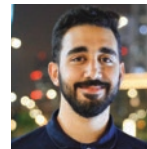
jkent@routeware.com



XIAO WEN XU (ARCH '16 AND '18) has been working as a full-time artist at Xiao Wen Xu Fine Art (xiaowenxu.com) since 2021. She lives in Toronto with her husband.

xiaowen.wx@gmail.com

2017



OMAR ELALI (MECH '17) reports that since graduating in 2017 he has built his project management experience in the renewable energy and transportation

sectors. He is currently an operations lead at Bus.com, where he is disrupting industry status quos by implementing a microtransit project in the USA.

omar.elali@outlook.com

ABDELHALIM HIASAT (MSCI '17) is working as an analytics lead at Deloitte Canada, where he specializes in healthcare analytics and AI, helping clients in Canada and globally. He's also a sessional instructor at Waterloo in the Department of Management Sciences.



NING QIN (MECH '17) has been working as a professor at Shandong University in China since 2022. His research areas cover microscale fluid dynamics, microengineering

for environmental and medical applications, and CO2 bubbles and droplets.

n4qin@sdu.edu.cn

EMMA REESOR (NANO '17) started an internal medicine residency with McMaster University at its Kitchener-Waterloo campus. The analytical and problem-solving skills she learned at Waterloo have provided a solid foundation for her medical career.

emma.reesor@gmail.com

2018

**CLASS REUNION – 5-YEAR ANNIVERSARY
JUNE 3, 2023**



LAURENT GÉRIN (CIVIL '18, '21) has been working for the last few years at ClearCalcs, making cloud-based structural engineering software.

A fast-growing startup, ClearCalcs is always looking for new engineers and developers in Canada and Australia!

laurent@clearcalcs.com



MICHELLE LIU (CIVIL '18) reports “I am pursuing a PhD in civil engineering and a law degree (JD) concurrently at the University of Ottawa. My PhD research focuses on examining the National Building Code through an equity lens to make recommendations for user-centred provisions.”

michelle.liu@uwaterloo.ca

2019



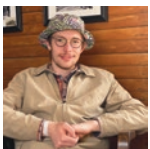
MANASA KANISELVAN (NANO '19, '21) is pursuing her doctorate with the Integrated Systems Laboratory at ETH Zürich. Her research is in the area of developing multi-scale computational models for nanoelectronic devices, specifically resistive-switching

memory cells.

mkaniselvan@iis.ee.ethz.ch

MITCHELL KEMBER (SWE '19) has been working for Google since 2019 on Fuchsia, a new operating system that launched on smart displays in 2021. He focuses on the Rust bindings for interprocess communication in Fuchsia.

mk@mitchellkember.com



KRISTOFF MALEJCZUK (NANO '19) is quite possibly the youngest manager in Apple's history. Kristoff leads a small team focusing on geometric optics. Kristoff's most meaningful work remains dedicated to exploring the nature of

being through meditation practice and plant medicine.

kamalejc@uwaterloo.ca



NICHOLAS PELLEGRINO (MTRON '19) is now graduating with an MASc in systems design engineering at Waterloo, with research interests and experience in biomedical imaging, signal processing and machine learning. He is looking

forward to moving on to the next chapter of his career!

npellegr@uwaterloo.ca



STEPHEN SWARTZENTRUBER (MTRON '19) was the recipient of the 2021 international FIRST Volunteer of the Year Award for his work in the FIRST LEGO League Explore program.

swartzentruber@google.com

2020

HEBA ALZABEN (MECH '20) has been working as an assistant professor at Al Hussein Technical University in Jordan. She is teaching thermodynamics-related courses. Heba recently received an award from the L'Oréal-UNESCO For Women in Science Levant Young Talents Program.

halzaben@uwaterloo.ca

ILLUSTRATING HER POINT

LAURA WOODALL

BAS '21, MARCH CANDIDATE



Woodall gave her hiking boots a good workout this summer as she travelled dozens of kilometres along the Niagara Escarpment for her master's research.

The School of Architecture graduate student's field work was sparked by her interest in studying natural building materials and finding out more about what types of rock were used in southern Ontario cities.

Randomly choosing portions of the 725-kilometre escarpment to examine, Woodall used rubbing techniques and detailed drawings to document the geological formation's various surfaces and how humans have interacted with them.

“Along with architecture, I have a love of art that I have incorporated within my thesis to expand on my research and storytelling,” she says.

Woodall, the illustrator of this issue of WEAL, developed a passion for drawing at an early age and it has only increased throughout the years.

Her unique and mainly self-taught style evolved through experimentation, and is brought to life in the University of Waterloo's Library Annual Report for 2021, her first paid illustration job.

For Woodall, a Kitchener native, the fields of illustration and architecture balance each other out.

“Within architecture we have a lot of different options and different ways of representation,” she says. “Using illustration as a tool has helped me look at buildings through a human lens rather than simply a technical one.”

2021



MOHAMMAD HOSSEIN BASIRI (ELECT '21) is a proud alumnus of Waterloo. He says that “after graduation, I jumped to start my career life with

Magna International Inc. I’m a leading contributor to the cutting-edge advanced driver-assistance systems (ADAS) of the autonomous driving era. I’m eager to solve daily upcoming complex challenges.”

mh.basiri@uwaterloo.ca



MARTIN BESTAWROS (ELECT '21) has been designing electronics at Eargo to overcome the stigma of hearing-loss and most recently joined the

MacBook Hardware team at Apple focusing on the next-generation Apple Silicon notebook lineup.

martin.bestawros@uwaterloo.ca



LORIEN BOYCE (SD '21) has been working as an atmospheric data analyst at Environment and Climate Change Canada. She’s working with

chemists investigating emissions from Canadian oil sands facilities.

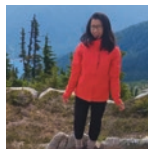
lorien.boyce@gmail.com



YI CAI (ELECT & COMP '21) says “I am currently working as a software development engineer at Cyphercor Inc.”
caiyeee@outlook.com



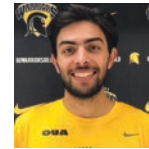
RAHIJ GILLANI (SD '21) moved to the much warmer Vancouver (aka Raincouver) and has been working at Amazon as a software development engineer.
rahijj@gmail.com



KELLY HAO (MECH '21) has been working as a mechanical engineer in training with TRIUMF, diving deep into targetry design (vessels that hold irradiated medical isotopes) and equipment/components for use in radioactive environments.
kelly.hao.7@hotmail.com



DRAGAN MISCEVIC (CHEM '21) reports “I took on a lead scientist role for the production of various anti-cancer therapeutics, drugs used for treating autoimmune disorders, and trivalent vaccines against COVID-19 variants.”
dmscevi@uwaterloo.ca



RAVI SETH (MTRON '21) has been working as a software engineer at Konrad in Toronto. In his spare time, he joins his passions of software and squash to create automated sport analytics software named SethSquash.
ravi.seth@uwaterloo.ca

JIMMY WANG (MECH '21) graduated in April 2021 and spent seven months unemployed. During that time he took a six-week road trip and in November got a Boeing flight controls engineer job offer and moved to Seattle in February 2022.
jimmymw88@gmail.com

HAVE YOUR SAY

We hope you enjoy the latest edition of WEAL. To help us provide content you find relevant and interesting, please consider taking 10 minutes to complete our readership survey. The results will be used to help shape future editions of WEAL. Go to uwaterloo.ca/engineering/WEAL2022survey to have your say. Thank you very much.

uwaterloo.ca/engineering/WEAL2022survey



IN MEMORIAM

The Faculty of Engineering expresses deepest sympathy to the family and friends of the following graduates who have passed away:

Hamid Ahmadian (Mech '94)
Andre Arboine (Chem '03)
Andre Arvanitis (Elect '71)
Donald Barker (Elect '73)
James Baxter (Civil '71)
Gerald Beebe (Elect '63)
Norbert Bell (Chem '72)
John Besso (Chem '72)
Samuel Cass (Civil '78)
George Clark (Elect '72)
John Collins (Mech '71)
Michael Crawford (Mech '84)
Ralph Curtis (Elect '78)
Dan Danielescu (Civil '72)
Monte Dennis (Elect '67)
Dejan Djokovic (Mech '86)
Robert Ferguson (MSci '76)
Paul-Emile Friolet (Civil '83)
Rattan Garcha (Elect '78)
Moshe Greenfeld (Chem '75)
Herbert Habermehl (Chem '64)
Kishmul Hahn (SD '70)
Roger Harrison (MSci '69)
Adrian Hatcher (Chem '79)
Markus Hess (Mech '79)
Douglas Hodgins (Civil '72, '74)
Stephen Jakobfy (Chem '00)
Robert Kearse (Civil '86)
James Kerr (Civil '71)
Rolf Knowles (SD '75)
Joachim Koteles (Mech '63)
Allan Koverzin (Elect '82)
Andrew Krumins (Elect '70)
Frank Lesniak (Mech '65)
Raymond Linseman (Elect '70, '72)
William Lumley (Mech '67)
Sorin Lupu (Civil '76)
Roy Maconachie (Chem '66)
Harold McCausland (Mech '76)
William McConnell (Civil '63)
John Neale (Civil '79)
Tim Pearce (Mech '99)
Derek Plummer (Civil '73)
James Porter (Mech '86)
David Putt (Elect '68)
John Quilitz (Chem '92)
Richard Ramlall (Mech '71)
William Schneider (Mech '63)
John Scott (Comp '98)
Michelle Senayah (Arch '07)
Robert Shannon (Civil '82)
Lawrence Sung-Yee (Elect '02)
William Stover (Mech '71)
Dayton Thesenvitz (Elect '69)
Grant Thompson (SD '82)
Carl Turkstra (Civil '63)
Gee Tsang (Mech '68)
Vincent Venditti (Elect '75)
Paul Wang (Chem '81)
Bryan Williamson (Mech '78)
Alan Wu (Mech '93)



PHOTO CREDIT:
Neil Trotter

GREETINGS ALUMNI

Our Engineering buildings are once again filled with activity as students and professors returned to campus in early 2022.

This spring, the University reopened its doors to visitors, including alumni. It's been great to see some of you back on campus for in-person alumni events, class reunions, workshops and tours. As the world resumes travelling, I also hope to start offering in-person alumni events in your cities again.

Some of our events, such as the popular Alumni Speaker Series (offered once a term on various topics) and the Office Hour Series, will continue to be held online so you can join in from anywhere.

In June, members of the University of Waterloo community came together to celebrate convocations for three classes – 2020, 2021 and 2022 – in a single week. Over 7,000 degrees, diplomas and certificates were awarded during 20 ceremonies.

Perhaps most significantly, we had the opportunity to connect with our bright new grads, some of whom we may not have seen in-person in over two years due to the pandemic.

Congratulations to our newest alumni for completing your engineering degrees and welcome to the growing global Waterloo Engineering alumni community. I wish you all the best in your future endeavours and look forward to hearing about your accomplishments.

If you find yourself visiting Waterloo Region, please let me know. I'd be delighted to host you on campus, treat you to a cup of coffee at Engineering 7's C&D and provide a tour of the Faculty's newest facilities or your old stomping grounds.

Be sure to stay up to date with Waterloo Engineering by following us on LinkedIn, YouTube and Facebook, and engaging with your classmates through our Waterloo Engineering Hub on Ten Thousand Coffees.

Sincerely,

GOSIA BRESTOVACKI
gosia.brestovacki@uwaterloo.ca
Senior Alumni Officer, Faculty of Engineering

LinkedIn: [linkedin.com/in/gosiabrestovacki](https://www.linkedin.com/in/gosiabrestovacki)

If you have a story suggestion for a future issue of WEAL or eWEAL, please send me an email with your ideas – some of our best stories come from your suggestions.

JOIN THE GLOBAL NETWORK

We've made networking and connecting with Waterloo Engineering alumni and students easy on the Ten Thousand Coffees platform. This online networking service (free to users) is a University of Waterloo alumni-founded company and offers a personal approach to alumni networking. Only Waterloo Engineering alumni and students can join the **Waterloo Engineering Hub**, ensuring exclusivity and relatability. The concept is that once a month you are introduced to other engineering alumni or current engineering students (no matter the year of graduation) for a virtual or in-person coffee meeting and see where that conversation takes you. It might be a new career opportunity, a new idea, a new employee or finding old friends.

Join for free at: uwaterloo.ca/engineering/waterloo-engineering-global-alumni-network

UPCOMING EVENTS

FOR THE LATEST
WATERLOO ENGINEERING
ALUMNI EVENTS AND
REGISTRATION DETAILS VISIT:

uwaterloo.ca/engineering/alumni

JANUARY 20, 2023

Waterloo Engineering Alumni Ski Day

8:30 A.M. – 5:30 P.M.

**OSLER BLUFF SKI CLUB, TOWN OF THE BLUE MOUNTAINS
(NEAR COLLINGWOOD), ON**

Join your University of Waterloo classmates at this breathtaking private ski resort to ski and snowboard for the day. Snowshoeing trails are also available.

MARCH 2023

Waterloo Engineering Capstone Design Symposiums

ALL DAY, VARIOUS TIMES

UNIVERSITY OF WATERLOO, WATERLOO, ON

You're invited back to campus to check out a showcase of Waterloo Engineering student innovation. The Capstone Design Symposiums are the culmination of the undergraduate student experience, creating a blueprint for innovation in engineering design. Each undergraduate program presents its Capstone projects on a different day.

FALL 2023

Alumni Black and Gold Day

DAYTIME

UNIVERSITY OF WATERLOO, WATERLOO, ON

Grab your Warrior wear and claim your spot in the stands to cheer your football team on to victory. Over the course of the day, meet other proud Waterloo grads at several events that celebrate our amazing alumni.

JUNE 2 AND 3, 2023

Waterloo Engineering Class Reunions in 2023

ALL DAY, UNIVERSITY OF WATERLOO, WATERLOO, ON

Feel like you're a student all over again – without the stress of quizzes or exams – by attending the Back-to-the-Classroom lecture series or the Dean's Reunion Lecture. Explore campus by attending the Open House in Engineering 7 and take a student-led or self-guided tour featuring cutting-edge labs. Then, celebrate the anniversary of your graduation from Waterloo Engineering in style with a special Reunion social taking place in the evening.

REUNIONS IN 2023 INCLUDE:

Class of 1963: 60-Year Reunion
Class of 1968: 55-Year Reunion
Class of 1973: 50-Year Reunion
Class of 1978: 45-Year Reunion
Class of 1983: 40-Year Reunion
Class of 1988: 35-Year Reunion
Class of 1993: 30-Year Reunion
Class of 1998: 25-Year Reunion
Class of 2003: 20-Year Reunion
Class of 2008: 15-Year Reunion
Class of 2013: 10-Year Reunion
Class of 2018: 5-Year Reunion

**More Reunion
information at:**
[uwaterloo.ca/
engineering/
alumni/reunions](http://uwaterloo.ca/engineering/alumni/reunions)

REUNION
CLASS REPS
WANTED

REUNION CLASS REPS WANTED!

Volunteer to be a Reunion Class Rep for your upcoming class reunion and be part of the action! Find out more information and sign up online, email engineering.alumni@uwaterloo.ca or call the Alumni Officer at 519.888.4567 ext. 46838.



GEORGE YU: ENGINEER, CRAFTSMAN, MUSICIAN, ARTIST

It takes a great artist to create a great violin. The result is even more inspiring if that artist is an intrepid scientist and first-rate engineer. George Yu (BASC '86, systems design engineering) is all of these things and more.

Yu is a renowned luthier – a maker of violins – who is based in Louisville, Kentucky and models many of his handcrafted instruments on rare, centuries-old Italian violins. Prized by great musicians, his masterpieces delight audiences who hear professionals play them in the New York Philharmonic, the Orpheus Chamber Orchestra, the Lyra Baroque Orchestra and other ensembles.

Students at some of the best music conservatories hone their skills with a Yu violin. And the accolades from the musical world have been stunning. One of his violins won a rare, double-distinction award at the 2014 Violin Society of America Competition, which had no fewer than 246 violin entries.

To be sure, the trajectory of Yu's life is not entirely surprising. As a child, he learned a love of science growing up in the chemistry labs of his graduate-student parents. They also encouraged his passion for music and he learned to play violin. When he began studying in Waterloo's



demanding systems design engineering program, he turned to playing chamber music “to put a balance in my life.”

His degree led to a nine-year stint as a software engineer. But his career path veered sharply in a different direction when he was accepted into the Violin Making School of America in Salt Lake City.

Graduating from the program in 1999, he apprenticed a further year in Boston before setting up his workshop in Toronto and then, in 2018, in Louisville.

For Yu, the three months of painstaking labour required to make a single violin is “a confluence of science, music and craft.” CT scans of vintage violins reveal the precise information he needs to make his own personal versions of these priceless instruments. Before working with a specific piece of wood, he takes measurements for its stiffness and density. Science also determines his choice of drying oils in varnish.

“I come up with what I call a platonic ideal of a model of a violin,” he says, sounding distinctly philosophical. “I want my own idiosyncrasies to flow from there.”

Engineer, craftsman, musician, artist: in what, far more than a job, is a life's calling, Yu embodies them all.

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FACULTY OF ENGINEERING Alumni Affairs
engineering.alumni@uwaterloo.ca
200 University Ave., W. Waterloo, ON, N2L 3G1

