Creative Directions
Visionaries navigating the intersection of art and commerce

PLUS
Self-Driving Cars
Deep-Sea Diving
Mosquito Control

The York University Magazine
SUMMER 2020
SPECIAL MESSAGE FROM THE PRESIDENT

On June 11, President Rhonda Lenton sent the communication below to students, faculty and staff, announcing a series of steps that the University is taking as part of York’s shared responsibility to build a more inclusive, diverse and just community.

WHAT WE ARE DOING NOW

More recently, York has been working to increase the representation of Black faculty and ensure diverse applicant pools in our complement searches. I am pleased to highlight that York has hired 14 new Black faculty members over the past two years, underlining our long-standing commitment to inclusive excellence. Together with the York University Faculty Association (YUFA), we also struck the Joint Subcommittee on Equity, Diversity and Inclusivity, tasked with looking at the question of Black faculty representation on campus. This subcommittee delivered a series of important recommendations in early January of this year.

We know that the need for further action is urgent, and the recommendations in the Joint Subcommittee report provide a good place to start. Today we are announcing new measures to address anti-Black racism and the need for greater representation on our campuses, including:

- Initiating dedicated searches to hire a minimum of six new Black faculty over the next three years.
- Our new Vice-President of People, Equity and Culture is currently finalizing the appointment of a Senior Advisor on Equity and Representation to support the implementation of the Joint Subcommittee’s report.
- We are undertaking a review of our affirmative action program and unconscious bias training jointly with the York University Faculty Association. A key area for examination will be the disaggregation of hiring data to give the University a better understanding of where equity and diversity gaps exist.
- Developing a post-doctoral fellows program dedicated to emerging scholars who are Black, Indigenous and People of Colour to foster and build a pool of potential faculty hires for the future.
- Developing a solution to ensure the long-term leadership and vibrancy of our Race Inclusion and Inclusive Environments (RISE) committee.
- Delivering a number of online training modules on Challenging Unconscious Bias to faculty, staff and students, as well as modules on Understanding Racism. We know that education is a proven route to positive and permanent change, and we are committed to increasing the educational resources available to our community focused on anti-racism.

WHAT WE WANT TO DO NEXT

We are also contemplating a range of new initiatives that require more consultation and development before we can implement them. They include:

- Surveying our community to develop a complete picture of diversity and representation to better identify where resources are required. This should include the collection of disaggregated data for faculty, staff and students.
- Deepening the integration of critical race theory and anti-racism training into our curriculum through, for example, requirements in student learning outcomes, and the potential creation of a new micro-credential in anti-racism and anti-bias training available to all members of the York community using digital badging.
- Working with Black students, faculty and staff to refine our community safety model.

We hope that these actions represent a substantive first step in fulfilling our responsibility to address anti-Black racism and all forms of discrimination. I also know that these actions cannot be top-down. York needs to listen carefully to those living with anti-Black racism to shape programs that respond to their needs and to identify new initiatives that will ensure that every member of our community is supported as they pursue their personal visions of educational, research and career success.

To that end, we will be engaging in a series of consultations with Black students, faculty and staff over the coming weeks. We are finalizing the details of this consultation process, and I hope to provide the community with more information soon.

THE PRESIDENT’S LETTER

AS I WRITE THIS MESSAGE in the summer of 2020, the world is in the grip of the COVID-19 pandemic. Millions are sick and tens of thousands have died. The global economy is in lockdown. York University has also been severely affected, with our courses and all non-required services moving online and remote formats.

Through this sudden and jarring change, I have been so impressed with the strength and resilience of the York community. The examples are many, but include faculty who have quickly adapted their courses to new teaching models; staff, who continue to provide critical services and support to community members, including approximately 600 students still living in residence; the alumni and donors who have been steadfast in their support of the University as they heed the call to help students in need; and the thousands of students who are persevering to complete their courses and lift up their peers. I am grateful to every one of them for their dedication as we manage this crisis together.

The health and well-being of our community are our first priority and have guided every decision that we have made as we respond to the pandemic. COVID-19 has had a disproportionate effect on the most vulnerable members of our community, which is why we launched the Student Relief Fund. This initiative allows our alumni and supporters to contribute to our emergency bursaries, which provide financial aid to our students.

The fight against COVID-19 is global, and the York community is embracing its role in the struggle. We have donated thousands of masks and other items of personal protective equipment (PPE) to local hospitals and made 1,500 laptops available to students, staff and faculty to facilitate learning and working from home. The University also created a new $210,000 internal research fund to support York researchers tackling the virus and its effects.

This contribution adds to the nearly $2.5 million awarded to 13 of our colleagues through the Canadian Institutes of Health Research (CIHR) rapid research program, supporting their work on the health, economic and social impacts of the virus.

This funding includes Professor Jianhong Wu, who is part of a national mathematics team working on multi-scale modelling to assist in the development of effective intervention and mitigation strategies. Our Distinguished Chair in Global Governance & Legal Epidemiology, Steven Hoffman, convened nearly all the world’s international law and global health scholars to achieve a juridical consensus on what countries may legally do during infectious disease outbreaks. Students at the Schulich School of Business created a COVID-19 Predictive Dashboard, which will help policymakers and public health authorities make informed decisions as they co-ordinate responses to the pandemic. Rahim Bhanani, a design instructor in our School of the Arts, Media, Performance and Design, created and distributed 300 face masks for front-line healthcare workers. These are a few of the many initiatives already being led by York students and experts, and I know many more projects will be launched in the days ahead.

I hope that, as you read this message, the world is emerging from the worst of the pandemic. Perhaps children are going back to school, businesses are reopening and some semblance of normality is returning to our lives. But even if we are not there yet, I know York will continue to play a key role in delivering high-quality higher education and winning the fight against COVID-19. If you would like to learn more about our contributions, please visit coronavirus.info.yorku.ca/better-together. You can also connect with me on Twitter and Instagram @YorkUPresident or by email president@yorku.ca. Thank you all for your ongoing commitment to the University.
Season of Change

COVID-19, ALONG WITH a growing awareness of societal inequalities, has forced us all to confront the inherent fragility of our society, these days more than ever.

But we have not lost hope yet.

Our shared struggle these past few months has given rise to “We’re All In This Together” and “Black Lives Matter” as beacons of hope. Our shared struggle these past few months has been a beacon of hope, reminding us that we are stronger together. And embodying that spirit of aspiration is the quartet of York graduates profiled in our Creative Directions cover story. Overall, it’s a selection of stories illustrating the quintessential character of the University, each showcasing integrity, talent and vision.

Nothing, not even a virus, can prevent their progress. May they be an inspiration to us all.

— DEIRDRE KELLY

EDITOR’S NOTES

Dani Roche and Jason Cyrus photographed by Mike Ford
DOORS CLOSED. Minds still open. York University keeps on trucking through a pandemic that has most of the world at a standstill. It might look quiet. But so much is still going on. Since the cessation of all in-class instruction on March 16, the University has quickly adapted to virtual modes of learning, with classes offered on Moodle, Zoom, Google Classroom and expansive online course platforms. In fact, summer enrolment is higher than ever and scholarship is flourishing – remotely but rigorously – as York faculty and students rise to the challenge of the COVID-19 crisis with new ways of thinking that continue to drive the University’s global reputation for teaching and research excellence. A more comprehensive look at how the University has handled the pandemic will follow in the fall issue. But for now, let’s celebrate the University’s extraordinary nimbleness, and its ability to embrace and be inspired by change. This is one of the biggest tests the University community has had to face. And it’s passing with flying colours.

Not just a space but a head space: learning continues while the campus sits quietly.

PHOTOGRAPHY BY MIKE FORD

Summer Vacated
THE BARELY DISCERNIBLE FORM OF A DANCER
blurs across the picture frame, performing
a pas de deux with the canvas.
Its creator is Nava Waxman, an established
Israeli-Canadian multidisciplinary artist pursuing
an MFA at York after years of exhibiting her visually
rhythmic photographic canvases to critical acclaim
in independent galleries in Toronto, Ottawa and Rome.
Combining photography and impressionistic painting
with the contemporary style of dance she practised
in her birthplace of Be’er Sheva, her dreamscape
works becloud art’s boundaries
to create a cohesive visual experience.
guess you could say it is all of it,” says Waxman, whose
thesis will draw on experimental dance films
she has found through her research
at the Israeli Dance Archive.
“The challenge is viewing the work
as an integrated form.”

S
CIENTISTS AT YORK UNIVERSITY
are working on mosquito neuropeptides – small,
protein-like signalling molecules produced by the
nervous system – seeking to uncover their func-
tional roles and determine if they can be targeted to control
mosquitoes and reduce the spread of vector-borne dis-
cases affecting millions of people every year.
After pinpointing a hormone unique
to the deadly bloodsucking
insects, York researchers say
they are closer to developing
strategies for disrupting
the hormonal control of
mosquito reproduction with
the aim of reducing mosquito
populations and the patho-
gens they carry.
“One of the leading causes
of death in the world is
mosquitoes, and if we better
understand their underlying physi-
ology, researchers could more effectively
reduce their numbers and eliminate the number of
fatalities associated with them,” says Azizia Wahedi
(BSc ’16, MSc ’18), who studied mosquitoes – getting up
close and personal with the world’s deadliest of insects –
during her time at York.
Earning her a prestigious Faculty of Graduate Studies (FGS)
Thesis & Dissertation Prize in 2019, Wahedi discovered the
receptor of an important neuropeptide, ACP, in the Zika
and dengue disease-vector mosquito Aedes aegypti for her
master’s thesis, providing the first meaningful step toward
deducing a function for this insect-specific neuropeptide
signalling system.
Most of her research took place at the lab overseen by
Wahedi’s then-thesis advisor, York Faculty of Science biol-
yogy Professor Jean-Paul Paluzzi. Paluzzi’s own research is
focused on unravelling the complex neuroendocrine
regulatory mechanisms that promote feeding, sig-
nal satiety and govern homeostasis, along with
regulating the growth and development of tis-
ues involved in reproductive behaviours in
bloodsucking arthropods like mosquitoes
ticks.
His lab literally crawls with the creatures
he and his students study, much to the
delight of Wahedi, today a researcher at
Toronto’s SickKids Hospital. “They were
my babies,” she says of the hundreds of lab-
reared uninfected bugs she doted on as they
buzzed about in net-covered cages on the Keele
Campus. Before knocking them out with carbon
dioxide, Wahedi dutifully tended to her mosquitoes with
daily feedings of blood.
Watching them grow plump, she developed a fondness for
the dreaded insects – even as they stung her. Those that died
she then dissected, using precision forceps and high-pow-
ered microscopes to isolate the tissue and organ samples that
were required for her scientific research.
“The focus on entomology at York is great,” Wahedi says.
“We’re highlighting how the study of insects can benefit
the world.”

What’s the Buzz?

PHOTOGRAPHY BY SOFIE KIRK
Blockchain and Climate Crisis

Blockchain, the technology behind cryptocurrencies like bitcoin, is now being used by researchers at York University to facilitate climate action and emissions reduction around the world.

Essentially a shared database managed by a global network of computers, blockchain centralizes information, allowing for easy access and distribution of knowledge without the need for an intermediary.

When applied to the study of climate change, blockchain provides a transparent, public and universal ledger that can serve as a medium of exchange for emissions-reduction outcomes.

“It makes previously covert data and actions overt, allowing for better decision-making about environmental sustainability — a big step in the right direction.”

Blockchain for Climate Foundation uses new developments in the Ethereum blockchain to help international actors “put the Paris Agreement on the blockchain” by using the system to co-ordinate their carbon mitigation processes.

Previously, strategies like the transfer of carbon credits have been hampered by cumbersome architectural features and overreliance on a central authority. Phung says.

“Climate change is perhaps one of the greatest challenges of our time, but the task at hand isn’t only about finding solutions. It’s also about mobilizing people, organizations and governments to take specific actions around identified solutions.” ♦

Eligha Comer

Eligha Comer (BA ’14, MA ’17) suffers from chronic pain, and so is well aware of the problems surrounding the “invisible disability” affecting one in five Canadians.

Today’s opioid crisis, identified as a public health emergency by the government of Canada, stems from a lack of understanding of this pain and how to treat it, she says.

The result is rampant addiction that affects people from all walks of life, and costs the Canadian economy an estimated $60 billion a year in health care, lost wages and taxes, according to a recent report. While efforts to address opioid overuse are ongoing, the pain persists, inspiring Comer to focus on how pain management is taught.

In her MA thesis, Comer finds that Ontario’s pain education is scant, with “a paucity of information regarding pain theories, assumptions and medical models.” Failure to understand or take pain seriously has led to a proliferation of drugs over alternative methods like art therapy or mindfulness techniques.

The resulting epidemic brings another layer of shame, with addicts labelled criminals and social outcasts.

Building on her earlier research, Comer, now a PhD candidate in York’s Graduate Program in Sociology, is investigating policies aimed at people who use prescription opioids to manage their chronic pain — specifically, a controversial Ontario program that requires patients to return used fentanyl patches to a pharmacy before receiving more.

Comer’s goal is to highlight the social determinants that shape chronic pain and opioid use, and to explore the damaging effects of criminalizing approaches to opioid reliance, by interviewing physicians, pharmacists and people who use opioids to understand “how legislation like this works on the ground,” she says. “Otherwise, the problem will keep recurring.” ♦

Skills Not Pills

Tackling the opioid crisis at its root

Photography by Chris Robinson

Photo credit: Chris Robinson Photography

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By combining microelectronics with microfluidics on computer chips – some as small as a nail cutting – researchers at York University have developed a radical breakthrough technology that advances drug discovery research and disease analysis.

Developed at two purpose-built labs that opened on the Keele Campus in 2018, the integrated biology and engineering systems use high-precision sensors and activators to detect different phenotypes of living cells – including cancer cells, bacteria and viruses – allowing for new and exciting scientific discoveries.

“It’s a paradigm shift to use microelectronic technology – previously used only for computers – for a life science application,” says Ebrahim Ghafar-Zadeh, a professor in the Department of Electrical Engineering and Computer Science, Lassonde School of Engineering, and graduate program member in the Department of Biology. “There is nowhere else in the world but York where this kind of research is taking place.”

The efficacy of the biotechnology is demonstrated by a York project that used the devices to track the proliferation of kidney cancer cells in vitro. The microelectronic sensors discerned even the subtlest of variations in the cells, making them more efficient than other methods for the development of cancer treatments.

Graduate students from both biology and engineering continue to work together to develop technologies that maximize the number of tests and increase the accuracy of drug testing in vitro. Improvements to the hybrid microelectronic-microfluidic system have the potential to reduce testing periods that typically run five years to one year or less, underscoring the value of the York research.

“Our goal is to be the leader in developing this type of technology for new types of drug testing in preclinical trials,” Ghafar-Zadeh says. “Our multidisciplinary approach has already given us an advantage.”

Lab in a Chip
FIND THE ANTI-DESIGNER DESIGNER RE-TOOLS THE WAYS BRANDS INTERACT WITH CONSUMERS

BY DEIIRED KELLY PHOTOGRAPHY BY MIKE FORD

HOW TO COMMUNICATE WITH MILLENNIALS? ASK DANI ROCHE (BDES '13), A NEW-MEDIA TRAILBLAZER WHOSE KASTOR & POLLUX DIGITAL AND EXPERIENCES COMPANY (NO, VIRGINIA, THEY DON'T CALL IT "ADVERTISING" ANYMORE) SPEAKS DIRECTLY TO YOUNG, IN-THE-KNOW CONSUMERS, GETTING THEM TO LISTEN. AT JUST 28 (SHE IS HER OWN TARGET DEMOGRAPHIC), THE YORK GRAD—who moonlights as a design prof in the York University/Sheridan College program in design, YSDN—ALREADY HAS A CLIENT LIST THAT WOULD BE THE ENVY OF ANY PROFESSIONAL TWICE HER AGE: WEALTHSIMPLE, BUMBLE AND CONVERSE, TO NAME JUST A FEW.

Born in 1991, Roche grew up in Toronto’s easterly Scarborough neighbourhood, where she honed her entrepreneurial chops at a young age. At 16, she launched her own vintage clothing e-commerce site, and at 19, the brand marketing agency that recently earned her a coveted spot in Forbes’ “Under 30 Innovators You Need To Know.” The influential business magazine praises Roche for wanting to empower independent creatives while boosting representation of Asian women in media. “A lot of people are afraid to be unconventional,” Roche says. “But through my work, I’m looking to change people’s perceptions of everything.”
EVERY YEAR, the media multiverse in which big content creators operate becomes more legally complicated. Navigating the hazards of intellectual property – be it talent management or the production, ownership and distribution of programming – requires an understanding of how creative projects come together, and of the ever-changing laws that govern them. That’s where Peter Schneider (MBA ’90, JD ’02) fits in.

As vice-president of business and legal affairs at Canadian independent Cineflix Media, Schneider oversees everything from IP contracts and broadcast licences to distribution deals with industry partners like Netflix, Discovery, NatGeo and Britain’s ITV network.

After earning an undergrad degree in creative writing at the University of British Columbia in his native Vancouver – and finding some success as a playwright – Schneider enrolled in the Arts, Media & Entertainment Management program at York’s Schulich School of Business. He went on to run business affairs at CineNova Productions, a Toronto company producing non-fiction programming for world markets, before returning to York for a three-year degree at Osgoode Hall. He articled at Gowling, a Bay Street firm with a well-established entertainment law group, and stayed for five years before joining the CBC’s business rights group in the era that launched “Heartland,” “Being Erica,” “The Rick Mercer Report” and “Republic of Doyle.” Cineflix headhunted him away from the national broadcaster in 2008. He’s been there ever since, supporting the development of Cineflix hits like “Property Brothers” and “American Pickers,” among other projects.

“There’s a business and legal side to creativity and they come together at work,” Schneider says. “We have to pay close attention to intellectual property, because at Cineflix we option books, articles and ideas that we build projects and programs on, and the rights have to be secured. That’s where a lawyer can help – by supporting a visionary bringing an idea to the screen.”

How to protect an idea?
Ask a lawyer

PHOTOGRAPHY BY MIKE FORD

PETER SCHNEIDER
The Business of Show

How to protect an idea?
Ask a lawyer

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The Business of Show
JASON CYRUS had been studying marketing at York University until his part-time job as a fashion merchandiser made him think twice. In the classroom, he was learning theory. But at work, he was accumulating real experience – and getting paid for it. “It was quite the disconnect,” he says, “and so I stopped taking classes and put my full focus on crafting displays that analyzed business reports and inventory lists until I figured out what I wanted to do next.”

What was supposed to be a few months’ break stretched to almost eight years. Yet it was a productive period that saw Cyrus build up an impressive portfolio as a fashion merchandiser for the likes of Banana Republic, Le Chateau and Holt Renfrew.

When Dolce & Gabbana opened an in-store boutique at Holt’s Yorkdale Shopping Centre location, Cyrus was hand-picked to tailor a strong visual presentation to attract and retain customers. He did the same for menswear labels Paul Smith and Rag & Bone when they too opened in Toronto, creating magnetic window displays as a primary marketing tool. In his downtime, he took in fashion exhibitions at the Metropolitan Museum in New York and the Royal Ontario Museum, honing his eye. At one point, he made the connection between curation and merchandising – a eureka moment.

In 2016, Cyrus returned to York to study art history – another form of visual presentation. Currently pursuing a master’s degree, he is interested in questions of identity in fashion, which also drives the focus of “Re:Framing Gender,” his fashion exhibition that opened at the Goldfarb Centre in the University’s Fine Arts Building earlier this year. Comprising pieces on loan from York’s vintage fashion and costume collection, his own archives and the Fashion History Museum located in Cambridge, Ont., York’s first-ever fashion exhibition sews together his joint experience in visual retail and academe into one seamless show. “Fashion always has a story to tell,” he says. “It all comes down to how you frame it.”

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If you think the Schulich School of Business is looking particularly good these days, you have MBA student Gabrielle Ouellet (BA ’19) to thank. An international high-fashion model, the 24-year-old Quebec City native is a stunner, with an unusual look emanating from wide-set green eyes that lend her a distinctly feline beauty reminiscent of a young Björk, as the influential fashion trade publication Women’s Wear Daily once described it. “The pupils have an unusual shape that makes them unique,” explains Ouellet, speaking with a French-inflected accent. “Instead of round, they fall downwards – the result of coloboma, a rare condition.”

In her competitive world, rare is an advantage. Ouellet learned that early on when, in 2013, her raindrop-shaped pupils caught the attention of Toronto agent Chantale Nadeau, who spotted the then-16-year-old on Facebook and immediately offered her a contract. A model was born. Soon after, Ouellet’s remarkable visage began to grace advertising campaigns for the likes of Target and Mackage, as well as too many fashion magazine covers to mention. Accolades quickly followed. In 2014, Ouellet was recognized in the Best New Face category at the P&G Beauty Awards in Toronto. In 2016, she walked the runway in New York, where fashion reporters fell over themselves in a rush to interview modelling’s next big thing. Ouellet was on the rise. But this daughter of a teacher and a doctor found herself wanting more – intellectually speaking.

After three years as a full-time model, Ouellet enrolled at York University's Glendon College, where she majored in communications with supplementary studies in French and Spanish. Last fall, she enrolled in the Schulich School’s one-year Master of Management program, with a focus on marketing. Ouellet thinks such a degree will come in handy when, in the future, she opens a business drawing on her years in fashion. “I was always at the forefront of a marketing campaign for a company or e-commerce site,” Ouellet says. “But now I want to be the vision behind a brand, not just the face out front.”
What’s better than engaging cruise control and taking your foot off the pedal? And do you ever wonder how you parallel parked without a back-up camera? Your next car will be even more automated, likely offering an autopilot feature to keep your car a safe distance from everyone else on the road.

Piece by piece, the driverless vehicle is heading your way. Fully autonomous vehicles (AVs) – with sensors linked to artificial intelligence systems – are already here, albeit in disguise; self-driving vans are getting to know Toronto streets, with a human in the "driver’s seat" mainly to avoid alarming other motorists.

Think you’ve heard this before? This time, it’s true. Companies from Tesla to Google’s mobility division Waymo promised AVs by 2020 – until a fatal collision two years ago
Computers have been flying planes for years

McPhail insists driverless will win out. He cites three key reasons.

The first is safety. In 2018, Canada recorded 1,922 deaths from motor-vehicle accidents, and 153,000 injuries. The problem is not cars but drivers. A U.S. study found that human error – like speeding, distracted driving or driving under the influence – causes 94 per cent of all crashes. The AV industry is too new to produce meaningful statistics; fatalities are usually measured in billions of kilometres driven (in 2016, Canada had 5.1 fatalities per billion vehicle-kms travelled), and even industry leader Waymo has completed only 32 million kilometres of testing.

Still, New York City-based research firm ARK Invest estimates a fully autonomous system could reduce accidents by over 80 per cent. A 2017 RAND study suggests we shouldn’t wait: deploying AVs just 10 per cent safer than human drivers would save more lives than waiting until the technology is significantly better.

“Back in the 80s, we were widening expressways to get higher capacity. One of the questions we asked was, ‘What if we could get the drivers out of transportation?’” Replacing human drivers with precise electronic controls could double a lane’s capacity without incurring construction costs. Now that the technology is close, autonomy and electric vehicles work hand in glove, says McPhail. Battery-powered AVs will help cities meet carbon-reduction targets, while AVs just 10 per cent safer than human drivers would save more lives than waiting until the technology is significantly better.

A second factor is their sustainability. Autonomous and electric vehicles do not have to be automated. The industry is finding it hard to sell them “very supportive,” and predicting NuPort-enabled shipping will take two years to start generating revenue. While he won’t reveal what kind of return on investment clients can expect, he promises “they will save a bunch of money over time.”

He and Chen are also working with industry regulators, calling them “very supportive,” and predicting NuPort-enabled trucks will hit the streets within four years. And this is why AVs are finally headed your way. Industry wants the ROI, government the safety and environmental benefits. Unlike many entrepreneurs, Shan and Sahdev and Chen don’t have to sell anyone on the concept of change; they’re really excited,” says Sahdev. “This will make their whole supply chain more efficient.”

The company is looking for investors, as Sahdev expects it will take two years to start generating revenue. While he won’t reveal what kind of return on investment clients can expect, he promises “they will save a bunch of money over time.”

Self-driving trucks on U.S. highways (with backup drivers in the cab, usually awake). But cruising the I-75 is easy; navigating rigs through crowded city streets is hard. With their startup NuPort Robotics, Sahdev and Chen are developing autonomous controls for short-haul trucks that carry cargo from container ports to nearby distribution centres. While many factories and warehouses have robot platforms that follow predetermined guidance, “follow-me” technology saves time and money by enabling mobile platforms to carry loads anywhere a human controller decides to go. The pair’s test platform could carry up to 15 kilograms, but they envisaged industrial versions that could carry up to 100 kilos. Sahdev and Chen fielded several offers for their vision-based controls. But they demurred, hoping to identify a bigger market to benefit from lower labour costs. After looking at shipping, forestry, even the military, they settled last fall on short-haul trucking: a $60 billion corner of the transport sector. “There’s not a lot of people working on autonomous solutions in this sector,” says Sahdev, “so we moved up from 15-kilo [loads] to 15,000.”

NuPort’s systems will enable commercial trucks to haul shipping containers in autonomous convoys. They’ve already built partnerships with retail, automotive and shipping companies eager to cut costs and reduce accidents. “They’re really excited,” says Sahdev. “This will make their whole supply chain more efficient.”

The company is looking for investors, as Sahdev expects it will take two years to start generating revenue. While he won’t reveal what kind of return on investment clients can expect, he promises “they will save a bunch of money over time.”

He and Chen are also working with industry regulators, calling them “very supportive,” and predicting NuPort-enabled trucks will hit the streets within four years. And this is why AVs are finally headed your way. Industry wants the ROI, government the safety and environmental benefits. Unlike many entrepreneurs, Shan and Sahdev and Chen don’t have to sell anyone on the concept of change; customers demand it. Says Sahdev, “This market is waiting to be automated.”

Driving is often a game between you and other drivers...
MAHEEN SANI is a beneficiary of the growing movement toward experiential education at York University. A Lassonde School of Engineering student, she completed three co-ops, working at Metrolinx (the government transportation agency) for 16 months and in the rail and transit sector at Hatch (a global consulting firm) for four months. She credits both co-op experiences with providing her with a pathway into the workforce. Hatch brought her into its co-op program after noticing her at Metrolinx, where the company consults. After her term with Hatch, it extended a full-time job offer.

“Your degree signifies that you have the theoretical knowledge,” Sani says. “But co-op gives you an insight into what engineering really is and what you’re going to be doing day to day. Experiential learning helps you realize that engineering isn’t like how it is learned during school – it’s so much more fun.”

Opportunities for learning outside the classroom are on the rise at York, and cover everything from visiting guest speakers to more formalized work placements that lead to professional development and sometimes even jobs. All experiential education (EE) at York is required to connect with program learning outcomes and to include academic assessment. “Our goal,” says Norma Sue Fisher-Stitt, interim associate vice-president of Teaching and Learning at York, “is that every student at York University will have access to an EE opportunity during the course of their undergraduate degree.”

Helping to make that happen is YU Experience Hub, created in
Our goal is that every student at York University will have access to an EE opportunity during the course of their undergraduate degree

2016 to consolidate and raise the profile of EE across the University. Led by director Kathleen Winningham, the Hub creates networking events to attract potential community partners and employers while supporting a network of full-time EE co-ordinators now established in each faculty.

“TThat's really brought together a sense of community with respect to experiential education, and how we can support one another and make sure that our community partners and employers are serviced in the best possible way,” Winningham says.

One of the Hub's newest initiatives is the Cross-Campus Capstone Classroom, or “C4” – a new full-year capstone course launched earlier this year at York University. The pilot project brings together third- and fourth-year students from different faculties into multidisciplinary teams focused on solving real-world challenges posed by organizations operating in both the for-profit and not-for-profit worlds. Current projects include initiatives like helping a cannabis business scale its waste-water recycling technology for wider urban food growing, and working with the Yonge Street Mission to develop a set of guidebooks on experiential trauma.

Originally designed to accommodate 20 students, the program is already oversubscribed, with 77 currently enrolled. Danielle Robinson, director of the York Capstone Network (YCN) and an associate professor in the School of the Arts, Media, Performance & Design, is co-facilitator of C4, and says that capstones are motivational. “I see students light up in a way that I don’t see in any of my other classes. And I think it’s because they’re being challenged, asked to dream big, to think about the world and what they have to offer.”

Earlier this year, Robinson teamed up with Franz Newland, an assistant professor in the Lassonde School of Engineering, to co-facilitate C4 as an extension of the York Capstone Network they founded last year with integral support from the Teaching Commons and the Career Centre. The YCN, which is now bolstered by a two-year AIF grant, brings together dozens of faculty who have been, are or want to be teaching capstone courses. Network members gather for monthly cafés where capstone students, pedagogy experts and York staff allies explore the immense rewards and challenges of capstones.

“The advantage of this approach to capstone teaching is that students get a taste of the ‘real world’ before leaving York,” says Carolyn Steele, a career development co-ordinator in the Career Centre and an adjunct professor in humanities. “The world and its challenges and opportunities are intrinsically multidisciplinary, but many degrees are not – they are typically disciplinary in focus. C4 gives participants the opportunity to collaborate with students from other majors, as well as with professors and professionals outside their departments. In this way, they come to know what they have to offer the world, as well as the value of their discipline and their York degree.”

Experiential education initiatives thrive at Glendon in a variety of courses that offer students the opportunity to enrich their academic experiences through placements in organizations whose work dovetails with course content. The YU ROC! (York University Research on Campus) program, for example, gives students hands-on environmental experience in association with two large international wildlife monitoring networks. Led by Laura McKinnon, assistant professor of biology at York, the program takes students out of the classroom and into the natural environment of Glendon’s 34.3 hectares of ravines, parklands and gardens as part of a pilot project to document biodiversity in the area.

At the Keele Campus, Melanie Belore, associate director of experiential education in the Faculty of Liberal Arts & Professional Studies (LAPS), co-ordinates an equal range of EE opportunities in her faculty, from Health & Society students completing work placements in public policy to Disaster & Emergency Management students engaged in disaster response simulations. In LAPS, more formal internships are offered through 10 professional programs, including accounting, economics and communications, while other programs invite community members into the classroom – for instance, at the School of Social Work, where experts help to practice difficult conversations.

Future goals include growing the EE offerings in disciplines that don’t traditionally include as many experiences, such as humanities and social sciences, since the opportunity for outside connection is valuable for everyone.

“What we’ve heard from our students is that these experiences help reaffirm program choice or course selection,” Belore says. “They push them out of their comfort zone and build confidence.”

With resources from YFile.
At this point in her career, Jill Hein-erth and death are on a first-name basis. After nearly three decades as a professional cave diver, Hein-erth (BFA ’88) has been pinned beneath icebergs in Antarctica and incapacitated with the bends in the jungles of Mexico. Most people might take these experiences as signs that it’s time to change professions. But Hein-erth accepts the risks of her calling with a hard-won stoicism forged by recovering the bodies of friends and strangers from the depths.

“When an emergency occurs, there’s suddenly a million conversations happening in your head all at once, and you just have to take a deep breath and turn off the emotions,” she says. “After the danger has passed, you have to make time to honour those emotions, recognizing that some of them might hang on for weeks or a lifetime. It reminds you that this thing you’re involved in is truly life and death.”

Cave diving has claimed more lives than Mount Everest, but Hein-erth isn’t risking life and limb for the adrenaline rush. At 55 years old, she is on a mission to document the world’s underwater caves, the last great wilderness and one of the least-understood ecosystems on the planet. By fostering what she calls “water literacy” through visual storytelling, Hein-erth hopes to illustrate our intimate connection with this precious natural resource.

“You can only protect what you know about and understand,” says Geary Schindel, president of the National Speleological Society. “Cave divers like Jill help bring caves and groundwater resources to the public’s attention. Otherwise, they would be out of sight and out of mind.”

Hein-erth first fell in love with cave diving while a student at York University, where she pursued a bachelor’s degree in fine art with a focus on visual communication and design. In between a busy schedule as president of the student council and a member of several intramural sports teams, she found time to get her scuba certification by completing dives around shipwrecks near Tobermory, off the shore of Lake Huron.

On her final certification dive, Hein-erth’s instructor took the group to a location known simply as The Cave. Going into overhead environments is typically considered an advanced skill that is off-limits to beginners. But as soon as Hein-erth ventured past the cavern’s underwater threshold and into the airy anteroom on the other side, she was hooked.

“Beneath the rock ceiling, a single turquoise light ray sliced diagonally through the water ahead of me,” Hein-erth recounts in her new book, Into the Planet. “Like a tractor beam, it pulled me forward and upward to float in the flickering light of a large open room. Somehow, I knew then that diving would be something I’d do for the rest of my life.”

Hein-erth graduated from York with a Murray G. Ross Award, an honour bestowed on students for outstanding participation in undergraduate life, and soon found work at a graphic design office in Toronto.
She quickly parlayed her artistic talents into her own design company. Her business attracted high-profile clients like Nike and the Toronto Festival of Festivals, precursor to the Toronto International Film Festival. But despite her company’s success, Heinerth found herself unfulfilled. She belonged in the water and was determined to do whatever it took to turn her passion for diving into a career.

After taking night classes to become a scuba instructor at a dive shop in Toronto, Heinerth cut ties with her design agency and decamped to a dive resort on Grand Cayman Island. She spent a few years there cutting her teeth as a professional dive instructor before moving to the U.S., where she met cave-diving legend Bill Stone.

At the time, Stone was searching for the world’s deepest cave in the jungles of Mexico, a treacherous pursuit that often involved diving in flooded passages deep below the Earth’s surface. In 1995, Heinerth accompanied Stone’s team to Mexico, where she helped set the record for the deepest cave explored up to that point.

“Jill came into that project as green as they come, but she came home impressing all of us, not just with her technical skill and cool head, but her overt enthusiasm for the entire endeavour,” says Stone. “It’s infectious when you work with such people. She was instantly on my radar as a rising star we could count on for future projects.”

Heinerth’s trip to Mexico was her first real exploratory cave-diving expedition, and ultimately shaped the rest of her career. Since then, she has led the first team to dive into an iceberg, and was part of an elite group of Stone’s divers that became the first to create a 3D map of Wakulla Springs in Florida, an underwater cave system known as “diving’s Everest.” Along the way, she has written technical books on diving, produced several documentaries, and explored dozens of miles of unmapped terrain. And, in 2016, she was selected as the first explorer-in-residence at the Royal Canadian Geographical Society.

Heinerth’s early career as a cave diver was defined by the exploration of uncharted waters, but these days, she is focused on telling the human stories behind better-known underwater destinations. Widely recognized as one of the world’s pre-eminent underwater filmmakers, she recently returned from a documentary shoot at Truk Lagoon in Micronesia – the largest ship graveyard in the world, where thousands of Japanese soldiers perished during an Allied air raid during the Second World War. Next up is an expedition to document the wrecks off the coast of Newfoundland.

“I want to focus more of my efforts on telling Canada’s underwater stories,” she says. “There’s a hidden geography there and I want to go deeper.”
1971  
WYLIE, MICKY  
(BA Political Science and French - Glendon)  
After graduating from York, Micky took a master’s degree in political science at the University of Alberta. She then worked for a year in Toronto doing market research before applying to the Faculty of Library Science at the University of Toronto, where she trained to be a special librarian with a concentration in law. Today she works as a consulting librarian for five Toronto law firms in addition to helping her husband, Bill Wylie. At Wylie Mycologicals – an organic specialty mushroom facility located in Georgina, Ont., Bill is the chief director, chiropractor and certified strength and conditioning specialist at Advantage 4 Athletics in Markham, Ont. His work was the first in Ontario to introduce a new medical device called the Portable Neuromodulation Stimulator (PNS), which is currently being studied as a potential new option for the treatment of chronic neurological symptoms of disease or trauma.

KRISTIN BLAKELY  
(BA Sociology '00)  
A former Chair of the board of the Canadian Women’s Foundation and past member of the Consultative Committee for the Gender Equality Network Canada, Kristin received her master’s in sociology from York in 2003. After graduating from York, Gina began exhibiting with prominent Toronto art gallery Sable-Castelli (now defunct), where she was included in seminal exhibitions that led to her appearance in some of the country’s leading art institutions. Today represented exclusively by Corin Gallery in Toronto, Gina recently unveiled an exhibition of her latest collection of paintings, “Where One Finishes the Other Begins”, to great critical acclaim.

1988  
LI, JANE  
(BA Political Science)  
After a successful 37-year career in commercial real estate across Ontario, Jane recently retired to return to her lifelong passion: painting. But this isn’t a casual hobby to fill her spare time. Jane is steadily working away to finish a new painting every one to three days. To date, she’s created over 100 paintings in the span of six months. “If I continue at this pace, I will complete 1,000 paintings in another three and a half years,” she says, “allowing time for relaxation and light socializing.”

2001  
CLARKE, CURTIS A.  
(PHIL Sociology)  
After graduating, Curtis accepted the position of associate professor and co-ordinator of the Criminal Justice program at Athabasca University. After seven years in that position, he transitioned to the Alberta Provincial Government, where he held various positions, including assistant deputy minister of Correctional Services, associate deputy solicitor general and, as of this year, deputy minister of Advanced Education. During this time, Curtis has been involved with numerous outside organizations, such as INTERPOL, the Council of Ministers of Education (CMEC), and the Canadian Centre on Substance Use and Addiction. Curtis recalls his memories of York fondly.

EVANS, VIRGINIA A.  
(BA Liberal Studies)  
After graduating from York in her mid-sixties, Virginia founded the Mace- donian Film Festival in Toronto in 2006 – the world’s first and longest-running international film festival dedicated to Macedonian culture and heritage. Since then, various iterations of the festival have opened in New York, London and Melbourne. The festival’s 15th anniversary in Canada is scheduled to take place at Toronto’s Carlton Cinemas in October. Previously, Virginia ran a community theatre group, called Theatre Five, in the city’s Willowdale neighbourhood.

WYLIE, MICKY  
(BA Political Science)  
After a successful 37-year career in commercial real estate across Ontario, Jane recently retired to return to her lifelong passion: painting. But this isn’t a casual hobby to fill her spare time. Jane is steadily working away to finish a new painting every one to three days. To date, she’s created over 100 paintings in the span of six months. “If I continue at this pace, I will complete 1,000 paintings in another three and a half years,” she says, “allowing time for relaxation and light socializing.”

1998  
SCOTT, RYAN  
(BA Kinesiology and Health Sciences)  
Ryan is the clinic director, chiropractor and certified strength and conditioning specialist at Advantage 4 Athletics in Markham, Ont. His work was the first in Ontario to introduce a new medical device called the Portable Neuromodulation Stimulator (PNS), which is currently being studied as a potential new option for the treatment of chronic neurological symptoms of disease or trauma.
**Classes**

**CHRISTINA-LAIA VLAMOS** (BA Mass Communications & Political Science ‘10) is a television presenter and producer at “Star Foodies” on Canada’s OMNI 1 channel. Additionally, she is a presenter and content creator for The Weather Network (Canada), where she is dedicated to broadcasting messages of hope during the COVID-19 pandemic. Inspired by astronaut Chris Hadfield’s moving video on isolation, Christina-Laia is currently reaching out to acclaimed Canadians asking for self-recorded videos of hope and inspiration, which will be broadcast on The Weather Network during this time of social distancing.

*In Memoriam*

**SCOTT, RANDY** (Professor Emeritus) Randy served at York University for 45 years, beginning in 1972, when he was both a sessional instructor in the Department of French Literature and the assistant to the dean in the former Atkinson College. Professor Scott was perfectly bilingual in English, French and Italian, and also conducted research in Latin, Old French and Provençal. He passed away on November 6, 2019.

**HOGG, PETER** (Dean Emeritus, Osgoode Hall Law School) Peter was appointed a professor of law at Osgoode Hall Law School in 1970 and became dean in 1998, serving until 2003, when he joined the Toronto law firm Blake, Cassels & Graydon LLP as a scholar in residence. As dean emeritus and professor emeritus at Osgoode Hall Law School, he was one of Canada’s leading constitutional law scholars. Peter died February 4, 2020. He was 80 years old.

**MARIS, MOLLY** (WACE Leadership and Community Engagement) As Molly was completing her master’s degree in leadership and community engagement at York University, she began contributing to 929.org, an international online initiative of Jewish biblical scholarship. She’s currently a featured writer, posting weekly essays focused on biblical leadership. Molly’s day job is at York University, where she is a manager of communications and marketing with the Division of Students, and her downtime is happily spent playing, in person and virtually, with her seven grandchildren in three countries.

**Noteworthy**

York alum Penny Wise is 3M Canada’s new president

BY DEIRDRE KELLY

**Growing up** in Port Elgin, Ont., Penny Wise (BA ’89, MBA ’91) despised math and couldn’t wait to get out of high school to escape the suffocating boredom of fractions, decimals and integers. She applied to Glendon College at York University to study French and history, thinking it was the perfect escape.

To test her decision—and ensure she was making the right move in becoming a humanities student—she added a calculus course to her first-year timetable. It was supposed to be loadsome. But to her shock, she ended up loving the math elective more than her study of languages, and all because of the professor, Jean-Paul Bouhenic, who teaches at Glendon still. “He was so influential,” Wise says. “He made me fall in love with math.”

Switching her major to math for commerce, she realized she had a flair for numbers and head for business. After getting her undergraduate degree, she immediately applied and was accepted to the Schulich School of Business, where she specialized in marketing.

Her first job upon graduation was with 3M Canada. She’s been there ever since, rising through the ranks to become president of a company that makes far more than sticky notes. Surgical tape, building and construction, fire retardant and automotive parts made through its innovative 3M Science division represent only a fraction of what the company can do.

“At 3M it’s been quite the journey,” says Wise, whose 20-year career at 3M allowed her to excel at several leadership roles, most recently in St. Paul, Minn., where the company is headquartered. Her new position, announced earlier this year, has brought her back to London, Ont., where she started her career at 3M before relocating to the U.S.

She remembers her first day at work, walking down the main corridor, whose walls were lined with photographs of 3M presidents past—all of them men. “I remember thinking, ‘One day my picture will be on that wall.’ And now it is,” she says with a glimmer of pride. “I’m the company’s second female president, but its first in Canada. The company has always been about diversity and inclusion, and I am proof of that. I’ve always had great mentors.” Starting with her math prof at York.
DESIGN CLASS, February 1973. Professor George Manupelli (founder of the Ann Arbor Film Festival) proposes that students reinterpret a part of the University and do it on a large scale. Taking up the challenge, Wendy A. Thomas (BFA ’75, MA ’84) homes in on the imposing Ross Humanities Building, which, at the time, loomed over the wide-open spaces of the Keele campus like a fortress, complete with an enormous ramp and what resembled a portcullis separating its two towers. Calling it the Humanities Building seemed ironic, thought the student, who then set out to make it a little more human with the addition of an 18-foot swing she had installed at the building’s south end. Everyone enjoyed it, including a laid-off worker who came to sit on it, dangling his legs. His photograph appeared in Excalibur, catching the eye of security, who determined the swing was a safety hazard and had it removed. End of swing – but not of the original idea. Years later, and thanks to that York design class, the student continues to engage in art that reinterprets her environment. Visit wendythomas.ca to see recent examples of her work.

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Universities have never been more important as catalysts for positive change. We live in a world filled with incredible innovation but also one facing serious and complex challenges. We need globally educated citizens able to work across traditional boundaries to build their own success and that of their communities. We are very pleased to be recognized by Times Higher Education’s Impact Rankings as a world leader in building multisector partnerships and pioneering new educational approaches. From confronting climate change to building more inclusive and equitable communities, York is leading the type of community engagement needed to tackle society’s most pressing concerns.

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