

SPRING 2022

WATERLOO MAGAZINE



Terisa Zhang



The Mancinis



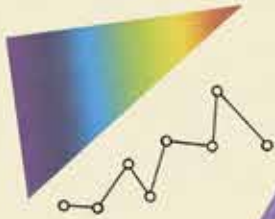
Brigitte Lau

TALENT

Our people working for a greater good



Tre Ford



Connor Kapahi



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5



Denelle Resch!
Eric Occlowski

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FEATURED ILLUSTRATOR:

NICOLE BENO is a Slovak-Canadian multi-disciplinary artist, currently splitting her time between working as a graphic designer and maintaining an arts practice.

She is known for creating colourful, saturated digital artworks by scanning, collaging and distorting images into something entirely new. Her work transforms natural materials and found objects through the process of digital manipulation, resulting in an engaging and visually tactile hybrid of the digital and analog. This process culminates in the creation of visual worlds and utopias, challenging the idea of artificiality and perception.

nicolebeno.com

ACKNOWLEDGEMENT OF TRADITIONAL TERRITORY

We acknowledge 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.



Contributors

MEET SOME OF THE **PEOPLE** WHO MAKE THE WATERLOO MAGAZINE POSSIBLE



BETH GALLAGHER | EDITOR

Beth is always looking for new ways to share a good story. A former journalist and educator, Beth is endlessly inspired by the stories and imagination of Waterloo alumni.



MEGAN VANDER WOUDE (BKI '12, MA '13) | CONTRIBUTING EDITOR

By day, Meg meets fellow alumni with amazing stories and expertise to share. By night, she's the designer and writer behind Homebody Knits, an online shop of knitting patterns and tutorials.



CHARLIE VAN WARMERDAM | LEAD DESIGNER

With gigabytes of trendy design ideas, Charlie's varied skillset allows him to tackle anything the team throws his way. Don't be fooled by his quiet demeanour; if you say the right things, you just might hear his cool laughter.



NAMISH MODI (BES '12) | CONTRIBUTOR

Namish, a Waterloo alum, is a former journalist who honed his craft as a sports editor for the student newspaper *Imprint*. Namish has a passion for storytelling and is back at Waterloo in a communications role in Co-operative Education.



ADAM MCGUIRE (BA '06) | CONTRIBUTOR

Adam is a content designer in the tech industry who also happens to bleed black and gold. He began covering the Warriors in 2003 as the sports editor of *Imprint*. He's currently a freelance writer for Warriors Athletics and the play-by-play voice of Warriors hockey and football, where he does his best to subdue his allegiance to the home team.



CLAIRE MASTRANGELO | CONTRIBUTOR

Claire has built a rewarding career writing about arts and education. Her favourite interviews include a heartfelt conversation with the late Oakland A's announcer Dick Callahan (BA '62), an exploration of science and dance with artist Lucy Rupert (BA '96) and a seven-minute phone call with former Barenaked Ladies frontman Steven Page.



KAYLEIGH PLATZ (BA '07, MA '09) | CONTRIBUTOR

Kayleigh is a writer and bibliophile who is passionate about library advocacy. On campus, she tells stories about quantum revolutionizing our world. Like Schrödinger, she too has a cat! Off campus she runs a romance book blog, interviews fiction authors for local library events and writes her own stories about strong women and the people who fall in love with them.

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PUBLISHERS

Sandra Banks
Nenone Donaldson

EDITOR

Beth Gallagher

CONTRIBUTING EDITORS

Nick Manning
Leanne Perreault
Kerry Stryker
Megan Vander Woude

CONTRIBUTORS

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CREATIVE DIRECTOR

Christine Goucher

LEAD DESIGNER

Charlie van Warmerdam

PRINT CO-ORDINATOR

Karen Creed-Thompson

DIGITAL TEAM

Tom Graham
Beverly Kesse
Bernice Ma
Carlos Saavedra

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Waterloo Magazine
University of Waterloo
200 University Avenue West
Waterloo, ON, Canada N2L 3G1
519-888-4567, ext. 36651
uwmagazine@uwaterloo.ca

ADVERTISING AND BUSINESS MANAGER

Lisa McAughey

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**WATERLOO
TALENT
WILL HELP
SHAPE OUR
LOCAL AND
GLOBAL
RECOVERY**

We are experiencing a period of profound and rapid change, marked by multiple challenges that the world has not seen in decades. This year has already shown us the impacts of increasing polarization with the occupation of our capital city and border blockades. Rapidly changing geopolitical forces resulted in the Russian invasion of Ukraine while the ongoing climate crisis continues to fuel extreme weather events.

Meanwhile, the pandemic has preoccupied us for the last two years, exposing deep societal challenges and accelerating many transformations that were already underway.

These forces have changed the future of work. The talent of the future – the people needed to do the work – will be called to respond and adapt to uncertainty in ways that few generations have had to in the past. From the rapid shift to remote work and challenges of recruiting top talent; the evolving workplace expectations and critical calls for diversity, equity and inclusion – employers and employees alike are rethinking the world of work.

Educating the workforce of the future

As an institution of higher learning, the University of Waterloo plays an important role in educating the workforce that will shape our local and global recovery, and the future of work for generations. After graduating, our alumni take what they have learned here to their workplaces, the ventures they create and communities within which they live. We are not only educating the next generation, we are helping shape global citizens to ensure we meet the many challenges we face globally.

The next generation must include a diversity of voices so we can build an equitable and inclusive future. Society benefits when everyone can fully participate in the workforce without barriers.

As the global leader in co-op education, Waterloo equips students with early pathways to work experience in the public, private and not-for-profit sectors. Students learn early about the sectors they aspire to work in and how their classroom learning is applied in real-world settings. They bring their work experiences back to the classroom where they share with peers the human and societal implications of their work.

At Waterloo, we are training our graduates to be leaders and innovators of the future. We need to ensure they begin their careers as the creative problem solvers the world needs to develop human-centered solutions, and to shape the future of our world for the better. ♥

Awards and honours

Recent recognition for University of Waterloo researchers and alumni

Jo Atlee (Cheriton School of Computer Science) 2022 SIGSOFT Distinguished Service Award, Association for Computing Machinery

Trevor Charles (Biology) Waterloo Centre for Microbial Research, Research Innovation and Impact Award, Canadian Black Scientists Network

Geoffrey Fong (Psychology) Officer of the Order of Canada, Governor General of Canada

Eric Haldenby (BES '73, BArch '75) (School of Architecture) Member of the Order of Canada, Governor General of Canada

Heather Hall (MA '07) (School of Environment, Enterprise and Development) Minister's Awards of Excellence, Everyday Heroes Category

Keith W. Hipel (BAsC '70, MASc '72, PhD '75) (Systems Design and Engineering) Foreign Member, Chinese Academy of Sciences

Scott Hopkins (Chemistry) 2022 Keith Laidler Award, Chemical Institute of Canada

Ihab Ilyas (Cheriton School of Computer Science) Fellow, Institute of Electrical and Electronics Engineers (IEEE)

Heather Keller (Kinesiology and Health Sciences) 2022 Earle Willard McHenry Award for Distinguished Service in Nutrition, Canadian Nutrition Society

Jonathan Li (Geography and Environmental Management) (Systems Design Engineering) 2022 Fellow, Engineering Institute of Canada. Geomatica Award, Canadian Institute of Geomatics

Roger Melko (BSc '00, MSc '01) (Physics and Astronomy) 2021 Brockhouse Medal, Canadian Association of Physicists

Linda Nazar (Chemistry) 2022 E.W.R. Steacie Award, Canadian Society for Chemistry

Mark Servos (Biology) Minister's Awards of Excellence, Everyday Heroes Category

Sherry Schiff (Cheriton School of Computer Science) 2022 Frank Rigler Award, Society of Canadian Limnologists

Abigail Scholer (Psychology) 2021 Fellow, Association for Psychological Science

Kelly Skinner (BSc '02, MSc '05, PhD '13) (School of Public Health Sciences) 2022 Applied Public Health Chair, Canadian Institutes of Health Research

Zhongchao Tan (Mechanical and Mechatronics Engineering) 2022 Fellow, Canadian Society of Mechanical Engineering

Weihua Zhuang (Electrical and Computer Engineering) 2021 Award of Merit, The Federation of Chinese Canadian Professionals (Ontario)



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Talk of the campus

Start from where you are:

YOU ALREADY HAVE ENOUGH EXPERIENCE

The new Zero programs show people they can make an impact – regardless of their prior experience.

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

Holden Beggs (BASc '20) and Jackson Mills (BCS '21) want to make one thing clear: You can be an innovator and keep your day job.

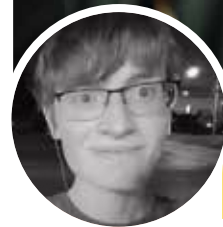
Mills says the Zero programs, which he co-founded with Beggs, operate on the fundamental belief that everyone can be an innovator with the right support.

“It’s for people who want to do something awesome, but don’t know how to get started; people who want to be innovators but have no ideas. People want great jobs, but don’t know how to get them,” Mills says. “You know you’re supposed to be moving faster, but you’re stuck and can’t figure out why.”

The Zero Experience and Zero Work programs are for students, and increasingly alumni, who hear about global leaders and successful entrepreneurs, but don’t see how they can make a similar impact. Zero programs have exploded in popularity, with thousands of registrants every year. Both programs are funded by Velocity, Waterloo’s flagship incubator.

“Something that’s really important is people already have enough experience to get started,” Mills says. “It’s that idea of meeting people where they are, instead of assuming that they’re lost. Then, you can guide them on their path.”

Beggs adds, “We believe innovation should be reachable for everyone, so we codified the process. We made a recipe for how to solve problems, and we don’t accept the mentality that there’s only a few who can make a difference.”



It’s for people who want to do something awesome, but don’t know how to get started; people who want to be innovators but have no ideas. People want great jobs, but don’t know how to get them. You know you’re supposed to be moving faster, but you’re stuck and can’t figure out why.

JACKSON MILLS (BCS '21)



Holden Beggs (BASc '20), co-founder of the Zero programs, talks to students

Beginning from Zero

Beggs and Mills began working on the Zero Experience in March 2020, when the pandemic brought school, projects and jobs to a halt. They noticed that hundreds of their peers were struggling to get experience and find good jobs so they started tackling how students could become experienced problem solvers, fast.

The result was The Zero Experience: a weekly course where students find an urgent global problem and begin designing a solution. It's a unique whirlwind of exploration and execution done individually and in teams.

"Months after the program ends, we like to ask people what they got out of The Zero Experience," Beggs says. "We hear a lot of answers: they're smarter problem solvers, understand the world more clearly, are better teammates and so on. But practically everyone says it gave them self-confidence. They say it feels like doors started opening to them, and they could make a real difference."

By June 2021, they decided to expand their offerings with another program – one that played on individual exploration to help students build their perfect career, then make it real. Zero Work launched that summer, a hackathon-style weekend where students could find career options ahead of them, start networking from scratch and start job hunting properly.

Rather than providing the motivational push of The Zero Experience, Beggs describes Zero Work as "standing in the eye of a hurricane. You can look clearly, pick out the right path forward, take a deep breath, then step back into the storm." Participants agree, with a sense of clarity and, again, self-confidence permeating their takeaways.

Grad student, faculty and alumni interest

Zero became a beloved part-time project for them, even after they graduated and started their own full-time careers. But they don't seem ready to settle.

"Every time someone comes to me talking about how bored they are at school, or stressed they are about their future, or worried that they can't stand out – it lights a fresh fire under me," Mills says.

Beggs and Mills haven't just been helping undergraduate students. Slowly but surely, graduate students, PhDs, post-docs, faculty and even alumni have registered for the Zero programs.

"These big questions Zero answers – 'How can I make a difference? How can I be successful? How can I find opportunities?' – aren't just asked by students," Mills says. "If anything, it's the alumni out in the real world who want them answered most. We even want them answered. That's why we teach them. People say teaching is the best way to learn, after all!"

In fact, Beggs and Mills are currently crafting new, alumni-exclusive Zero programs.

"They're coming very soon," Beggs says. "We schedule everything down to the minute, with as much meaning packed into every word as possible. That takes time to design, though we're almost done."

"Maybe that's a bit obsessive, but it seems like people appreciate this fast, no-fluff approach to learning. So, we're going to keep doing it, until everyone knows that they can make an impact, and knows exactly how it works. That's our goal." 🍷



RELENTLESS AND BEAUTIFUL: Serving people left out of the economy

40 years after they established the Working Centre, Joe and Stephanie Mancini are serving a new generation of people unhoused and unemployed in the wake of a pandemic

By Stephanie Longway

When Joe (BA '81, MA '82, LLD '19) and Stephanie Mancini (BA '82, LLD '19) graduated in the middle of a recession 40 years ago, they knew they wanted to use their hearts and minds to respond to what they were seeing around them.

“1982 was considered a crisis year in the economy. It was a time of very high interest rates and high unemployment. We saw our friends and family struggling to find work,” Joe Mancini recalls. “We were university students talking to 40 and 50-year-old men and women who were truly in pain about their family situation because of lack of work. The options were just so minimal.”



What we learned during COVID-19 is that community is critical, and people are committing to that understanding. People are saying, ‘I want to do something meaningful in my work.’

STEPHANIE MANCINI (BA '82, LLD '19)

“We wanted to build a culture of service, and a place of hospitality for people who were left out of work.”

After graduating from St. Jerome’s University, a federated partner of the University of Waterloo, the couple opened The Working Centre in downtown Kitchener to offer career and job assistance. Not long after they established the centre, they opened St. John’s Kitchen to feed members of the community experiencing food insecurity – a reality closely tied to unemployment.

A different time, same mission

Now 40 years later, the couple, who responded to the economic crisis that defined their generation, is serving a new generation struggling to find its way in the wake of a global pandemic.

Faced with the realities of the COVID-19 crisis, the Mancinis are again responding with service and hospitality. The social enterprise grew last year to include critical shelter services such as the St. Andrew’s Shelter and the University Avenue Shelter, which provide interim housing for 60 and 80 people respectively. St. John’s Kitchen also expanded to provide day shelter and access to showers, laundry, harm reduction, warm clothing and coffee.

“Our work, as it has been lived during the pandemic, has been hard and deep, relentless and beautiful, as we have stood with people who are left out in so many ways – of housing, indoor spaces, bathrooms, safety and work,” Stephanie says.

COVID-19 has exacerbated inequities within the community with the most vulnerable bearing the greatest costs. With rates

of homelessness on the rise in Waterloo region, the need for support is high, say Joe and Stephanie.

Where meaningful work happens

As university students, the Mancinis were less interested in a standard career trajectory and more interested in leaning into issues of inclusion and community building.

Stephanie Mancini says they didn’t plan what they would do after graduation, but “we knew we wanted to use our minds, our hearts and our action to find some way to respond to what we were seeing in the world around us.”

It’s a similar sentiment that many people are feeling in the wake of the COVID-19 pandemic. The Mancinis have noticed a substantial change in people’s understanding of the meaning of work.

“What we learned during COVID-19 is that community is critical, and people are committing to that understanding,” Stephanie says. “People are saying, ‘I want to do something meaningful in my work.’”

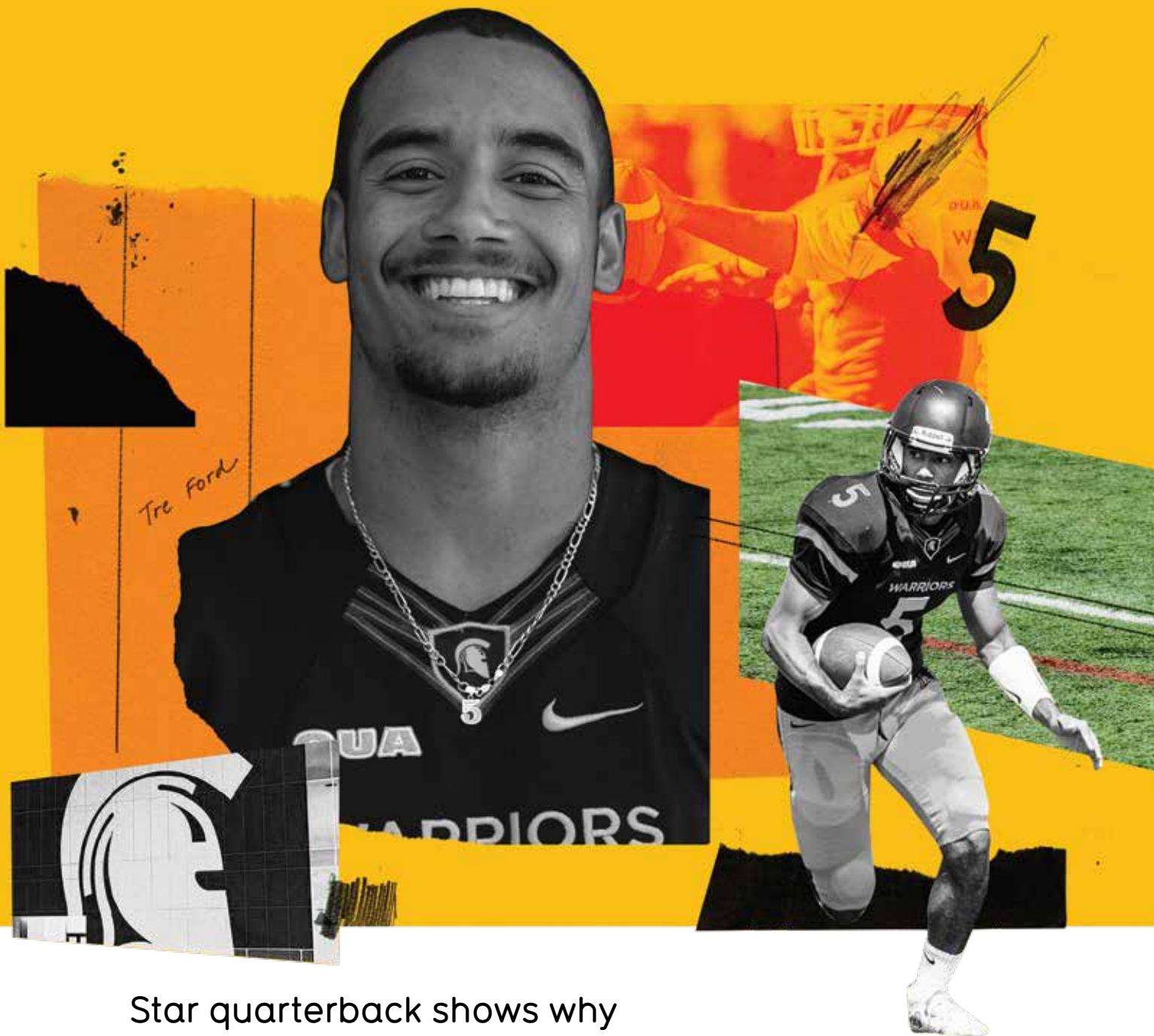
Bringing your whole self to the work

The Working Centre team added more than 55 employees last year, many of whom transferred from other occupations such as hospitality, health care and manufacturing. The Mancinis welcome talents from all professional backgrounds but say it is less about the formal training a person has, and more about being adaptive and bringing yourself into the role.

“Talent is only slightly related to education,” Joe Mancini says. “More important is the intuition of participating with your skills, craft, knowledge and dedication to the task at hand. This happens when we bring our whole selves, our relationships and our capacity to change into the work we do.”

The Mancinis say the pandemic has shown us that community and relationships can make a difference in how we live our lives, and this is a good lesson for people currently in school or looking to carve a new path.

“Bringing your mind, heart and action into your work every day can be hard. It is also where real and meaningful work happens.”



Star quarterback shows why

IT TAKES MORE THAN TALENT TO SUCCEED

The systemic racism that has historically kept Black athletes from the quarterback position denies opportunity off the field in business, academia and other sectors in society

By Adam McGuire (BA '06)



Quarterbacks often understand the game a little more, and they make good coaches. But if there are mostly white quarterbacks, that leads to mostly white coaches. We need more Black people in roles of power to give those chances. It's all about everyone getting the same opportunity to show what they can do.

TRE FORD (BA '22), WARRIOR QUARTERBACK

It might seem strange to talk about Tre Ford's talent, if only because the conclusion is so evident: *of course* Ford (BA '22) has talent. He's arguably the most talented player in the history of the Warriors football program.

The awards and accolades speak for themselves: Ford graduates this year with every school passing record and was twice named MVP of the Ontario University Athletics (OUA) conference. Most recently, Ford became the first Warrior – and first Black quarterback from any school – to claim the prestigious Hec Crighton Trophy as the most outstanding university football player in Canada.

Ford's talent is obvious because he had an opportunity to develop it as a quarterback at Waterloo – along with a tireless work ethic and desire to perfect his craft. But historically, those leadership opportunities are less likely to be afforded to Black athletes.

Now, Ford is working to prove himself as a quarterback in the NFL or CFL. In May, Ford was selected in the first round of the CFL draft by the Edmonton Elks. And eventually, he's hoping to become a football coach, where he can give other Black athletes those opportunities.

"It's about, 'Who is in those roles of power?' Quarterbacks often understand the game a little more, and they make good coaches. But if there are mostly white quarterbacks, that leads to mostly white coaches," Ford says. "We need more Black people in roles of power to give those chances. It's all about everyone getting the same opportunity to show what they can do."

Systemic racism in sport and society

In that sense, football is a microcosm of life. The barriers placed in front of Black quarterbacks in football are like the ones Black, Indigenous and racialized people face in academia, industry and politics. Talent is supposed to be the currency of a true meritocracy, but there's a problem with the equation: talent can be limited by the opportunity to exhibit it.

Success happens at the confluence of talent, opportunity and preparation. But sometimes, the opportunity tributary is dammed up and rerouted to benefit the dam-builders. It's a self-perpetuating system designed to advance those who have had the greatest opportunity to succeed – not necessarily those with the most talent.

Dr. Christopher Stuart Taylor is a history professor and the University's associate vice-president of Equity, Diversity, Inclusion and Anti-racism who taught courses on Black history as part of the Arts first program at Waterloo. He earned a master's degree and a PhD specializing in migration and ethnic relations. Taylor's research and teaching uses Critical Race Theory and Black Feminist Theory to uncover the "hidden histories" of race in Canada – including the history of race and racism in sport.

"In football, if you're fast and you're Black, you're either a wideout or a cornerback," Taylor says. "For a very long time, Black people couldn't be quarterbacks. They may have had physical talent, but people didn't think they had intellectual talent. This parallels how Black people were – and are – seen in society."

Turning the Waterloo football program around

Back in 2017, Tre and his twin brother Tyrell (BA in progress), who would become an all-star cornerback for the Warriors, were being heavily recruited out of A.N. Myer Secondary School in Niagara Falls, Ont. But Tre was looking for more than athletics and academics; he wanted a chance to play quarterback. While some higher-profile programs wanted to convert Tre to a different position, Waterloo head coach Chris Bertoia (BA '05) knew he was a quarterback. "I told him he would be a quarterback for us, and that he and Tyrell were going to turn our program around," Bertoia says. (During the 2022 CFL Draft in early May, Tyrell was selected by the Winnipeg Blue Bombers.)

"It was a big part of my decision," Tre Ford adds. "I wanted to play quarterback, and 'Bert' was willing to give me that



opportunity.” With the Ford brothers and other star recruits, Waterloo won more games in their five-year career than in the ten years prior to their arrival.

For Bertoia, who was hired in 2015, the Ford brothers were critical to helping rebuild a football program that hit its lowest point in 2010, when the University suspended team operations for a year following an investigation into performance-enhancing drug use. The Warriors’ return to glory was helmed by a Black quarterback, and Taylor says that fact should not be lost on a society that still unjustly relates drug use to race.

“Black athletes in Canada have always had a target on their backs as probable ‘cheaters’ of their sport,” Taylor says. “Having a Black quarterback and other Black athletes bring the program back to relevance after the transgressions of white athletes sends a signal to the institution of sport that Black people do maintain the integrity of the sport.”

White quarterbacks not expected to be the next Ford

Five years after he first stepped foot on Warrior Field, Ford graduates with a degree in Recreation and Leisure Studies as one of the most revered players in the history of Canadian university football. But while his career could – or should – serve as a blueprint for the next generation of young Black quarterbacks, Taylor says the systemic biases are often reinforced by outstanding achievers like Ford.

“Tre Ford comes along, and it fits into the Black excellence and Black achiever narrative. If you’re Black, and you want to be a quarterback, the expectation is you will be as good or better than Tre. But if you’re a white quarterback, nobody is expecting you to be the next Tre.”

What Taylor describes is a multi-level gauntlet of systemic racism: Black quarterbacks rarely get the opportunity to play the position. Then, when a player of Ford’s calibre gets that chance, his talent and success are written off as a once-in-a-lifetime outlier to the norm. It’s the harsh historical reality that is unfortunately not limited to the football field.

“We continue to use these models of what success should be,” Taylor says. “We think a CEO should be tall, middle-aged and white. That is the model, and these are the people that get the opportunities to be successful as a CEO. But, passing through the multiple recessions that we’ve had in the 2000’s, these have been the same white, tall, middle-aged men who have literally run companies into the ground. So, why do we keep on giving them opportunities?”

“The flip side is that you have Mia Mottley, the Prime Minister of Barbados: a Black woman who has curtailed – significantly – the spread of COVID-19, and who took their country from being under the monarchy to a republic, all during a



pandemic. If Barbados can give her the opportunity to succeed, what is wrong with our mindset, that we can't break away from our models of what a leader is?"

Decouple success from talent

To make changes in football, business, politics or virtually any other realm of life, Taylor suggests that talent and success be decoupled. This shift in mindset could lead to a more equitable distribution of opportunities, like the one Ford got to play quarterback at Waterloo.

"Do we actually have a list – not from hearsay, or tradition, or experience – of what makes a *talented* quarterback?" Taylor asks. "Because the problem is that, especially in team sports, we equate success with talent – and they're two completely different things. We need to list what makes a *talented* quarterback, and not just look at the last 20 years of what makes a *successful* quarterback."

If the mindsets around talent and success continue to evolve, Ford's example may mean more opportunities for the next generation of talented Black quarterbacks. "I definitely think it could open up opportunities," says Ford of his career so far. "Hopefully, it can lead to other Black quarterbacks being able to play the position." ♥



We think a CEO should be tall, middle-aged and white ... But, passing through the multiple recessions that we've had in the 2000s, these have been the same white, tall, middle-aged men who have literally run companies into the ground. So, why do we keep on giving them opportunities?

DR. CHRISTOPHER STUART TAYLOR,
ASSOCIATE VICE-PRESIDENT OF EQUITY,
DIVERSITY, INCLUSION AND ANTI-RACISM

Investing in a 'UNIQUELY HUMAN' FUTURE OF WORK

Brigette Lau wants nothing less than better opportunities for all. Her venture fund, Firework Ventures, is betting on tech companies that ignite human potential

By Beth Gallagher

Brigette Lau (BASC '99) is the co-founder of a venture capital firm in Silicon Valley, a poker player and mother to three children. She's also a self-described introvert with deep expertise investing in early-stage technology. As a teenager in the mid-1990s, Lau was thrilled to get a job at a big-box store and doubted that she ever needed to go to university. Her parents, however, had other ideas: "I grew up as an immigrant in Canada" Lau says. "It was very much about working hard and keeping your head down. Education was very important to my family." After graduating from the University of Waterloo as a computer engineer, she had her sight set on Silicon Valley. Lau was attracted to the passion and innovation at many startups and wanted to be a part of it.

Everything in Lau's education and career culminates in founding Firework Ventures, a firm with an ambitious vision to transform the future of work by investing in founders committed to closing the ever-widening gaps in society.

Finding the human in a digital future

"We believe that economic and social mobility are among the most important challenges of our time," Lau says. "There is so much talent out there, so many hard workers who are incredibly



I believe it is my responsibility to show the next generation that they can pursue their ambitions. I believe that everything that has happened in my life has brought me to this point. I see so much possibility ... I'm super excited about the future.

BRIGETTE LAU (BASC '99)

capable but don't have a network or access to opportunities." Lau notes that venture funds often focus narrowly on investing in knowledge workers, when there is a much bigger opportunity for the rest of the workforce.

Lau and her team are focusing on what is "uniquely human" during this time of increasing automation, digitization and acceleration. "For the first time in history, technological advancement has become a driver of inequality, rather than opportunity," she says.

Previously, Lau invested in the early stages of some of the companies that are, in her view, leaders in the future of work such as BetterUp, which democratizes access to coaching and Guild, which provides front-line workers with education benefits.

Multi-trillion-dollar market opportunity

Firework Ventures invests horizontally rather than taking a traditional approach by investing in verticals like education or health care. "We look at our investments through the lens of human potential, which is an emerging multi-trillion-dollar market opportunity" says Lau. For example, Lau led the Series A and joined the boards of Tilt, a company that is revolutionizing employee leave in the workplace, and Stride Funding, which provides much

needed capital to students to help them pursue educational opportunities that lead to better job outcomes.

“What I am most excited about is that all of these companies exceed billion-dollar valuations, (or are on their way), while also positively impacting the lives of so many,” Lau says.

Lau also believes in doing venture differently. This extends beyond her investment thesis. She believes in investing in both her team and her founders. Lau, her teammates, and founders have access to ongoing coaching to help everyone reach their full potential. The firm also connects its founders with an expert on talent strategy to help founders meet the needs of their rapidly growing teams.

Lau’s vision and inspiration is grounded in her own story: “I was blessed with the opportunity to pursue my education at Waterloo, work as a computer engineer in Silicon Valley and invest in multiple, billion-dollar startups – all the while becoming a mom and raising a family.”

Support for women-led startups

Lau, who admits starting a new firm is “not for the faint of heart,” was also supporting her young children’s learning at home during the pandemic.

At a time when only seven per cent of venture capital raised is managed by women-founded funds and just two per cent of venture capital funding went to women-led startups in 2020, Lau knows first-hand the challenges women engineers and mothers face in the workforce.

“I want to be an example for my children. I want my daughter and two sons to see a woman founding and leading her own company.”

Lau reflects on the teenager she was – a young woman with talent but no plan – and knows there are many people who just need the right support and connections to realize their full potential. She remembers seeing a few of her peers starting their own companies while still at school and wondered: “Am I allowed to do that?”

So now, Lau wants to use her platform to make connections for others and help increase the number of diverse voices at the table. “I believe it is my responsibility to show the next generation that they can pursue their ambitions,” she says. “I believe that everything that has happened in my life has brought me to this point. I see so much possibility ... I’m super excited about the future.” ♥



Brigitte Lau works with co-founder of Firework Ventures Ashley Bittner

How do we support talent **WHEN LIFE HAPPENS?**

Employers are losing talent as women carrying the physical, emotional and financial burden of fertility treatments take a step back – or leave the workforce entirely

By Beth Gallagher

Imagine a health condition that is deeply personal, involves profound losses and requires you to travel to an out-of-town clinic several times a week. It may last for weeks, months, even years – but you're afraid to tell your employer.

“A growing number of women have to face this situation when they receive an infertility diagnosis. In fact, one in six Canadian couples are affected by infertility,” says Nada Basir (BSc '05), a professor in the Conrad School of Entrepreneurship and Business. So, Basir and her colleague, Serena Sohrab, launched the Infertility and Work Lab to understand how infertility affects work and to better inform women, government policy and organizational practices. Without a new culture of support around infertility, employers will continue to lose talent. And women, struggling in silence, will continue to face barriers that have lasting impacts on their careers, Basir says.

“Some women we talked to didn't ask for a promotion, declined being on a project, or left the workforce entirely because they were in work environments that made it too difficult to manage both their fertility treatment and their work.”

Women fear career consequences

The team recently interviewed more than 40 professional women who have undergone fertility treatments while working full-time and found that women often didn't disclose their situation to employers for several reasons: infertility felt too personal and intimate; the stigma of experiencing infertility and a general fear of career consequences.

“Women don't want to be passed up for a promotion or a new project,” Basir says. “They also may not get the support, flexibility or understanding around why they need to leave suddenly or are coming in late. Disclosure also brings co-workers into their personal life in ways that may cause them to relate to them differently.”

Society has become aware of the “motherhood penalty” for millions of women but Basir points out that infertility adds additional obstacles that even new mothers don't have to navigate in the workplace. “Infertility poses a unique challenge in that it is concealable. People eventually know when a woman is pregnant. And yes, even though we know women can be penalized for this, there is a feeling of celebration. This is not the case with infertility.”

Unanticipated life events have outsized impacts on careers

Basir's research on infertility has inspired her to consider what she calls other “concealable, unanticipated, life events” that, like infertility, have outsized impacts on a person's well-being and career. “Imagine, someone going through a

very nasty divorce or a marriage falling apart, or perhaps an abusive relationship, or a child's drug addiction. These personal, stressful, consuming life events – that we could technically conceal while we're at work – affect our work, our day-to-day and even our identity."

Basir herself recalls how having a miscarriage deeply affected her and her work for four or five months: "I just did not take it as well as I thought I would."

In addition to the emotional toll, Basir says, people going through a divorce, for example, experience the additional administrative toll of scheduling lawyer and counselling appointments and the cognitive toll of thinking about what needs to get done, while at work.

"What I think frustrates me the most is that with motherhood or infertility, our organizations, and really society in general, have made it so that women many times feel like they have to make a choice ... Sometimes it's as drastic as, 'Do I work or do I focus on being a mother?' or in the case of infertility, 'Do I continue to work, or do I focus all my energy on trying to become a mother?'"

While Basir hopes her research will support a culture change in society, she says the changes will be good for the bottom line as well. "The organizations that are going to succeed in attracting the best talent and retaining them are going to have to think about: 'How do we support this talent when life happens?'"



Simran Duggal (MBET '16) and Nada Basir (BSc '05)



Some women we talked to didn't ask for a promotion, declined being on a project, or left the workforce entirely, because they were in work environments that made it too difficult to manage both their fertility treatment and their work.

NADA BASIR (BSc '05)



GEN Z: CHANGING THE WORLD ONE CO-OP TERM AT A TIME

Waterloo co-op students are a force for good, advancing the United Nations' Sustainable Development Goals (SDGs) in organizations and workplaces around the world.

By Namish Modi (BES '12)



With so much uncertainty in the world, Jahanvi Desai (BES in progress) doesn't know exactly what her career will look like but she is certain about one thing: she wants to engage in meaningful work.

Born after 1996, Desai is part of Gen Z, a generation that places a priority on values, especially in the workplace. "If my role as a campus coordinator has taught me anything, it is that youth are leading the change and stepping up where adults are not," says Desai, an Environment and Business major in the Faculty of Environment.

Like many Waterloo students, Desai is using her co-op experience to engage in work that advances the United Nations' Sustainable Development Goals (SDGs). On her second co-op term, Desai worked as a sustainability project co-ordinator for the University's Sustainability Office. During her third and fourth work terms she was an air quality and climate change co-ordinator for the City of Hamilton where she calculated the greenhouse gas inventory for the city and helped them develop a carbon budget.

Whether it's testing soil samples near Lake Erie, managing social media at a non-profit organization, or helping develop affordable housing, co-op work terms give Waterloo students an opportunity to make a social, environmental and economic impact in organizations around the world.

Recent research conducted by the University's Co-operative and Experiential Education (CEE) unit showed students in work placements and internships across 12 countries





carried out work related to the SDGs – 17 goals that include zero hunger, quality education, clean water and sanitation.

“The research comes as higher-education institutions are looking to act as allies for change and achieve the SDGs through teaching, work-integrated learning, research and partnerships,” says Norah McRae, associate provost of CEE and co-author on the study. “Educational institutions and students all play a vital role in taking on global challenges and ensuring a sustainable future. Universities can play a role in developing students who can bring those skills and motivation to the future workforce.

“It is imperative that we leverage our co-operative and experiential education programs to understand how we can further engage our students to work towards advancing the SDGs.”

And while many students see SDG opportunities in the non-profit sector, Desai hopes the private sector can also work with students to create work cultures where Gen Z talent can make an impact. “I find that businesses have a lot of potential to contribute to the betterment of society – not just the environment, but through corporate and social responsibility initiatives,” Desai says.

“

Sometimes I feel the general public doesn't really care about what young people have to say, even if you have co-op experience and have seen things first-hand ... the co-op program really opens up students' minds to think they can make a difference.

VERONICA SANTIA (BES IN PROGRESS)



VERONICA SANTIA
(BES in progress)

More co-op students advancing the SDGs

Veronica Santia (BES in progress), a third-year Geography and Environmental Management student, worked for Agriculture and Agri-Foods Canada in Fall 2020 and Spring 2021 where she monitored nutrient loading from farmland near Lake Erie.

In her second work term, Santia participated in fieldwork in Essex County, installing flumes and taking soil and water samples with the goal to reduce algal blooms in Lake Erie.

“Sometimes I feel the general public doesn’t really care about what young people have to say, even if you have co-op experience and have seen things first-hand,” Santia says. “I think the co-op program really opens up students’ minds to think they can make a difference.”

Emma Schuster (BES in progress), a third-year Environment, Resources and Sustainability major, worked as a social media student for Habitat for Humanity where she learned that she didn’t want to pursue social media but realized she’s passionate about working in the non-profit sector.

“Regardless of the specific role, I want to work for an organization that does good things,” Schuster says. “I also would like to work for a sustainable business that participates in the circular economy.”



EMMA SCHUSTER
(BES in progress)

Asser Ang (BES in progress), a third-year Environment and Business student, has had co-op terms at Greensaver, a non-profit energy conservation organization, and the Waterloo Sustainability Office where he advanced several SDGs including climate action, quality education, life on land and responsible consumption and production.

At the Sustainability Office, Ang worked on advancing the University’s environmental, sustainable strategy. He created social media content and hosted events like Eco Summit. He also wrote a report that will inform the University’s sustainable air travel policy.

“There’s this common misconception that the SDGs are just about the environment, but they are also about social and economic factors,” Ang says. “The SDGs are really about making sure marginalized communities are not left out of the sustainability conversation and no one is left behind,” Ang says.



ASSER ANG
(BES in progress)

Terissa Zhang (BES in progress), a third-year Urban Planning student, completed her co-op work term with the United Property Resource Corporation (UPRC). UPRC, which partners with United Church on the majority of its projects, builds sustainable and accessible housing that is affordable for the average Canadian on underutilized church and non-profit lands. Being part of a private firm gave Zhang a unique perspective and understanding of the responsibilities of businesses when it comes to advancing the SDGs.

“Unlike our non-profit clients who tend to face challenges around fundraising and adequate funding, I think private companies have power in the sense that they can bring more financial strength to these causes,” Zhang says. ♡



TERISSA ZHANG
(BES in progress)

Mark your calendar

JULY 2022

JULY 16

Family Day

Ready to get the kids out of the house? Join fellow alumni and their families for a special event at the Toronto Zoo. Learn more and register at uwaterloo.ca/alumni/events

AUGUST 2022

AUGUST 26

St. Paul's Masters: Alumni and friends golf tournament

Hosted at the Glen Eagle Golf Club in Caledon, Ont. Join us for a fun-first tournament open to golfers of all skill levels. With your help, we aim to raise \$25,000 to create outdoor recreational facilities at the St. Paul's University College. Tickets are \$200 per person, \$760 per foursome. Early bird discounts available before July 15. Register at uwaterloo.ca/stpauls/events

AUGUST 29

School of Pharmacy Annual Invitational Golf Tournament

Join us for a day of golfing and fun! All proceeds will be directed to initiatives that enhance the educational and professional development of pharmacy students here at Waterloo. Learn more and register at uwaterloo.ca/pharmacy/events

SEPTEMBER 2022

SEPTEMBER 21

Future-Ready Workforce Speaker Series

For the second future-ready workforce speaker series, Waterloo experts, employers and students will join us in sharing exclusive research and insights on how to create a strong culture of belonging and create value for the future workforce. Register at uwaterloo.ca/work-learn-institute/events

SEPTEMBER 24

Waterloo Indigenous Student Centre Annual Pow Wow

Enjoy traditional drum groups, dancers, craft vendors and exhibits. Admission is free and everyone is welcome! The event begins at 12 p.m. in Waterloo Park (by the bandshell), rain or shine.



OCTOBER 2022

OCTOBER 1

Alumni Black and Gold Day

Celebrate your school pride and cheer on the Warrior football team as they take on the Toronto Varsity Blues. See you on Warrior Field! To learn more and register, visit uwaterloo.ca/alumni/events

OCTOBER 4

CEE Employer Impact Awards

The Co-operative and Experiential Education (CEE) Employer Impact Awards recognize and honour employers for their industry excellence and the incredible opportunities they provide to Waterloo students. Join us for our virtual ceremony as we celebrate our outstanding co-op employers. Learn more at uwaterloo.ca/hire/cee-impact-awards

NOVEMBER 2022

NOVEMBER 12

Roaring 20s Gala: 20 years of UW WELL-FIT

Join us for a night of entertainment, dinner, a silent auction and more. The Roaring 20s Gala will be hosted by comedian Robert Hawke and feature live music and inspiring UW WELL-FIT participant stories. Register at uwaterloo.ca/cccare/roaring-20s-gala

MORE EVENTS COMING THIS FALL

You + Waterloo =

A sustainable future

Now, more than ever, the world needs leaders who can dot the lines between natural and social systems with core business and decision-making. Waterloo is responding to this talent gap with the launch of the Sustainability and Financial Management program. Join us in celebrating a more sustainable future. Find more information at uwaterloo.ca/saf/events

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

How does Waterloo produce **SO MANY FOUNDERS?**

Investing in universities and the talent that is derived from them will have to be a central pillar of Canada's innovation strategy.

By Rose Simone



What's Waterloo's secret sauce?

Whenever anyone seeks to emulate the University of Waterloo's success in developing innovators, that question comes up.

The answer, according to Joel Blit (MAsc '99), an economics professor who studies innovation, is multilayered.

The University's intellectual property policy, co-op programs that meld academics with practical experience for students and the commercialization programs are critical. There are also more than 45 entrepreneurship programs and supports, including the flagship incubator Velocity.

But Blit says it's also about the special way that all these factors come together at Waterloo.

Waterloo's core connections drive innovation

He notes that a number of universities have replicated one or more of the Waterloo advantages, such as the inventor-owned intellectual property policy or experiential learning programs. "But it's how all of these things are put together at the core and how these things interact that creates something truly special," he says.

Waterloo produces nearly twice as many tech founders as any other Canadian school and about 18.6 per cent of all the technology companies in Canada, according to a 2019 report from the Impact Centre at the University of Toronto. Waterloo's historic strengths in mathematics, computer science and engineering are part of the reason Waterloo produces so many tech founders. OpenText, Clearpath Robotics, Intellijoint Surgical, Able Innovations, ApplyBoard, Arctic Wolf and Snapcommerce are just a few names on a list of more than 1,000 ventures, large and small, whose founders got their start in labs, classrooms and incubators at Waterloo.

Now, as the world emerges from the devastating COVID-19 pandemic, Blit says that Canada will need to focus on long-term growth, embracing the changes brought on by the fourth industrial revolution. Growth is the only way to ensure that Canadians can maintain a high standard of living and pay down the debt while maintaining social programs including education and health care.

Universities are a critical part of achieving that.

Universities raise per capita GDP

A study by Anna Valero and colleague John van Reenen from the London School of Economics and Political Science, examining a database of 15,000 universities across 78 countries for the period 1950 to 2010, found that doubling the number of universities in a region raises its

future per capita GDP by four per cent. A recent Deloitte economic impact report estimated that in 2017/18, Waterloo's operating expenditures alone contributed \$1.52 billion to Canada's GDP.

There are "many levers" that can be pulled to increase innovation in a country, from intellectual property reform and tax incentives to the intake of higher-skilled immigrants, Blit adds. But investing in universities and the talent that is derived from them "will for sure have to be a central pillar of our innovation strategy."

Vast majority of founders have university degrees

Universities boost innovation by creating technology hubs, such as Silicon Valley or the Toronto-Waterloo corridor that generate technological advances and new companies, Blit says. "What we do know from history is that over the last 40 years, the demand for university graduates has gone up, as have relative wages."

And despite the "dropout" stories in the technology world – such as Mark Zuckerberg, who quit Harvard in 2005 to focus on growing Facebook, or Bill Gates, who dropped out not once but twice from Harvard to focus on building Microsoft – the vast majority of company founders do have degrees.

Ilya Stebulaev, an economist at Stanford Business School who has done considerable research on startups, found that of 1,263 founders of 521 U.S. unicorns, fewer than five per cent were post-secondary school dropouts.

"Research does show that inventors of patents tend to be more highly educated than the average population and they disproportionately have university degrees," Blit says. "They also, not surprisingly, tend to be educated in STEM (Science, Technology, Engineering and Math) fields." ♥



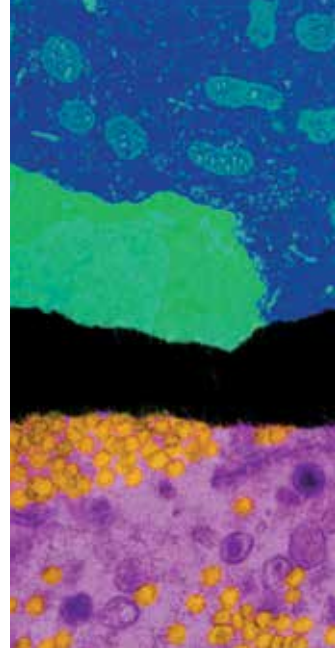
Research does show that inventors of patents tend to be more highly educated than the average population and they disproportionately have university degrees.

JOEL BLIT (MAsc '99),
ECONOMICS PROFESSOR

This is how you make a **DENT IN THE UNIVERSE**

Janelle Resch changed career plans and launched a biotech company with her husband Eric Ocelewski after he was diagnosed with cancer.

By Rose Simone



How did Janelle Resch (BMath '10, MMath '13, PhD '20) move from a doctoral thesis on the mathematics of sound waves to becoming a co-founder of a biotech firm at the beginning of a pandemic?

Her story is about the celebrated University of Waterloo innovation ecosystem, but it is also about her education: "Mathematics helps you describe the world around you. Having that logical foundation to look at something from first principles, derive a model, and then test that model computationally, is really important for any field."

It is also about her husband and co-founder Eric Ocelewski, his cancer diagnosis, and their decision to use their talents to "make a dent in the universe on the early-detection, diagnostics problem."

Ocelewski, co-founder of their pathogen detection company $\pi^{\circ}\cup$ (Pi and Power) now at the Velocity incubator, was diagnosed with invasive squamous cell carcinoma on his tongue and underwent intensive surgery and experimental chemotherapy. His father had passed away from a similar cancer, however, advances in genetic screening allowed the couple to predict Eric's cancer years before it emerged.

Resch points out: "Eric's surgery and treatment could have been much more simplified if we had caught it earlier."

The innovation ecosystem at Waterloo has been fundamental to the growth of $\pi^{\circ}\cup$, but Resch says it is critical to recognize the power of the many people who have stepped up to support and encourage her along the way.



The University of Waterloo is just buildings, but the people inside them make the difference.

JANELLE RESCH (BMATH '10, MMATH '13, PHD '20)

“The University of Waterloo is just buildings, but the people inside them make the difference,” Resch says. “There were people who were really supportive and positive who helped us make this happen.”

Among the people at Waterloo who were important to her company, Resch cites Michael Barnett-Cowan, a kinesiology professor who encouraged them to get into the Velocity program; Jeff Aramini, an epidemiologist and entrepreneur who served as a business advisor when the company got into Velocity; Parisa Hamilton (MAsc '09, PhD '14), the Velocity space lab manager who helped Resch become more comfortable with lab equipment thereby making the transition from acoustics to biotech smoother, and the late Safieddin Safavi-Naeini, a professor in the department of electrical and computer engineering who died last year but was the director of the Centre for Intelligent Antenna and Radio Systems that collaborated with the company as it sought to investigate empirical data.

From augmented reality to early detection of pathogens.

Resch and Ocelewski were initially not even thinking about going into the biotechnology space. They were intent on launching a company that would create virtual and augmented reality environments for research, education, remote testing and training.

But after Ocelewski was diagnosed with cancer, they wanted to find ways for cancer and other pathogens to be detected earlier to prevent suffering, save lives and preserve quality of life for patients and their families.

The company got its first \$100,000 investment from a Velocity Fund Pitch Competition held during the COVID-19 pandemic. The Waterloo incubator had extended its intake to additional new companies to

give priority to new technology ideas that could help with Canada's effort to combat COVID-19. Among the new companies accepted into the program was $\pi^n \psi$.

Resch says any biotech company startup needs the right facilities and lab equipment and the Velocity facilities provided that environment. “We could not have done that at home, as it wouldn't be appropriate to do a biotech startup focused on viral pathogen identification in your garage,” she says.


A sensor and algorithms for early detection

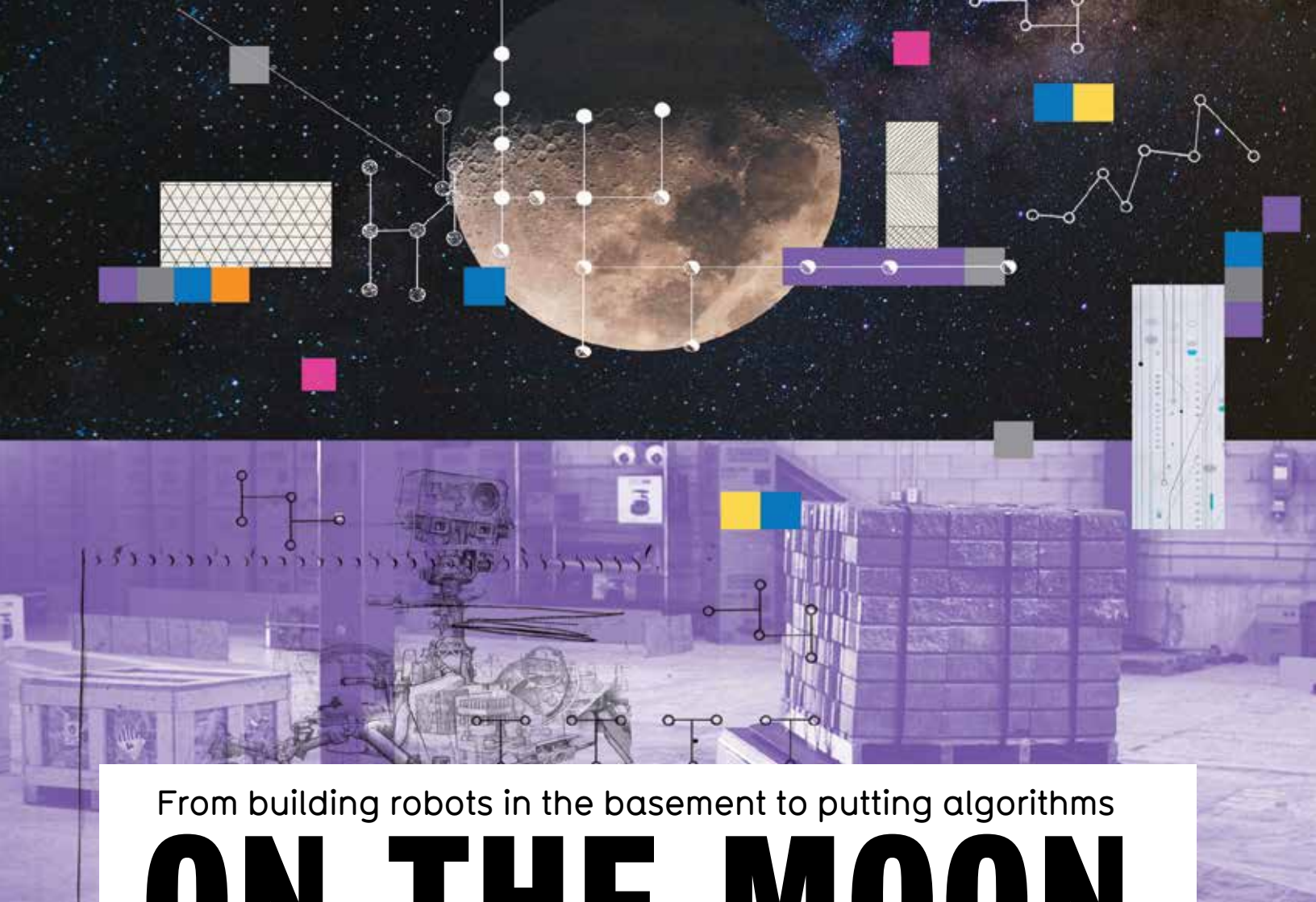
The company has since designed and fabricated its own sensor and created algorithms for the detection and identification of pathogens. It is now at a stage of testing its technology in the agricultural sector before extending the technology for bacteria and viruses in human health.

Resch says her applied mathematics PhD from Waterloo was certainly foundational for her company which brands itself with the mathematical symbols π (pi), n (and), ψ (power).

“Waterloo stands amongst the giants when it comes to mathematical training at the undergraduate and graduate level,” Resch says. “We compete successfully with places like Harvard, Princeton, Cambridge, Oxford, MIT and Caltech.”

When Resch got into mathematics at Waterloo, her interest was initially in music. Her PhD thesis dealt with non-linear acoustics, its signal analysis and the production and propagation of sound waves in musical instruments. She is now an adjunct professor in the Applied Mathematics Department at the University of Waterloo.

But Resch says that mathematics is applicable everywhere and everything, from music to medicine. “Indeed, Mathematics helps you describe the world around you.” 



From building robots in the basement to putting algorithms **ON THE MOON**

Four Waterloo Engineering students started building robots in a basement. Today, the company they founded is a global enterprise with a team working on Canada's first lunar rover

By Rose Simone

About 13 years ago, four friends and Mechatronics Engineering students at the University of Waterloo – Matt Rendall (BASC '08, MBET '09), Ryan Garipey (BASC '09, MASC '12), Pat Martinson (BASC '09) and Bryan Webb (BASC '09) – started building robots.

It was an interest that grew from their involvement in UW Robotics Team and then carried on into their final-year engineering project, which became an idea for a company.

But it wasn't long before they were running out of space.

"Robots take up a lot of space and so pretty soon, they were spilling out all over the place. We had some access to the

robotics lab at the University; we had some space at the Accelerator Centre and we were using one of the founder's basements," says Rendall, chief executive officer of Clearpath Robotics, about how the company got started.

Customers in 50+ countries

From those humble beginnings, Clearpath became a multi-million-dollar global enterprise that now employs 320 people, mostly in Waterloo region but also elsewhere in the world. It has customers in at least 50 countries.

Clearpath now has an entire business unit devoted to autonomous vehicle technology that can move parts or products from one part of a warehouse or manufacturing plant to another. That business unit, OTTO Motors has "a portfolio of products and autonomous vehicle fleets running in some of the biggest plants in some of the most important manufacturing economies in the world," Rendall says.

The company has also been increasingly integrating its software into other robots that work on factory floors.



Software to drive the rover on the moon

The Canadian Space Agency recently announced plans to send a robotic lunar rover to the moon in 2026. In that project, Brampton-based MDA, developer of the Canadarm, is working with Clearpath Robotics to develop the software that will drive the rover on the moon. “We have a long history in aerospace. This project that we just announced is continuing to build on that heritage.”

When Rendall is asked about Clearpath’s success, he will cite the combination of factors.

“I would say the intellectual property policy at the University of Waterloo, where you can own everything that you invent, plays a big role.”

The co-op program is another factor, he adds. “We have sharp young minds coming in and learning engineering at the university, but then they go into workplaces where they figure out not only how to apply those skills but also have opportunities to identify real-world problems and try to solve them,” Rendall says. Those solutions sometimes become companies in their own right, he adds.

The academic programs offered at Waterloo also play a role, Rendall adds. The Mechatronics Engineering program was fairly new at Waterloo when he began working on his degree and he wanted to try something new and difficult. “It was supposed to be very challenging – the biggest challenge you could possibly sign up for.”

Undergraduate design projects spur innovation

Waterloo Engineering programs also incorporate a final year Capstone Design project that has the students conceptualizing and designing innovations based on their chosen discipline. That final year design challenge, supported by several awards, has resulted in numerous spinoff companies and technologies.

“After the fourth-year design project, you’ve already built the prototype, you’ve built the business plan, you’re already familiar with living like a student without any money. So why not just extend that a little bit longer and try making a company out of it?” Rendall asks.

The larger Waterloo ecosystem is simply a “powerful reinforcing mechanism” for startup companies, according to Rendall.

There are professors who are entrepreneurially minded and tend to gravitate to Waterloo because they want to focus on their innovations ... Students are also exposed to that mindset throughout their education.

MATT RENDALL (BASC '08, MBET '09)

Exposure to the entrepreneurial mindset

“There are professors who are entrepreneurially minded and tend to gravitate to Waterloo because they want to focus on their innovations. The graduate students who work for them will also be entrepreneurially minded and the undergraduate students are also exposed to that mindset throughout their education,” Rendall says.

The Velocity incubator provides further infrastructure, guidance and support for the startup companies that emerge from that entrepreneurial ecosystem, Rendall adds.

The ecosystem becomes self-reinforcing as co-op students who work for startups see “how exciting early-stage companies can be and the impact they can have at those companies.”

That same ecosystem helped Clearpath Robotics grow long after it was spun out of the University.

The ability to hire co-op students has been “pretty foundational,” Rendall says. “We built the company with a tremendous amount of support from co-op students.” The presence of the University also enabled the company to establish important research partnerships, he adds.

“I don’t know where else in Canada, you could have an autonomous vehicle company and have the same advantages that we have here,” Rendall says. ♥

Your ALUMNI CLUB

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uwaterloo.ca/magazine/your-alumni-club

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OCTOBER 1, 2022

Registration opens
August 2022

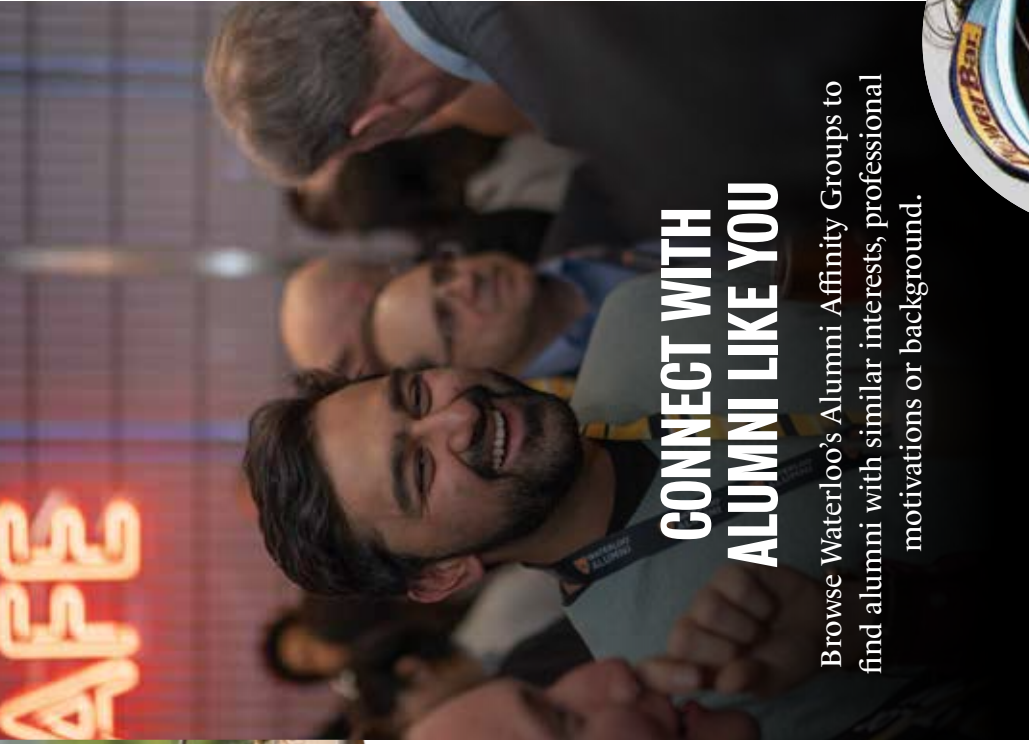




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Uncharted

WARRIORS IN THE WORLD



Connor Kapahi

Ben Thompson

Dmitry Pushin

Seeing the QUANTUM LIGHT

By Kayleigh Platz (BA '07, MA '09)

Researchers from vastly different disciplines – quantum physics and vision science – collaborate on new device that may one day prevent vision loss

A new device being tested in the University of Waterloo Optometry Clinic may one day help prevent the leading cause of vision loss in older adults – and it all started with a chance conversation among quantum physicists.

Dmitry Pushin, a professor in the Department of

Physics and Astronomy, was talking to another physicist about his team’s quantum light research when the colleague mentioned that Ben Thompson, a professor in the School of Optometry and Vision Science, was studying macular degeneration and how the eye and brain see light.

Pushin’s team, based at the Institute for Quantum Computing (IQC), had been asking the question: “Can people see quantum light with the naked eye?”

When his research team proved the human eye could indeed see quantum light, they wondered: “What can we do with this?”

Across campus, Thompson and his team were researching eye exams, asking: “How do we compare what people think they see to what they actually see?”

Waterloo's unique IP policy fosters collaboration

For Pushin, this was an opportunity for collaboration because the two research groups were asking similar questions through different lenses.

Waterloo's culture, the research teams agree, helps foster this type of interdisciplinary research. Its unique intellectual property policy, that allows researchers to own what they invent, encourages people to work together and try out new areas, Pushin says.

Taking this idea of quantum light and macular degeneration back to the lab, Pushin's team developed a device that allows optometrists to see how the human eye tracks polarized light. A person with healthy eyes can detect polarized light in the form of a blurry spot in their field of vision – a phenomenon known as Haidinger's brush. This is due to structural properties of the macula, which are compromised in individuals with macular degeneration.

Today, macular degeneration is often diagnosed after irreparable vision loss has occurred. Connor Kapahi (PhD in progress), a PhD student in Physics and Astronomy, and Dusan Sarenac (BAsc '14, PhD '18), technical lead at IQC's Transformative Quantum Technologies (TQT) group, built the camera, which is capable of illuminating and imaging a patient's retina with novel forms of light. The research was funded through TQT which is a Canada First Research Excellence Fund Initiative.

This diagnostic tool is being tested at Waterloo's Optometry Clinic with the hope that it may one day detect macular degeneration in patients earlier. "Our collaboration is an unusual one, not only because it connects a relatively abstract topic in quantum technology to an established medical field in vision research, but also because it spans continents," Kapahi says.

Thompson, now based in Hong Kong and running the University's new Centre for Eye and Vision Research (CEVR), is taking the collaboration international which is significantly improving their ability to test the device on patients.

Opportunities to integrate research attracts top talent

Thompson sees the Waterloo environment as key to creating opportunities for interdisciplinary research because researchers from such different disciplines typically don't connect at many other universities. Waterloo has an open, collegial culture that actively promotes interdisciplinary collaboration, new ideas and "blue skies" thinking, he says. This environment makes it



Early exposure to successful interdisciplinary research allows trainees to overcome these fundamental challenges and experience the exhilaration of being involved in the generation of new ideas and technologies that would not have been possible without combined expertise.

BEN THOMPSON, PROFESSOR, SCHOOL OF OPTOMETRY AND VISION SCIENCE

possible to identify new connections with researchers from very different disciplines.

Interdisciplinary research is powerful but it poses many challenges such as communication, confidence in moving outside of your comfort zone and trusting collaborators outside your discipline, Thompson says.

"Early exposure to successful interdisciplinary research allows trainees to overcome these fundamental challenges and experience the exhilaration of being involved in the generation of new ideas and technologies that would not have been possible without combined expertise. This, in turn, lays the foundation for trainees to incorporate interdisciplinary projects into their future careers."

The cutting-edge invention is attracting talent to Waterloo. During the research phase, Thompson welcomed Andrew Silva, a Postdoctoral Fellow in the School of Optometry and Vision Science to the team. Silva was instantly engaged in the research that extended beyond silos and the usual academic restriction. Learning to think in a collaborative and interdisciplinary way early on helps shape your focus and future as a researcher, Thompson said.

"Something extra can be found through collaboration," Kapahi says. "By collaborating across fields that have historically been separate, researchers can find opportunities to solve problems that their colleagues might have thought intractable. I see interdisciplinary collaboration as a cornerstone of the future of academic research." ▾

Making an impact

Inspiring the next generation

OF BLACK STEM LEADERS

*D'Andre Wilson-Ihejirika,
social entrepreneur and engineer*

New camp connects Black youth to Black mentors working in science, technology, engineering and mathematics

By Claire Mastrangelo

Black youth have opportunities to explore careers in science, technology, engineering and mathematics (STEM) through a new camp called STEMpowered.

Waterloo's Engineering Outreach team created the camp in partnership with the Caribbean Canadian Association of Waterloo Region (CCAWR) and BrainSTEM Alliance, a network of STEM ambassadors led by award-winning social entrepreneur and engineer D'Andre Wilson-Ihejirika.

"I think it's important for youth to see Black STEM professionals succeeding in their careers and enjoying what they're doing," Wilson-Ihejirika says. "There's something to

be said for being able to relate to a speaker or instructor – youth can be a little bit more themselves and they can see a path for themselves in STEM."

Wilson-Ihejirika was helping the CCAWR build STEM programming when one of its board members, Trevor Charles, a Waterloo biology professor, connected her group to the Engineering Outreach team.

Scotiabank provides funding

The Scotiabank Future of Talent and Innovation Initiative funded the camp as part of a \$1.04-million investment in the University community. The initiative supports engineering outreach for racialized elementary and high school students, along with the existing Women in Engineering (WiE) and Women in Computer Science (WiCS) programs at Waterloo. The investment also includes funding for research, innovation challenges and scholarships for students who are underrepresented in STEM fields.

"Building a more inclusive world is one of Scotiabank's top priorities," says Meigan Terry, senior vice-president,



Participants of the STEMpowered camp on a Zoom call.

chief social impact, sustainability and communications officer at Scotiabank. “We are proud to work with academic institutions such as the University of Waterloo to help remove barriers to career advancement and make a meaningful impact on our communities.”

Systemic racism has created obstacles for Black professionals in STEM, leading to a lack of representation that deters young people from pursuing careers in those fields.

Camp is rewarding for everyone

Working with the Engineering Outreach team has been very positive, Wilson-Ihejirika says. “They’ve been able to provide a strong foundation for the work that allows me and my team to focus on supporting the Black mentors as they come through, which has been a lot of fun.”

She says the mentors are happy to join the camp, which is one of several new initiatives to increase equity in STEM at Waterloo. “Many of the mentors are one of few Black people in their fields, so they see the importance of the camp,” she says. “They like to encourage the next generation and share their work in a way that’s fun and exciting.”

Plans for summer camp are underway, with an aim to include new mentors from different STEM fields. Past mentors have shared their expertise in areas including marine biology, engineering, astrophysics and actuarial science.

“The kids don’t know that some of these disciplines exist, or that Black people work in them,” says Wilson-Ihejirika, who specializes in chemical engineering and data analytics. “I get to learn about new disciplines as well. It’s a lot of fun; I’m excited to introduce the youth to all of these aspects of STEM.” ♡

Learn more about the Scotiabank Future of Talent and Innovation Initiative – including its impact on current Waterloo students at uwaterloo.ca/news/future-talent-and-innovation.

CREATING A BETTER WORLD

Congratulations to our 2021 Alumni Award recipients

Working tirelessly to advance important causes, this year's recipients are tech experts, researchers, advocates and business leaders. Each one is making their own unique impact on the world.



Katherine Hay (BA '98)
Faculty of Arts
Alumni Achievement Award



Susan Chang (BA '17)
Faculty of Arts
Young Alumni Award



Benjie Thomas (BA '98, PDAcc '98)
School of Accounting and Finance
Alumni Achievement Award



Nilofer Ahmed (BAFM '12, MAcc '12)
School of Accounting and Finance
Young Alumni Award



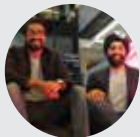
Samuel R. Mazin (BASC '02) Faculty of
Engineering Alumni Achievement Medal
Professional Achievement



Olga Pawluczyk (BASC '98) Faculty of
Engineering Alumni Achievement Medal
Professional Achievement



Glen W. Bandiera (BASC '90) Faculty of
Engineering Alumni Achievement Medal
Community Service



Rahul Udasi (BASC '14) and **Manmeet Maggu**
(BASC '13) Faculty of Engineering
Team Alumni Achievement Medal



Nashin Kelash Mahtani (BAS '14, March '15)
Faculty of Engineering
Young Alumni Achievement Medal



Derek J. Coleman (PhD '74)
Faculty of Environment
Distinguished Alumni Achievement Award



Maureen G. Reed (PhD '91)
Faculty of Environment
Distinguished Alumni Achievement Award



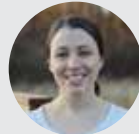
Eric Kennedy (BKI '12)
Faculty of Environment
Young Alumni Inspiration Award



Anne-Marie Marais (BES '95)
Faculty of Environment
Friend of the Faculty Impact Award



MHBC Planning
Faculty of Environment
Friend of the Faculty Impact Award



Natasha Lane (BSc '09, MSc '11)
Faculty of Health Alumni
Achievement Award



Marc Lafleur (BSc '14)
Faculty of Health
Young Alumni Award



Chanda Prescod-Weinstein (PhD '11)
Faculty of Science
Distinguished Alumni Award



Latif Nanji (BSc '07)
Faculty of Science
Young Alumni Award



Julia Imanoff (BSc '06)
Faculty of Science
Young Alumni Award



Gary Foerster (BA '76)
St. Paul's University College
Distinguished Alumni Award



Moazam Khan (BSc '16, MBET '17),
Zied Etleb (BSc '16, MBET '17) and
Matthew Sefati (BSc '17) Faculty of
Science Alumni Team Award



Sepanta Dorri (MAcc '97)
St. Paul's University College
Distinguished Alumni Award



Rui Su (BSc '18, PharmD '18)
School of Pharmacy
Alumni Achievement Award



Christina Hassan (BSc '14, MPH '16)
St. Paul's University College
Young Alumni Award



Ann L. Schultz (BA '90)
Conrad Grebel University College
Distinguished Alumni Service Award



Sheila Ball (BES '12)
St. Paul's University College
Young Alumni Award

→ READ about their achievements at uwaterloo.ca/alumni/2021-alumni-awards

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noun: a special anniversary of an event

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Jessica Bondy (BA '08, MA '13) speaking to Lula Woldemariam and Clayton Freeborn at the House of Friendship.

WHEN CO-OP COMES FULL CIRCLE

Alumni share how their own co-op experiences shape how they mentor the next generation of talent

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



From Waterloo to Tokyo

Jeff Wentworth (BASc '06) recalls virtually every co-op term helping him not only advance his technical skills, but also improve his communication skills and ability to collaborate in an office environment. But there was one work term that took his development to a whole new level.



In the middle of his degree, Wentworth packed his bags and moved to Japan for a year – an experience that took him out of his comfort zone. At the time, there was no Google Translate or Google Maps and, for Wentworth, it was both wonderful and lonely.

Immersed in an unfamiliar culture, job and place, Wentworth uncovered new skills and independence that he would use in his future life and career. He enjoyed the experience so much that he moved back to Japan shortly after graduating. He thought he'd stay for a couple years.

Fifteen years later, he's still in Tokyo, where he founded Curvegrid with William Metcalfe (BMath '04), whom he met during that international co-op term. Wentworth and Metcalfe now find themselves on the other side of the co-op process, hiring students who have an interest in international travel and cultures. They try to make the experience as smooth and rewarding as possible, reimbursing students for plane tickets and helping them secure visas and other necessities. They even offer two weeks of vacation, so students can make the most of their time in a new country.

"This is our way of paying it forward," Wentworth says. "We hope they have a similar cultural experience to the one we enjoyed as students."

"Co-op students are important members of our team. The new ideas that students bring – the fresh perspective, tech-savvy approaches, ability to use data – it's incredible to see the things they can help us with."

JESSICA BONDY (BA '08, MA '13)





Valued members of the team and community

In her final work term, Jessica Bondy (BA '08, MA '13) felt like she was more than a co-op student at the Royal Ottawa Hospital: “I was very much a member of the team,

and my experience was valued. It was an incredible opportunity to test out my professional skills, understand the complexity of working in healthcare, and ask myself some important questions, like, ‘Why do I want to get into this work?’ and ‘What are my passions?’”

Today, Bondy is still focused on serving others through her work. As the Housing Services Director at Waterloo Region’s House of Friendship, she draws on the skills and dedication she developed in her work terms. As a co-op employer, and previous co-op student, she knows the tremendous value students can bring to a non-profit organization.

“We believe in a place where everyone can belong and thrive, and that includes our staff,” she explains. “Co-op students are important members of our team. The new ideas that students bring, the fresh perspective – tech-savvy approaches, ability to use data – it’s incredible to see the things they can help us with.”

Through multiple roles and projects, Bondy has seen students leave an important mark in House of Friendship programming and the community they serve. She’s quick to mention the growth she sees in the students as well: “Students who work with us get exposure to some very challenging ways of life and complicated social issues like homelessness, addiction, mental health challenges and poverty. When folks work for House of Friendship, they also learn what it means to be a member of a community. It’s a true joy to see someone’s thoughts shift and to see them develop an interest in non-profit work. It gives me more energy to do the difficult things in my job.”



Finding the right fit

Before his first co-op term, Vikram Hardatt (BES '17) thought he wanted a career in geographic information systems (GIS). Hardatt took elective courses on the topic and for his first work term, he found a job where he could focus on GIS.

“I thought I wanted to do this for the rest of my life,” he explains. “But after working and studying GIS for a year, I realized maybe this isn’t actually what I want to do.”

For subsequent co-op terms, he shifted his focus and found a new passion. While at the City of Hamilton, he worked on the team that was planning and implementing the City’s new bike share program. He enjoyed this work so much that he returned to the City of Hamilton for a later co-op term, and eventually a full-time job with a local consulting firm, IBI Group. Today, he’s a passionate consultant focusing on bringing micro-mobility systems, including bike-sharing and e-scooter programs to communities across Ontario. He’s also a regular user of the Hamilton bike share program that he helped implement.

Without co-op, Hardatt knows he might have spent his degree preparing for a career that wasn’t the right fit. When he works with co-op students today, this experience is always top of mind: “While I’m super passionate about micro-mobility, I realize that this might not be what our co-op students are feeling. I encourage them to give this field of work an honest try, ask questions as they come up, and talk openly about their thoughts. That way, I can work with their interests and tailor their tasks to their individual goals.”

Hardatt hopes his open approach helps them do their best work at IBI Group, but also in the future. It’s part of the process to build a fulfilling career. ♥

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.

Students (like Emma) can bring innovative thinking to your organization.

EMMA SCHUSTER
a Co-op Student of the Year award winner

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UNIVERSITY OF WATERLOO

FP1810

Class notes

1971

Khurshid Dost (MSc '71) received the 2021 David Baxter Memorial Award for Outstanding Individual Achievement.

1973

Rick Haldenby (BES '73, BArch '75) was appointed to the Order of Canada.

1975

Hubert Bourque (BASC '75) joined Restoration Builders Inc. as part of its ESG and Technology Group.

1976

Frances Kordyback (BMath '76) was re-appointed to the Ontario Securities Commission.

1980

Dorothy Dowling (BA '80, MA '83) received the Stephen W. Brener Silver Plate Award.

1981

Karen Autio (BMath' 81) published two children's novels, *Making Seaker* and *Kah-Lan and the Stink-Inkis*.

1983

Jacky Beckford Henriques (BMath '83, MASC '85) was named one of Canada's 100 Most Powerful Women.

Nirogy Therapeutics appointed **Simon Pedder (BES '83)** as CEO.

1984

IndiGo appointed **Rahul Bhatia (BASC '84)** as managing director.

1985

Colleges Ontario named **Janet Hope (BA '85)** its new vice president of policy and innovation.

Deborah Rosait (BASC '85) was named one of Canada's Top 100 Most Powerful Women by the Women's Executive Network.

Lifeist Wellness nominated **Barbara Boyd (BA '85)** to its board of directors.

Skywatch, co-founded by **Roland Sing (BMath '85)**, received a Companies to Watch award in Deloitte's 2021 Technology Fast 50 program.

1986

Rhumbix appointed **Susan Heystee (BMath '86)** to its board of directors.

Titan Logix Corp. announced **Robert Tasker (BASC '86)** as director of the company.

1987

Aptose Biosciences Inc. named **Janet Clennett (BMath '87)** vice president, finance.

Auvik Networks, co-founded by **Marc Morin (BASC '87)** and **Alex Hoff (BMath '04)**, was named on Deloitte's 2021 Technology Fast 50 ranking and FoundersBeta's 100 Tech Companies to Watch in 2022.

Todd Charters (BSc '87) released his first novel, *Lunch Counter: A love remembered*.

1988

Vince Deschamps (BES '88) was named director of sustainability by Moneta.

1989

Anne Vivian-Scott (BASC '89) was named one of Eastern Ontario's 49 power people.

1990

Carol Phillips (BES '90, BArch '92) was a juror for the 2021 Canadian Architect Awards.

Tom Mondor (MA '90, PhD '92) was named president of the University of Winnipeg.

James Morehead (BASC '90) published his debut poetry collection, *canvas: poems*.

Legend Power Systems Inc. appointed **Paul Moffat (BASC '90)** as chief operating officer.

1991

Vanna Krantz (BMath '91) joined Passport as its new CFO.

David Ross (BASC '91) was named one of Eastern Ontario's 49 power people.

Tracey Taylor-O'Reilly (BA '91, MASC '93) was named one of Canada's Top 100 Most Powerful Women.

Nick Nikolakakis (BASC '91) was appointed VP Finance and CFO of Arizona Sonoran Copper. He also joined the board of directors for Imperial Mining Group Ltd.

1992

Goodfood appointed **Bipasha Chiu (BMath '92)** as its chief technology officer.

Sarah Eckersley (BASC '92) was presented the Lawrence B. Evans Award in Chemical Engineering Practice at the American Institute of Chemical Engineers (AIChE) annual meeting in November 2021.

Lynden Logistics named **Brian MacAskill (BSc '92)** vice president of logistics.

RetireOne appointed **Stéphane Goyer (BMath '92)** as senior managing director of product strategy.

Nick Darveau-Garneau (BMath '92) joined Coveo as chief growth and strategy officer.

1993

Darryl Button (BMath '93) was named president and CEO of Pacific Life.

Corteva Inc. appointed **Chuck Magro (BASC '93, DEng '21)** as its CEO.

1994

Judy Dinn (BMath '94) is the new CIO of TD Bank.

Derek Shuurman (MASC '94), with his co-authors, released *A Christian Field Guide to Technology for Engineers and Designers*.

1995

The WeQual Awards recognized **Susan Uthayakumar (BA '95, MAcc '95)** for her contributions to business.

Class notes

Jay Green (BA '95, MAcc '95) was elected to the board of governors of BiondVax Pharmaceuticals.

Dave Sharma (BMath '95) was appointed to the Swarmio Media board of directors.

Todd Pokrywa (BES '95) served as a guest coach at the Adidas Legends Classic game, part of the 2021 Hockey Hall of Fame Induction Weekend in Toronto.

Enlighten Innovations Inc. appointed **Todd Mooney (BA '95, MAcc '95)** as its new CFO.

1996

C2C Gold appointed **Chris Buchanan (BSc '96)** chief geologist for Newfoundland projects.

Winnie Shi (BA '96, MAcc '96) was named one of Canada's Top 100 Most Powerful Women.

Standard Insurance Company announced **Margaret Brandl (BMath '96)** as assistant vice-president and actuary, Actuarial Governance and Risk Management.

Anand Rajaram (BA '96) was nominated for an ACTRA Toronto Award: Outstanding Performance – Gender Non-Conforming or Male Voice, as Beans in *Go, Dog. Go!*

1997

Corina Moore (BAsc '97) was named one of Canada's Top 100 Most Powerful Women.

FutureVault appointed **Daniel Kenny (BAsc '97)** as its new CEO.

1999

Cherie Brant (BES '99) was appointed to the board of directors of TD Bank Group.

2000

Catherine Tudor-Locke (PhD '00) was named to the advisory board of the Hanger Institute for Clinical Research and Education.

Nova Mentis Life Science Corporation welcomed **Rebecca Hudson (BA '00, MAcc '00)** as its CFO.

Aterlo Networks, co-founded by **Gerrit Nagelhout (BAsc '00)** and **Scot Loach (BMath '01)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2001

Stephanie Thompson (BAsc '01) was named one of Canada's Top 100 Most Powerful Women by the Women's Exchange Network.

2002

VelocityEHS appointed **Winnie Ip (BSc '02)** senior vice-president and chief operating officer.

Ranchero Gold appointed **Brian Szeto (BA '02, MA '05)** as president.

ISARA, co-founded by **Mike Brown (BMath '02, MMath '03)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2003

Geomechanics expert **Gang Han (PhD '03)** is now president of the American Rock Mechanics Association.

Melissa Kobe (BA '03) is the new vice-president of basketball operations and general manager of the Kitchener-Waterloo Titans.

2004

Jason Leong (BA '04, MAcc '04) was appointed CFO by Comtech Group Inc.

Forum Equity Partners announced **Kazeem Jaffer (BMath '04)** as head of finance of the Forum Real Estate Income and Impact Fund.

2005

Bowhead Health was named to the Canadian Innovation Exchange Top 20 Early list. The company was co-founded by **Rhea Mehta (BSc '05)**.

Snapcommerce, co-founded by **Hussein Fazal (BMath '05)** and **Henry Shi (BCS '14)**, was named on Deloitte's 2021 Fast 50 ranking.

Steve Bryson (MSc '05) received the Prime Minister's Award for Teaching Excellence.

2006

Pooja Viswanathan (BMath '06) was named one of Canada's Top 100 Most Powerful Women.

Saudi Arabian venture capital firm Raed Ventures named **Wael Nafee (BAsc '06)** as a new partner.

Later.com, co-founded by **Ian MacKinnon (BMath '06, MMath '08)**, was named on Deloitte's 2021 Technology Fast 50 ranking.

Dieter Jentsch (BMath '06) was appointed to the Ontario Securities Commission.

2007

Shannon Nash (BA '07, MA '08) was elected as a trustee to the Waterloo Region Catholic School Board.

Roadmunk, co-founded by **Latif Nanji (BSc '07)**, was named on Deloitte's 2021 Technology Fast 50 ranking.

Vikram Yadav (BAsc '07) was named to Canada's Top 40 Under 40 2021.

Candace Brulé (BMath '07) was promoted to vice president of investor relations for Hudbay Minerals Inc.

Next Hydrogen Solutions appointed **Kasia Malz (BMath '07, MAcc '07)** as its CFO.

Uvaro, co-founded by **Joseph Fung (BAsc '07)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2008

Evergreen Acquisitions Corp. appointed **Jonathan Held (BMath '08, MAcc '08)** to its board of directors.

Leap Tools, co-founded by **Pawl Rajszel (BSE '08)**, was named on Deloitte's 2021 Technology Fast 50 ranking.

Clir Renewables, co-founded by **Andrew Brunskill (BAsc '08)**, received a Companies to Watch award in Deloitte's 2021 Technology Fast 50 program.

Apoorva Mehta (BAsc '08) was named to the Forbes 30 Under 30 Hall of Fame.

RSM Canada promoted **Shaweta Roopra (BMath '08)** to audit quality and risk management partner.

MinuteBox, co-founded by **Steven Pulver (MBET '08)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

Brightly, founded by **Sarah Brekelmans (BA '08)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2009

Mike Dai (BMath '09, MAcc '09) was appointed CEO and CFO of Evergreen Acquisitions Corp.

Evergreen Acquisitions Corp. appointed **Shahnewaz Shahidi (BMath '09)** to its board of directors.

2010

Koble, an online community of parents and health experts founded by **Swati Matta (BCS '10)**, celebrated its public company launch.

Cinchy Inc., co-founded by **Karanjot Jaswal (BASC '10)**, was named to the Canadian Innovation Exchange Top 10 Growth list and Deloitte's 2021 Companies to Watch list.

Alexandra Horwood (BA '10) was named one of Canada's Top Wealth Advisors.

The Milton District Hospital welcomed plastic surgeon **Christine Nicholas (BSc '10)** to its team.

RSM Canada promoted **Vanessa Chan (BMath '10, MAcc '10)** to tax practice partner in its Toronto office.

Optimized Brain, founded by **Portia Asli (BASC '10)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2011

Bonfire, co-founded by **Alex Millar (BCS '11)**, was named on Deloitte's 2021 Technology Fast 50 ranking.

Prodigy Education, co-founded by **Alexander Peters (BASC '11)** and **Rohan Mahimker (BASC '11)**, was named on Deloitte's 2021 Enterprise Fast 50 ranking.

GooseChase, co-founded by **Andrew Cross (BASC '11)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2012

Volunteer Canada announced the appointment of **Megan Conway (PhD '12)** as president and CEO.

Nicole Yungler Halpern (BSc '12) released a new book, *Quantum Steampunk: The Physics of Yesterday's Tomorrow*.

Huex Labs, founded by **Anik Seth (BAFM '12)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

Medivolve appointed **Peter Michel (BAFM '12)** as CFO.

Applyboard, co-founded by **Martin Basiri (MASC '13)**, was named on Deloitte's 2021 Fast 50 ranking.

Poka, co-founded by **Antoine Bisson (BSE '13)**, was named on Deloitte's 2021 Technology Fast 50 ranking.

Adaptive Pulse, co-founded by **Jennifer Huynh (BA '13)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

Labs Cubed Inc., co-founded by **Jeffrey Petracca (BASC '13, MMSc '15)** and led by CEO **Khaled Boqaileh (BASC '2011, MASC '16)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

Lenore Johnson (BA '13) joined Food Network's *Wall of Bakers* as a judge.

2014

The Canadian Pharmacists Association welcomed **Danielle Paes (BScPhm '14, PharmD '18)** as chief pharmacist officer.

2015

Ecopia AI, co-founded by **Yuanming Shu (MSc '15)**, was named on Deloitte's 2021 Clean Technology ranking.

Martial artist **Silvana Shamuon (BA '15)** claimed a Guinness World Record when she joined forces with a local student to perform 178 kicks in 60 seconds.

WFHomie, co-founded by **Reza Farahani (MASC '15)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2017

Sina Varamini (PhD '17) was named to Rock to Road's Top 10 Under 40.

Super PawBox, founded by **Alize Bhatia (BA '17)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2018

MedMe, co-founded by **Rui Su (BSc '18, PharmD '18)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

1 Mentor, co-founded by **Esteban Veintimilla (BMath '18)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2019

IntelliCulture, co-founded by **Ramen Shaikhi (BASC '16, MASC '19)**, **Michael Wu (BASC '19)** and **Cole Powers (BASC '19)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

2020

Node, co-founded by **Mackenzie Derival (BA '20)** and **Preetkaran Rawal (BASC '20)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

Aniqah Beharry (BMath '20) published *But Are You Really Sorry?*, a poetry colouring book.

2021

Anneke Van Heuven (BASC '21) and **Elias Trouyet (BASC '21)**, co-founders of AlgoBio, were named runners-up in the James Dyson Award.

Dr. Phillippe Morel (OD '21) opened his office in Elliot Lake, Ont.

Pronti, co-founded by **Ian Kemp (BASC '21)**, was named to FoundersBeta's 100 Tech Companies to Watch in 2022.

The Hamilton Tiger-Cats re-signed offensive lineman **Jesse Gibbon (BES '21)** for a second year.



Wayne Allen (BA '89)
Andre Arvanitis (BASC '71)
John Baker (PhD '68)
Ronald Bakker (BA '69, MA '71)
Peter Barrett (MASC '82)
Gerald Beebe (BASC '63)
Norbert Bell (MASC '72)
Peter Belshaw (BSc '90)
Michael Best (BMATH '67, MMath '68)
Katherine Biefer (BIS '89)
Maatje (Marsha) Blok (BA '67)
Jane Bowers (BA '03)
Faith Brender (BA '78)
Marlene Bryan (BA '94)
Willian (Lloyd) Buchanan (BMATH '77)
Susan Calhoun (BA '70)
Linda Carson (BMATH '85, BA '90, MSc '04, PhD '13)
Samuel Cass (MASC '78)
John Chamberlain (BMATH '79)
Donald Clysdale (BMATH '72, MMath '73)
Helen Cressman (Burkholder) (BA '81)
Judith Crofts (BA '76)
Joel Dahl (BSc '75, BSc '76)
Thomas (Bruce) Darlington (BSc '68)
Monte Dennis (BASC '67)
Dejan Djokovic (BASC '86)
Thomas Dow (PhD '81)
Douglas Fennerty (BSc '77)

Paul-Emile Friolet (MASC '83)
Rattan Garcha (MASC '78)
Gemma Golino (MMath '71)
Herbert Habermehl (BASC '64)
Eleanor Harder (BA '85)
Roger Harrison (MASC '69)
John Hervieux (BSc '97)
Douglas Hodgins (BASC '72, MASC '74)
Benjamin Itzkow (OD '11)
Stephen Jakabfy (BASC '00)
Alexander Janzen (BSc '72, MSc '74, PhD '87)
Robert Kears (BASC '86)
Philip Keddie (PhD '76)
Marie Kennedy (Eisenporth) (BA '64)
James (Peter) Kerr (BASC '71)
Joachim (Rudi) Koteles (BASC '63)
George Kramer (BA '69)
Denis Lapalme (BA '83)
James Leis (BES '71)
Joanne Lennon (BA '00, BSW '01)
Raymond Linseman (BASC '70, MASC '72)
Donna MacDermid (Wright) (BMATH '82)
John MacLean (BSc '79)
Margaret MacNeil (BA '89)
Roy Maconachie (BASC '66)
Gordon Major (BSc '69)
Carol Malone (Bagg) (BMATH '78)
Firas Mansour (MSc '98)

Katherine Martin (BA '07)
Julia McCarthy (BA '87)
Brian McCarthy (MA '69)
William McConnell (BASC '63)
Joanne Moser (BA '99)
Wilfred Naranjit (BA '78)
John Neale (MASC '79)
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ADAPTING TO HYBRID WORK MODELS



While there are challenges – from clunky collaboration to spotty communication – Liane Davey says hybrid work will have advantages over the long haul

*By Liane Davey (PhD '99)
Author of The Good Fight*

For many of us, reopening will mean acclimatizing to work arrangements in which our colleagues are working in different ways. The new norm is likely to be hybrid teams, with some members physically co-located and others working remotely.

While I expect that organizations will ultimately realize many benefits from this model (including enhanced productivity, greater access to talent and better opportunities for diversity and inclusion), I suspect that hybrid teams will be a challenge in the short-term.

I'm focused on three challenges in particular: uneven trust, clunky collaboration and spotty communication.

How to avoid in-groups and out-groups

Let's start by admitting that it will be challenging to develop uniform levels of trust when some teammates are together, and others are not. We have millennia of evolution on the side of trusting those with whom we're physically close so we must make a conscious effort to avoid in-groups and out-groups by connecting with people who are working in the opposite mode.

If you're remote, prioritize check-ins with your office workers throughout the week. If you're in the office, reach out to remote teammates to share a conversation that happened at the water cooler. Try to find at least one occasion a month to have a full-team video call where you're eating and chatting, with no formal agenda. With a little effort, you can build a high-trust hybrid team.

A second concern is how to optimize your use of collaboration technology. During the pandemic, many teams have fallen into a rut of using only Zoom calls or email. Recent research suggests that when you want to collaborate productively, it's best to use audio and screen sharing but to turn the video off. That approach improves focus and reduces the bandwidth we normally use interpreting people's facial expressions. Another research-based tip is to revert to a good old-fashioned phone call when you need to foster a strong connection. The phone outperforms video chats on empathy. If your team is in a collaboration rut, try a new mode and see how it unlocks new ideas.

Be aware of risks of uneven communication

Finally, be aware of the risks of uneven communication among team members. Not only are in-office employees likely to get important information from casual encounters or overheard conversations, they're also able to access contextual information from how people are behaving. For example, imagine you see your boss leaving a meeting looking frustrated. If your boss is a little curt in your team meeting, you'll likely attribute it to the prior meeting. Your remote colleagues, who didn't witness the episode, might take the boss's tone more personally. In a hybrid team, it's important to invest extra energy in making sure you're communicating frequently to provide both content and context. Be mindful of the messages you're getting and who might be left out.

There are going to be many advantages to using a more flexible approach to work. If you pay attention to some of the potential pitfalls, you'll be able to realize those gains without paying the price in eroded trust, awkward collaborations or spotty communication. ▾

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