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Matthew Stepanic, '12 BA(Hons), poet, mentor and Glass Bookshop co-owner, is a 2020 Alumni Award recipient. Meet more of the U of A's finest on page 45.
Photo by John Ulan

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What does it take to innovate? Four researchers tell us how they're tackling some of the world's most complex problems

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ON THE COVER

Vivian Mushahwar believes her work could reverse spinal cord injury. It's the kind of life-changing innovation that happens across the U of A. Page 18.
Illustration by L.J. Davids

Find What's Meaningful to You

CHANGING CAREERS can be terrifying but also refreshing.

About 1 1/2 years ago, I left a career in industrial construction to become the president of an advertising technology company. After two decades in one career, I could tell my interest was waning. I had been solving the same problems for years and was ready to take on some new ones.

I'm not the only one feeling this way lately. In the past year, I've probably had 15 virtual coffee chats with people who are re-evaluating their careers.

Everyone has their own reason for wanting to make a change—whether it's boredom, burnout or shifting priorities. But I think one of the big reasons is that people want to feel they're contributing to a workplace in a meaningful way.

In my case, I realized I had become a participant in my career instead of a leader. I liked my old job well enough but had lost enthusiasm. I was much more excited about the stuff I did in my spare time—working with small business owners and entrepreneurs. When I started in my current job, I found renewed energy to tackle new problems. The company where I had spent so much of my earlier career deserved some new energy, too.

Making way for someone new to bring their excitement and ideas is important to a healthy organization, says **Martha Piper**, '06 LLD (Honorary), former vice-president of research at the U of A. Piper and **Indira Samarasekera**, '16 DSc (Honorary), former U of A

president, share their lessons on leadership on page 39.

Thankfully, a lot of what I learned in my first career was transferable to my new role—not the technical skills but problem-solving and my attitude toward innovation. I've found that if you have a learning mindset and the willingness to collaborate, you can cross over into fields you might not have imagined you could.

I've also discovered that as a U of A grad, you can access a ton of resources to support your learning beyond graduation. You can tap into mentorship, professional development grants, On Demand webinars and events led by experts in their fields. (Check some of these out at uab.ca/alumni.) You also have a community of people behind you, some of whom have probably been through similar experiences and would be happy to talk about them over a virtual coffee.

I'm not suggesting that you drop your day job for your passion project. Not all change needs to be monumental. But if you want to be a leader in your own life, you have to be invested in what you're doing. Sometimes, that just means reframing your perspective or remembering why you cared about something in the first place.

It's rewarding to know you're putting your skills and energy toward something meaningful. What's meaningful to you?



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What do you think about the magazine? Let us know by email or the old-fashioned way; you'll find the addresses on page 4. Letters may be edited for length or clarity.



The Anatomy of Kindness

Reading the Spring 2021 issue, I realized the letter “Warm Memories from a Cold Day” was written by a colleague from my orthopedic surgery residency at the U of A — **Joseph Kwok**, '71 BSc, '75 MD. After a trip to Hong Kong in 1977, he brought me a paperback copy of an anatomy textbook — unsolicited on my behalf — that became my go-to text throughout my professional life and remains a precious classic in my library today. It was an example of thoughtful generosity. Joe's story of receiving kindness from an anonymous student was reciprocated towards me. Since reading that letter, I have renewed contact with my old friend and colleague from the U of A.

—**Norgrove Penny**, '71 BSc(Med), '73 MD, Victoria



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Meet the Author

Thanks to **Ellen Schoeck**, '72 BA(Hons), '77 MA, for referencing the book *Meet the Aunts* in “The Legend of Ella May Continues” in the Spring 2021 issue. The author of the book is Ella May's daughter-in-law, who is also my mother, **Margaret Walker (Macleod)**, '43 BA, '46 BEd. She self-published this book in 1995 and sadly died in 2004; she would be thrilled to know that it was being referenced in 2021. My grandmother drove down to Mexico City with her two sons, **Jim Walker**, '40 BSc, '42 BSc(ChemEng), and **Wilf Walker**, '46 BSc, to meet the famous Mexican muralist, Diego Rivera.

—**Katie Walker**, '80 BA, Edmonton

Descendant Detective

I've been researching my family and discovered my aunt, **Denise Ages** (Gross), '36 BSc — who was born in poverty in 1913 and didn't speak English as a first language — graduated from the U of A with a bachelor of science and was recruited to work in Ottawa on the Experimental Farm during the Second World War. Later in her career, she worked with a spectrometer on pieces of downed planes to discover what caused the crashes. There are many fascinating stories of her solving mysteries, including one involving shoe polish on a parachute and another with paint peeled from buildings.

—**Shar Levine**, '74 BA, Vancouver

Physics: Missing in Action

In 1947, my family moved from Halifax to Edmonton. I had completed one year at Dalhousie University. On registration day for the fall 1947 term, I arrived at the registrar's office, only to be told that I could not enter the U of A because my high school transcript showed only one science — the U of A needed two. My father stormed up to confront the registrar to no avail. I had to go back to high school and collect a science course in physics. I graduated in 1951 with a bachelor of fine arts degree, which came out in the early computers as B.FArts!

—**Jocelyn Pritchard**, '51 BA, Vancouver

Blast It All

Dan wrote in to share his answer to the Small Talk prompt from the Spring 2021 issue: What was your “aha” moment?

As a second-year petroleum engineering student, a mining professor asked me why I would drill a hole and not fill it with explosives. I quickly changed my major to mining engineering and I've been blowing up things ever since!

—**Dan Veldhuis**, '89 BSc(MiningEng), Stony Plain, Alta.

IN MEMORIAM

New Trail would like to acknowledge the passing of **Arlene Christie**, '82 BEd, last year. Arlene was a longtime contributor to the magazine, regularly submitting obituaries for U of A grads. She played an enormous role in documenting history and keeping grads informed about their classmates. We will miss her cheerful handwritten notes.



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notes

WHAT'S NEW AND NOTEWORTHY



Hands-on Learning

Fifty-year tradition of forestry field school gets a makeover, becoming more accessible to students

BEN STRELKOV TAKES PART IN FIELD SCHOOL with other students in forestry and environmental and conservation sciences. The 50-year tradition has shifted from a three-week camp to 10 one-day field trips, in part to make it more accessible and decrease the cost for students. To further reduce barriers, private donors and the forest industry have given to a new U of A fund that aims to eventually cover all field school fees for forestry students. "Learning in the field is absolutely critical for students, says Ellen Macdonald, professor in the Faculty of Agricultural, Life & Environmental Sciences. "There's just nothing that can replace experiencing an ecosystem real-time." Students learn how to measure trees, navigate with a GPS, collect and identify soil and plants, and other skills that are in high demand in the industry.—NIALL MCKENNA

HEALTH

A Plan to Prevent Drug Shortages

Goal of new partnership is to create a facility that can produce critical drugs in Canada

A NEW PARTNERSHIP is poised to help ensure Canadians can access the drugs they need rather than being at the mercy of the global supply chain.

The University of Alberta's Li Ka Shing Applied Virology Institute has partnered with an industry-led Edmonton non-profit to create the Canadian Critical Drug Initiative (CCDI). The goal of CCDI is to build a facility in Edmonton to produce 70 million vials a year of small-molecule drugs — such as propofol, a common anesthetic — which represent the majority of drugs administered in the country.

"Small-molecule drugs are the backbone of the health-care system," says Andrew MacIsaac, CEO of Applied Pharmaceutical Innovation, the university's new partner. "The facility will have a number of critical drugs on standby, with the ability to fill supply gaps across Canada if needed."

The initiative also has the potential to produce drugs for clinical trials, allowing the entire cycle of research,

development and production to take place within the province, says MacIsaac.

The venture will spur economic investment, predicts **Lorne Tyrrell**, '64 BSc, '68 MD, founder and director of the Li Ka Shing Institute of Virology at the U of A. "Creating a new drug is complex and expensive," says Tyrrell. "But if successful, the payoff can be huge."

In December, the Alberta government committed \$55.1 million to support U of A research and facilities for vaccine development, including ways to prevent and treat COVID-19.

The university has been a Canadian leader in COVID-19 research, attracting more than \$30 million in federal rapid response funding and publishing 121 papers within the first year of the pandemic. —NIALL MCKENNA

NUMBERS

15

Minutes it takes to deactivate the SARS-CoV-2 virus on a disposable mask at 65 C in proper lab conditions. A U of A team helped discover this safe way to sterilize masks for reuse, a boon when sterilization equipment is limited.

NUTRITION

CHILDREN'S POOR DIETS AN 'INVISIBLE PANDEMIC'

The COVID-19 pandemic has underscored the need to address poor diets in Alberta, says an annual report on children's nutrition.

The report card assessed the nutritional environment for young people based on 40 key indicators, including the cost of nutritious food and the availability of healthy options in recreational facilities.

The province's grade fell from a C in the past two years to a D in 2021, in part because of the limits placed on people during the pandemic and the interruption of school and daycare meals, says Kim Raine, distinguished professor in the U of A School of Public Health and primary investigator of the 2021 Alberta Nutrition Report Card on Food Environments for Children and Youth.

Poor diet can contribute to chronic diseases such as diabetes, heart disease and some cancers and is second only to tobacco as a risk for premature death in Canada, she says, but public health policies can do much to improve nutrition.

"Prevention requires improving food environments and ensuring there's an opportunity for kids to make healthy choices," she says. "It's something that we're all responsible for."

—GILLIAN RUTHERFORD



NEW ANTI-VIRUS PROTECTION Engineering professor Rafiq Ahmad, above, and Emanuel Martínez Villanueva, a master's student who came to the U of A by way of Mexico's Tecnológico de Monterrey, have designed a mobile respirator to protect frontline workers from COVID-19. Called PROPOS, it combines a snorkelling mask with hoses linked to a special battery-powered fan and filter system. The system has not yet been approved for use in medical settings but Ahmad believes it could protect essential workers in industry or schools. "If there is any further pandemic or if there is a new pandemic," he says, "we should be ready for that kind of mass production." —MICHAEL BROWN



AN EVOLUTIONARY GEM A 100-million-year-old crab discovered in a piece of amber jewelry is helping to unlock the evolutionary history of the crustaceans. Found in a market in Tengchong, China, the two-millimetre-long creature is the most complete crab fossil ever discovered. “There is a lot of excitement about crab evolution because evolution has produced crab-like forms many times independently,” says researcher **Javier Luque**, ’18 PhD. Comparing other fossils with this ancient cousin demonstrates that marine crabs have evolved to live on land and in fresh water more than 12 times since crabs first diversified and started evolving their characteristic body forms.—MICHAEL BROWN

INDUSTRY

Fly-In, Fly-Out Work Takes a Mental Toll

Workers who fly in and out of Alberta’s oilsands have poorer mental health than the general population, a U of A report suggests.

Thousands of workers commute from within the province and across the country, staying in camps to work on nearby projects on rotations of six to 21 days.

In one of the first such studies in Canada, U of A sociologist Sara Dorow’s team worked with the Fort McMurray non-profit Critical Incident Stress Management for Communities to survey 72 workers about wellness.

Study participants reported poor general mental health and high incidences of work-related stress and diagnosed long-term health conditions, says Dorow. They also cited relationship strain, loneliness, poor sleep and stress from being away from home for extended periods, including missing significant events.

Participants indicated avoiding the use of health resources at the work site due to fear of layoffs, loss of reputation and lost wages.

Dorow says she hopes the research will raise awareness, lead to more research and prompt changes in the industry.—GEOFF MCMASTER

WORKPLACE

HOW TO KEEP BURNOUT AT BAY

Unlike stress, workplace burnout is a persistent feeling of exhaustion that’s accompanied by cynicism and a sense of detachment, says Michelle Inness, an assistant dean and associate professor in the Alberta School of Business. Not only does burnout affect productivity, it can spill into an employee’s personal life and harm their mental health. “What happens to us at work can help facilitate or undermine our well-being,” she says. Managers can do more than just hope employees are resilient enough to cope. Here are ways to make the work environment more supportive.—SHARSVARNEE KUNDASAWMY

DON’T MICROMANAGE

A lack of control over work is stressful. People want to be able to make decisions about how they prioritize tasks. Give employees a manageable workload and trust them to juggle their responsibilities.

FOSTER FRIENDSHIPS

Positive relationships can help mitigate burnout, while toxic talk can fan its flames. Address and resolve workplace conflicts promptly and pursue positive interactions with employees.

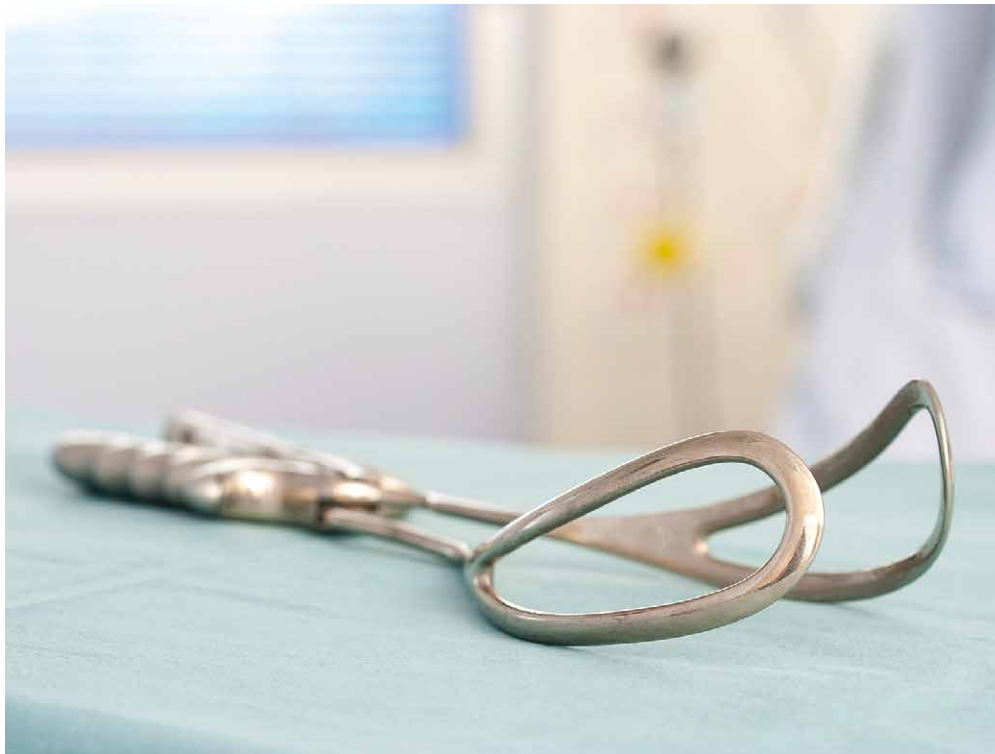
TALK ABOUT IT

Encourage open lines of communication so employees can talk to you about their work. Treating employees with dignity and showing appreciation for their work can help create the trust required for openness.

QUOTED

“Ageism has been described by other scholars as the last ‘ism’ that is socially accepted. It’s subtle and insidious in societies around the world.”

▼ Sherry Dahlke, associate professor in the Faculty of Nursing, has developed online training for nursing students about caring for older patients in an effort to reduce age-related bias



WOMEN'S HEALTH

Risk of Injury From Forceps Births Much Higher in Canada

Authors of study into first-time vaginal births note such injuries can have severe consequences

CANADA HAS A HIGH RATE OF FORCEPS USE DURING CHILDBIRTH and a correspondingly high number of preventable injuries to mothers, says an international team of experts.

Their study calls for a reduction in the number of births by forceps in Canada to reduce anal sphincter injuries.

The researchers analyzed nearly two million birth records from Canada, Norway, Sweden and Austria of first-time births or first vaginal birth after C-section. About one in four of these births in Canada and Norway in 2016 used forceps, the researchers found, but Canadian mothers had a much higher rate of injury: 24.3 per cent of them compared with 6.2 per cent of Norwegian mothers had third- or fourth-degree tears to the perineum (the area between the vagina and the anus).

"We're not doing well compared to these countries with similar social demographics and health-care services," says **Jane Schulz**, '90 BSc(Med), '92 MD, chair of obstetrics and gynecology in the Faculty of Medicine & Dentistry, who was Canadian co-principal investigator in the study.

Shaped like a pair of tongs, forceps go around the babies' heads to help guide them out of the birth canal. But forceps can

tear the mothers' muscles and ligaments and damage the nerves of their pelvic floors, says Schulz.

Such injuries can lead to immediate and long-term complications, including poor healing, infection, chronic pain, sexual dysfunction, bladder or bowel incontinence and pelvic organ prolapse, says Schulz, who is a member of the Women and Children's

Health Research Institute and also works with the pelvic floor clinic at the Lois Hole Hospital for Women in Edmonton. The study's

authors recommend improving education for clinicians and providing better information to expectant mothers about all the options before birth.

—GILLIAN RUTHERFORD

For more on these and other great U of A research stories, visit folio.ca.

ARCHEOLOGY

RESEARCHER HELPS SET PROTOCOLS FOR SAMPLING ANCIENT DNA

An international team including a U of A bioarcheologist has helped develop the first guidelines for sampling DNA from ancient remains.

Elizabeth Sawchuk, '08 BA(Hons), '12 MA, first got involved in ancient DNA research as part of her archeological research in Africa. She was dismayed to find there were no universal protocols for sampling ancient remains.

After seeing how much damage DNA sampling can cause, she co-wrote an article on the topic in 2018 that was cited extensively.

"Human remains provide a unique source of information on the past that we can't access through other archeological materials," says Sawchuk, a Banting post-doctoral fellow in the U of A Department of Anthropology.

"More importantly, they are people who used to be alive and who may have descendants today who care a lot about them," she adds.

Sawchuk joined researchers from 31 countries to develop the global guidelines. The team outlined "strong and universally applicable" best practices, including engaging with relevant stakeholders such as descendant communities. The guidelines were published in the journal *Nature*.

The team also wants to ensure data are made available to allow re-examination by other researchers, "so we don't have to destroy more bones than we need to and can avoid sampling the same individuals and sites," says Sawchuk, the only Canadian co-author on the project.

The guidelines will be freely available to curators, geneticists, archeologists and the public and have been translated into multiple languages to help get the message out.

"I do believe they will have a long-lasting, positive impact."

—GEOFF MCMASTER

STUDENTS

A New Approach

Black students learn tools to pursue career goals

IN HIGH SCHOOL BIOLOGY CLASS, Imani Murray fell in love with the brain. Next, she set her sights on pursuing her dream career: becoming a neurosurgeon.

As a third-year physiology student, she was able to apply her passion and studies for the first time through a new work-integrated U of A program: the Experiential Learning in Innovation, Technology, and Entrepreneurship (ELITE) Program for Black Youth. As an ELITE intern last summer, she worked in the U of A's Neuromuscular Control & Biomechanics Laboratory, helping to develop a wearable sensor to let people living with multiple sclerosis receive treatment remotely.

Murray says she has had few Black role models as she pursued her dream. She has never had a person of colour as a teacher since moving from Jamaica to Edmonton in junior high, and when she goes to the doctor, the person treating her rarely looks like her.

Structural barriers such as a lack of diversity among advocates can prevent Black students from studying STEM and business and from building sustainable careers in those fields, says engineering professor and ELITE program director André McDonald. But it was the “mental barrier” facing Black students that most inspired him to launch the program.

“Someone can always work hard and come up with creative strategies to overcome systemic barriers,” he says. “But if you, yourself, don't think you can do it, forget about it.”

So far, 38 high school and undergrad students have had paid internships in science, technology, engineering and mathematics (STEM) and business fields. During the eight- to 16-week program, students also receive wellness coaching and learn entrepreneurial skills in collaboration with Startup Edmonton.

Tinashe Muzah, a third-year finance student in the Alberta School of Business who was placed at Sysco Canada, says a highlight has been the connections with other students and the encouragement from the ELITE steering council.

“It's definitely something I haven't had before: mentors who understand the specific nuances of the Black experience in a professional sense,” says Muzah, an aspiring lawyer. —KATE BLACK, '16 BA



(From left) ELITE program student Severino Asumu, professor Sedami Gnidehou, student Yanela Gonzalez Sanchez, professor André McDonald and student Imani Murray

QUOTED

“Just as your thermostat regulates the temperature in your house, why can't there also be sonic regulation?”

Music professor Michael Frishkopf hopes to create a “smart” sound system that uses machine learning to customize calming sounds for individual patients in intensive care, based on their heart rate, breathing and other physiological feedback



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Learning doesn't end when you accept your degree. We are all lifelong learners, whether we pursue lessons in a class or a lecture hall—or these lessons pursue us. **Curtis Gillespie**, '85 BA(Spec), reflects on the continuing opportunities for education that life throws our way, sometimes when we least expect them.



Let It Snow

IT'S WINTER. IT'S SUPPOSED TO BE COLD, AND I'VE FINALLY LEARNED TO LIKE IT

One of my favourite seasonal movies is *A Christmas Story*, in which nine-year-old Ralphie Parker pines for the gift of a Red Ryder BB gun. It's a simple and hilarious movie about 1940s family life in the white American suburbs, though many scenes were shot in southern Ontario. One scene that always makes me laugh is when Ralphie's mother swaddles his younger brother, Randy, in so many layers of winter clothing that he cannot lower his arms to his sides. On his way to school he falls in a snowdrift, can't get up and has to be righted by Ralphie and his pals.

Most winters I feel a bit like little Randy Parker.

One afternoon last winter during an Edmonton cold snap caused by a polar vortex, I decided to take the dog for a walk. First, I put on long underwear, then jeans. Then I

added a wool sweater to the one I was already wearing. Then I pulled on ski pants. Then I slipped my feet into boots. Then I donned my Arctic-rated down parka. After that, I drew a balaclava over my head and added another tuque on top of that. Finally, I pulled on my down-filled mittens and tightened their straps over my forearms. I glanced in the mirror and saw what resembled a cross between a moon walker and a deep-sea diver.

Or little Randy Parker.

My arms jutted out at my sides at 60-degree angles. The dog was sitting by the front door staring at this strange creature who had taken 15 minutes to get ready for a walk. I waddled towards him and he gave me a confused look, unsure whether I was about to take him outside or smother him in pillowy hugs. Only then I realized I had to take off one of my gloves to get his leash secured and lock the door behind us, a process that took another couple of minutes.

Outside, the cold hit us like a knife. The icy air needled its way to the tips of my lungs. It felt good only because every other part of my body was cosy and warm. We trundled around the neighbourhood and returned after only 15 minutes because the poor dog began to hop from foot to foot to avoid contact with the frozen turf. We got back inside the house and as I began to unlayer, a strange sensation overtook me. It was like I was being inhabited by a presence while remaining totally conscious of it, the way alien abductees talk about their experiences.

I realized, almost with horror, that I kind of like winter. High time, because there are only two seasons in Edmonton: winter and waiting for winter.

It's fair to say that I went through a phase—a four-decade phase—where I didn't really like winter. It was more a slow escalation than a sudden dislike. First it was irritation with the end of golf season and November being a blah month. Then it became the post-Christmas “three more months of this?” blues. Then it was the feeling of being trapped in February, the shortest month, which has always felt



by Curtis Gillespie

the longest. At some point, I began to despise March for the way it threw us a wintry curveball just as we were desperate for spring.

But then about seven or eight years ago I started playing hockey with some friends at the local outdoor rink. We play on nice evenings once a week. Some nights it's simply magical, being able to look up at the stars as you lie flat on your back after being hacked to the ice by a friend you'll be spearing in the ribs five minutes hence.

Then my wife began to encourage me to cross-country ski more often. We started making trips to Jasper and Hinton just to cross-country ski. I still measure the success of any such outing by only one metric, which is whether I fall or not. I'm the only person I know who has broken a cross-country ski pole—twice—through sheer clumsiness. As I've become less dangerous to myself and others, I've begun to enjoy the beauty of nature in winter. The silence of the winter forest holds a hush, a waiting, a husbanding of energy. The dark green is intensely beautiful against the white backdrop of the winter.

The tagline for *Game of Thrones* was "Winter is coming." Yeah, tell me about it. What's the big deal? White walkers? Please. I see worse than that every time I take the dog out. I'm ready and eager for it. There are two specific events that tipped the scales, that forever changed the winter equation from endurance to enjoyment. I can precisely identify each event, to the moment.

I even have the receipts.

The first came two years ago when I bought a pair of serious, big, tall, pull-on, waterproof, insulated winter boots. It probably doesn't matter what kind you buy, but mine are a well-known brand. (I really want to tell you what brand—but blame the editors, who won't let me!) You'll just have to take my word for it when I say that they have revolutionized my relationship with winter.

Perhaps it's the nadir of my writing career that I have come to the stage

where I'm using this platform to wax poetic about winter boots, but here we are. I can live with it. I mean, Marcel Proust wrote a 1,300-page book about a cookie. Whereas once I didn't like to walk the dog in the winter, now I can't wait to get out and kick my way through snowdrifts. I've even started to enjoy shovelling snow, though I'll hide this column from my wife, otherwise she'll be quoting me after future massive snow dumps. "I thought you said you enjoyed it?!"

Before Christmas last year I had my second Damascene experience, which while not a religious revelation was nevertheless powerful. I'm embarrassed to admit that it took me nearly three decades of marriage to figure it out. My wife likes to keep the bedroom window open to allow for the passage of fresh air. This is logical and healthy, except for the fact that she follows this principle 365 days a year. During last February's cold snap, when the nightly wind chill was hitting -50 C, our bedroom window remained open. There were mornings I'd be able to see my breath. Getting undressed and into bed at night had become a kind of game to see how few seconds it took me to doff my clothes and get between the sheets to avoid succumbing to frostbite.

In December 2019, I happened to be shopping online when I saw an ad for electric blankets. A light bulb went off, an electric bulb. I could buy an electric blanket! I could put it on our bed! I could be warm at night!

As discoveries go, it's not quite stumbling upon the lost tombs of the pharaohs, but it has changed my life. Now I switch on the blanket before bed and by the time I slide under the cover it's so warm and cosy that I'll just lie there, grinning blissfully. Why it took me decades to realize that there were such things as electric blankets I cannot explain. But the result is revelatory. Freezing cold bedroom? Bring it on. In fact, the colder the better, I say. I'm now armed against it.

I know as I get older, I'm supposed to want to retire to Palm Springs or

Scottsdale for three or four months every winter to avoid slippery sidewalks and car seats that feel like ice-cave benches. I'm supposed to want to have a condo in a gated community and a golf cart to drive from my garage to the course. I'm supposed to sit on a patio where I can nap in the late afternoon before awaking to a cocktail and the setting sun over the desert horizon ...

OK, I'll stop because that's actually starting to sound pretty good.

But I think all of the above has to do with something broader than feeling insulated for a change. It's about feeling a sense of order to the world, ephemeral as that might be. I don't like it when it's above freezing in January. That isn't what my part of the planet should feel like. It's supposed to be cold. We're supposed to bundle up. We're supposed to feel our nasal hairs cracking. We're supposed to listen to weather forecasters tell us how little time it will take for exposed flesh to freeze. That's winter. People cycling in shorts in January is not winter. Although I don't think "enjoyment" is the right word to describe living and thriving in a cold-weather environment, it at least seems normal. And normal feels pretty good these days.

Maybe it's about childhood. We all feel a certain nostalgia and even comfort for the times and emotions of our childhood. Mine was all about hot, dry summers and cold, snowbound winters. Climate change has altered that equation such that we now have milder, less snowy winters in Edmonton, coupled with more humid, stormier summers.

That's not a climate change trade-off I love. I want the climate to change back. Because there's nothing wrong with winter and I don't know what I had against it for so long. And all it really took in the end to bring about the transformation was a good pair of boots and a cheap electric blanket. ■

Curtis Gillespie has written five books and earned seven National Magazine Awards. His New Trail article "A Hard Walk" won gold for best article of 2018 from CASE, an international post-secondary association.

Some of our grads are at the centre of experiences others only read about. Their perspectives bring us close to the story. **Pegah Salari**, '08 MBA, writes as a friend to passengers on Flight PS752, which crashed in January 2020 with no survivors. Ten members of the U of A community plus family were aboard.



by Pegah Salari

To My Unknown Friend

I FEEL AS THOUGH I KNOW YOU, BUT THE ATTACK ON FLIGHT PS752 HAS ROBBED US OF THE CHANCE OF REAL FRIENDSHIP

I truly wish I had never met you, not this way. It has been rough. You can't know this, but the first mental image I have of you is this: your two hands, clenched in fists—out of fear perhaps? Your hands, Elnaz, your wedding ring. You were not there when your husband, Javad, told me about seeing you like this, in a photograph of you taken after the crash. You see, the first time we met was a few weeks after you died.

I truly wish I had never met you, and that you were still living a happy life somewhere in this cold, beautiful city alongside the love of your life, holding your baby, perhaps.

Ever since we met, it is as if I were piecing together fragments of memories of a friendship we never had. Now I have been to your home, I've sat next to your orchids, looked into your eyes. I have learned so much about you—without ever actually meeting you.

I have been trying to fathom this one-sided friendship I formed with you, but it hasn't been easy.

The first time I visited your home, I noticed your sneakers by the door. It was as if you'd never left. I saw your note on the wall. "Take your shoes off, please," you wrote. Of course, I obliged. But that note has been sitting on the wall since you left. It was a simple message to the cleaners who were coming one day in your absence. Now it looks like a message from beyond. Javad has framed that note.

We met too late, years too late. Do you know how many lunch breaks I took at the Alberta School of Business, wishing for a friend I could share my school experience with, someone who really understood what I was going through? Do you know how many days I sat outside the Tory Building, looking at the trees, feeling lost, wishing there was someone like you in my program? I did my MBA at the business school several years before you and Javad started your PhDs there. Somehow in my head, the time difference doesn't matter. I keep picturing us, sitting together, having lunch.

And then I meet you, not only several years too late for a shared lunch, but also so late that I never got to see you alive. This is the strangest friendship!

Your husband Javad is now one of my good friends. We talk frequently. The pandemic made the world a difficult place. Being there for someone who is going through a loss has never been so hard. You died on Jan. 8, 2020, along with the rest of the passengers on Flight PS752, so many of whom had U of A connections. Two months later, the whole world went into quarantine.

Still, we're Iranian, and we remembered you on the 40th day after your death, then on the 100th day, then at six months and finally a year. Everyone got together outside of the Alberta Legislature Building to remember you on Jan. 8, 2021. It was a cold Edmonton night. Hundreds of little candles burned in your memory—you'd have liked the candles, Elnaz. Neither the pandemic nor the January weather stopped people from showing up.

You graduated in June, Elnaz! I watched your graduation online and pictured what it would have been like if you had put on a graduation cap and gown for a photo outside the Jubilee Auditorium. I pictured you throwing your cap in the air. I heard you laugh out loud, celebrating your hard work. All the effort you put into getting admitted to the University of Alberta in the first place, all your sleepless nights.

I have come to know your sister, too. She lives so far away, in Iran. She misses you. I try to console her, but my words seem empty. She never asked how I know you. It feels as though there is a general understanding among all of us who miss you. It does not matter if we knew you before you were killed or not. The only thing that matters is that we miss you.

I have cried for you, Elnaz. I have shouted your name at rallies to demand justice for you. And in all of this, I have made an image of you inside my head. Piecing together little fragments of memories and thoughts of the friendship we could've had.

It has been two years now, Elnaz. I have come to know you and others on that cursed flight. I think about your hands, your stolen wedding ring—it still hasn't been returned to Javad. You'd be happy to know about all the people who have stood by your husband in his fight for justice.

But I wish that we weren't locked in this strange friendship. I wish I'd never come to know you this way, that you were living a happy life somewhere in this city.

We might have passed by each other. Who knows? Maybe someday we would have met at an alumni event or through a common friend. It didn't have to be like this, Elnaz.

For now, your memory stays alive in the hearts of many, and there hasn't been a moment when I felt our enthusiasm ebbing in our fight to find the truth about what happened to Flight PS752, and to hold the responsible parties accountable.

But, my unseen friend, I wish I had never met you. ■

*Pegah Salari has lived in Edmonton since 2006, when she came to Canada as a student. She is an executive leader in wholesale distribution. Pegah volunteers for the Association of Families of Flight PS752 and for the U of A's Alumni Council. **Elnaz Nabiyyi**, '20 PhD, earned her doctorate from the Alberta School of Business posthumously. The Dear Elnaz Corp., a non-profit organization with the mission to contribute to the educational advancement of those in need, created a U of A graduate scholarship to commemorate Elnaz and the rest of the victims of Flight PS752.*

thesis

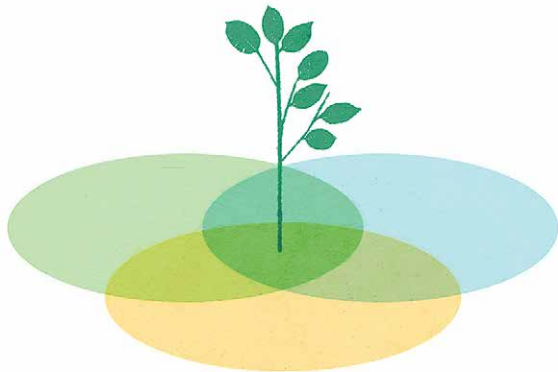
DIVING DEEP INTO ONE IDEA



Life at the Edge

Between here and there, a strange borderland beckons attention. Its importance outweighs the real estate it occupies

AN EDGE CAN BE A BLADE OR A PRECIPICE. Sometimes it's a marker we pass before an achievement. Or it's a crossing between one place and the next. Imagine standing in a doorway where house meets yard. Are you inside or out? Neither and both. Maybe "in a doorway" becomes a place unto itself, different from what it divides. Read on for stories of edges that take on greater significance than their status as the in-between. ■



Linger in the In-between

The edge is a zone of transformation and discovery, at once a marker between distinct areas and a place of its own

THE EDGE CAN BE A SCARY place. Roll your toes over the lip of a rock face before diving into the water below and you'll know what I mean.

An edge marks the end of one thing and the start of another. It can be a physical boundary, like the curb between a sidewalk and a road. Or it can be a state of being—like the one that beckons adrenaline junkies to the next thrill.

Some edges are invisible, so mundane you don't give a second thought. Some cover areas so great they're places unto themselves. People who wander into these spaces leave one destination without immediately arriving at the next. They're in the liminal unknown, between here and there.

Whether by chance or choice, what happens at the edges affects the rest of us. Drive 20 minutes east of Edmonton and you'll arrive at the Beaver Hills Biosphere: 1,600 square kilometres of mixed-wood forest, sedge

meadows and wetlands. Here, semi-aquatic beavers live in the riparian zone between forest and wetlands.

These zones have some of the highest biodiversity you find in an ecological system, says **Glynnis Hood**, '07 PhD, a science professor at Augustana Campus and a Beaver Hills researcher. They're also vulnerable: rapid changes in climate can turn wetlands into deserts, recreational development like walking trails compacts and erodes soil, and water pollution can cause damage and death to aquatic species. But it turns out that beavers can play an unexpected role in reviving damaged wetlands on the brink.

Hood studied 54 years of aerial photographs of Beaver Hills and discovered that, even during drought, ponds with beavers had nine times more open water than the same ponds when they didn't have beavers. One reason, she says, is that beavers dig canals away from ponds into

the landscape, connecting bodies of water. The canals are the beavers' escape routes from predators and transportation routes for building materials.

Hood says these engineered waterways are "boreal neurons that reach out into the surrounding landscape and create incredible connectivity between the riparian edge and upland areas." By carving pathways for water, beavers create shallow areas where animals like wood frogs can reproduce and aquatic macroinvertebrates can hunt.

The channels also have implications for genetic flow, she says. The linked aquatic ecosystems mean water-dwelling creatures can travel between ponds, increasing genetic diversity. And when they alter landscapes, beavers can create fire-resistant habitat, demonstrated by islands of green in areas otherwise devastated by fire in California.

We have a lot to gain from those willing to venture to the brink. In 2022, Wyvern, a company founded by U of A alumni who came from the donor-funded AlbertaSat student club, will launch its first low-orbit satellites. Wyvern hopes to use the view from 550 kilometres above the surface of Earth as a vantage point to make life better on the planet.

Wyvern will specialize in imaging related to forestry, water quality, environmental monitoring and agriculture. The technology will help industry improve sustainability and inform business decisions. For example, access to satellite images could help farmers spot invasive species and changes in soil composition, influencing planting and food production.

"You have the right to

see how you're treating the Earth," **Chris Robson**, '16 BSc(MechEng), '18 MSc, co-founder and CEO of Wyvern, told *TechCrunch*. "You also have the right to take care of the Earth."

Like Robson and his team of satellite experts, many people launch themselves into distant unknowns in hopes of gaining perspectives and stirring change. And they might find themselves in transitional, or liminal, areas.

People wander these spaces—hallways, stairwells, parkades and even airports—daily. But liminal spaces are meant to be passed through, so when someone lingers in the in-between, weird things start to happen. Sometimes that's the draw.

During a religious or secular pilgrimage, for example, sojourners leave homes, jobs and friends behind, and set out in the hopes of experiencing a spiritual or emotional transformation that can only be found on the edge. "You're stripped of status, you're carrying all your stuff on your back, you're figuring out where to go and what to do, surrounded by people you don't know," says Jocelyn Hendrickson, an associate professor of history and religious studies in the Faculty of Arts. "There's a sense of being out of your element."

That's where change can begin. By leaving behind daily routines and expectations, Hendrickson says, pilgrims may find clarity for a problem or comfort from grief. They're also relieved of external pressure from family, friends and co-workers. "You go to the edge, look back at your life and your customs and your assumptions from the outside," she says.

Though nowadays large portions of pilgrimages

“You’re stripped of status, you’re carrying all your stuff on your back ... surrounded by people you don’t know. There’s a sense of being out of your element.”

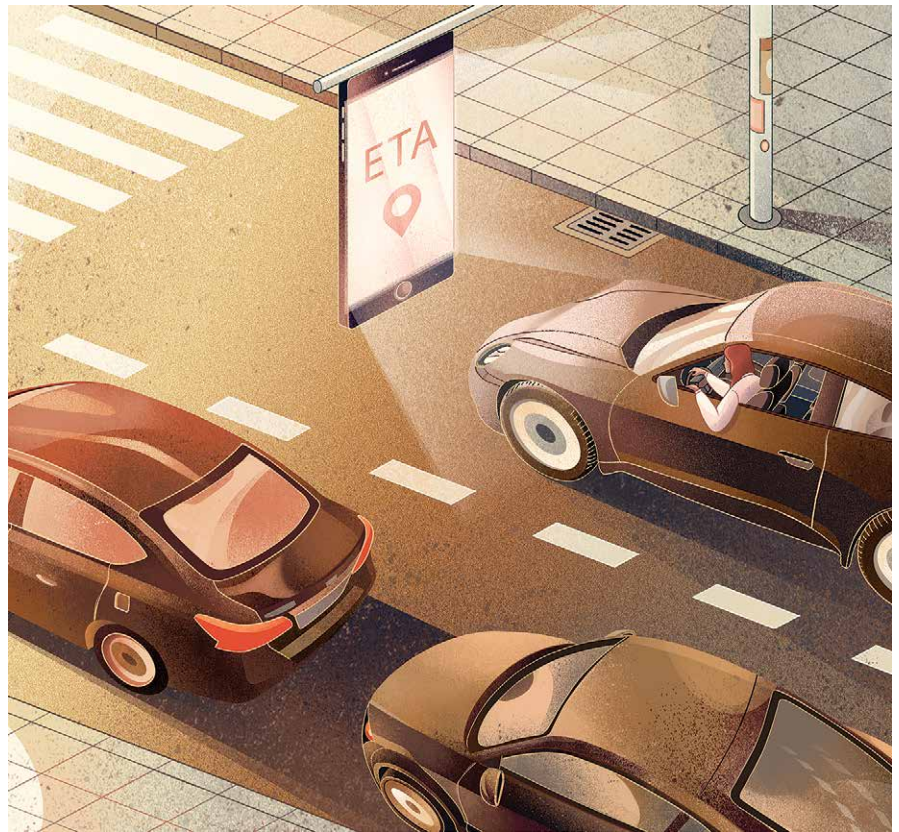
*Jocelyn Hendrickson,
associate professor,
Faculty of Arts*

can be completed by plane, bus or train, pilgrims of the past would make the entire journey on foot. For Muslim pilgrims coming from North Africa, the hajj—the pilgrimage to Mecca, Saudi Arabia—could take years, Hendrickson says. That’s a long time to linger between destinations. She says that walking long distances is part of the process.

“Pilgrimage often involves physical exertion, challenge or even purposeful suffering,” she says. “Exertion moves your mind, creates a vulnerability that opens you to an experience of transformation.”

Despite what *The Lord of the Rings* may imply, the journey doesn’t end when you toss the ring into the fires of Mount Doom. A pilgrimage is not a one-way ticket. Pilgrims have to return home, where they may find themselves changed. “They come back as transformed people,” Hendrickson says. “They bring something new into their lives ... and their communities.”

Not everyone will tread one of the ancient routes of Japan’s Kumano Kodo trail or Spain’s Camino de Santiago. But those who do, leave a trail of dust behind them and the world is different because of it. —LISA SZABO, ’16 BA



ARE YOU ALWAYS ON THE EDGE OF BEING LATE?

Research says speeding won't help

KEYS IN HAND, YOU RUSHED OUT OF THE house this morning. You’re sure to be late for work! No worries, picking up your pace a bit will make up the time, right? Well, no, not according to computing science students from Augustana Campus who developed the ETA Tool. It’s a web-based app available in Edmonton and Calgary to let drivers know just how little time they lose travelling anywhere in their cities with residential speed limits reduced.

Simply punch in point A and point B and you’ll get a number for any time of day. Turns out, going 30 or 40 km/h through your neighbourhood instead of 50 doesn’t hold you back more than a minute or two. In the most extreme scenarios, it could add five minutes to your trip.

“What happens is that you get out of your driveway, and quickly you’re onto a

high-speed road,” said **Peter Zung**, ’19 BSc, one of a trio of U of A students who helped create the app before they graduated. “During rush hour, you can’t go 50 anyway because of the traffic.”

The ETA tool was first developed by Zung and his classmates, **Fatima Bin Sumait**, ’19 BSc, and **Phil Nadon**, ’20 BSc, along with Ronny Maichle from the University of Calgary, to compete in Hackathon 2018: Pedestrian Comfort. Facing a challenge around pedestrian-friendly apps, Zung pitched a simple idea to his teammates: why not quantify how much time drivers really lose by slowing down?

They didn’t win the competition, but city officials in Calgary and Edmonton saw potential. The tool, which builds on Google Maps data, seems to have moved the needle on debates about municipal speed limits. And while a drop in speed doesn’t affect your commute much, it can dramatically cut down on the severity of pedestrian collisions. The WHO says that pedestrians have a 90 per cent chance of survival when struck by a car travelling 30 km/h or less, but less than a 50 per cent chance of survival when hit by a vehicle at 45 km/h. Pedestrians have almost no chance of surviving an impact at 80 km/h.

So, if lateness has less to do with the commute and more to do with the choices we make before we even leave home, maybe we should focus on the numbers on the alarm clock rather than the speed limit sign. —BRENT WITTMEIER AND BEV BETKOWSKI

Curing Diabetes: We're Closer Than Ever

FOR MANY OF THE 465 MILLION PEOPLE around the world living with diabetes, insulin is a lifeline. The University of Alberta has had a hand in diabetes research since the beginning, 100 years ago, when biochemist **James Collip**, '24 PhD, '26 MD, '46 LLD (Honorary), first purified insulin to treat excess sugar in the blood. Since then, researchers have developed better treatments, including the Edmonton Protocol. Now, five U of A researchers at the Alberta Diabetes Institute are edging closer to a cure.

Reprogramming Stem Cells

Stem cells can transform into any type of cell if nudged in the right direction. **James Shapiro**, '01 PhD, and his team are working to engineer a patient's own blood cells to revert into stem cells and reprogram them to become insulin-producing islet cells. Transplanted into the patient's liver, the islets will produce insulin, replacing the normal functions of the pancreas. Since the cells are the patient's own, there's no need for the anti-rejection drugs that accompany traditional transplants.

Shapiro, who holds the Canada Research Chair in Transplantation Surgery and Regenerative Medicine, dreams of seeing all people with diabetes

cured within seven years, starting with vulnerable populations. A cure would save Canadians with diabetes an average of \$1,500 per year on out-of-pocket expenses. Annual savings for our health-care system would ring in at \$3.8 billion.

Creating Safer Islet Transplants

Islet transplants are promising, but viable donor islets are hard to come by. Andrew Pepper and **Gregory Korbitt**, '85 BSc, '88 MSc, have identified another potential supply of islet cells, from neonatal pigs, that can be transplanted into patients with diabetes. Patients would receive localized anti-rejection drugs directly to the cells instead of throughout the body, thwarting

immunosuppressive side-effects such as dangerous infection.

Diabetes is on the rise worldwide. Pepper and Korbitt's research deals with the twin drawbacks of current islet transplants: limited supply and plentiful side-effects. If this new, massive supply of donor cells is unlocked for human use, it would throw open the doors of eligibility for this treatment.

Protecting Insulin-Producing Cells

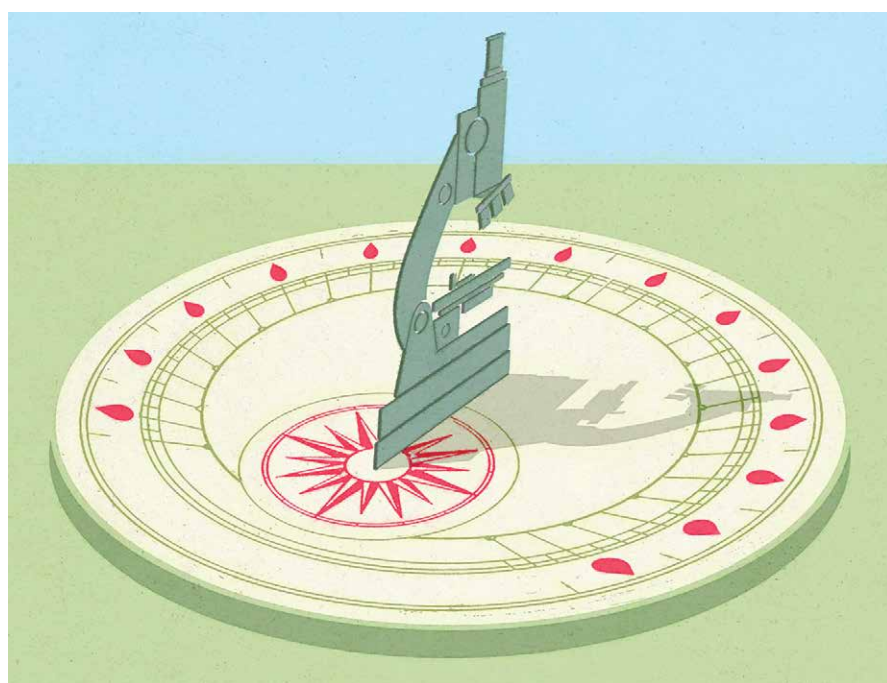
Jean Buteau and his team have identified a gene in insulin-producing cells that determines whether the cell lives or dies. They've also found a drug that can trigger this gene on command. This pill would protect existing insulin-producing cells from dying and regenerate cells that had been previously destroyed by the immune system. The drug has already proven successful on patients with Type 2 diabetes and is fast-tracked for clinical trials in Type 1 patients. The pill is the only medication of its type on the market.

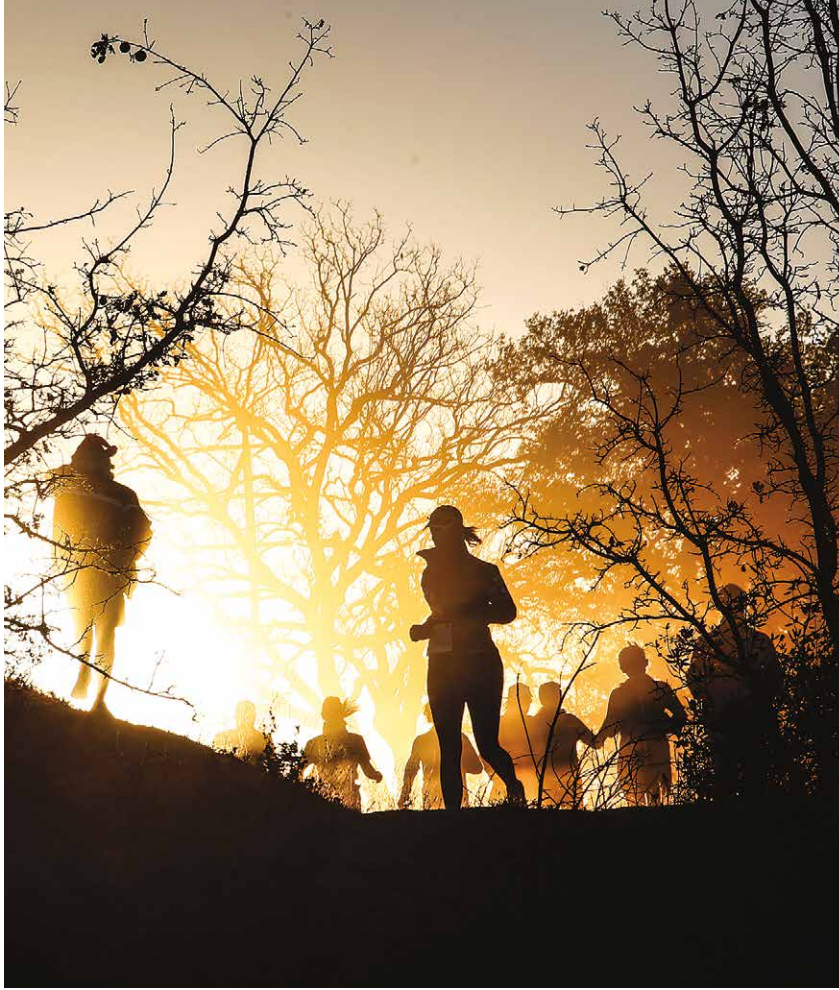
People with diabetes are at far greater risk of cardiovascular disease, lower-limb amputation and kidney failure. Buteau's treatment has the potential to regenerate a person's ability to produce their own insulin, liberating them from health complications.

Supercharging Existing Therapy

Childhood obesity is a precursor to insulin resistance and Type 2 diabetes. Andrea Haqq's treatment uses a combination of dietary fibre and metformin to reverse obesity and insulin resistance and prevent Type 2 diabetes in children. Metformin has been used to treat Type 2 diabetes in adults since 1957 but hasn't been successful in children. Haqq took a different approach. She and her team are using metformin alongside dietary fibre to reprogram the gut microbiome of children, curbing insulin resistance.

In the past 30 years, Type 2 diabetes among children has doubled, according to medical journal *The Lancet*. Without a cure, prevention is the only line of defence between children and the lifelong dangers of diabetes. Beyond diet and exercise, Haqq's team's work has set the stage for a preventive therapy with the potential to reverse insulin dependence. —LISA SZABO, '16 BA





ON LONG-DISTANCE RACES & MATHEMATICAL PHYSICS

VINCENT BOUCHARD HAS A POWERFUL HACK that takes him to the very edge of endurance—in long-distance foot races and researching mathematics and physics. The mathematical physicist, former Rhodes Scholar and professor in the Department of Mathematical and Statistical Sciences regularly runs ultramarathons spanning 160 kilometres with elevation gains of thousands of metres. He approaches running the same way he approaches his research: with an inquiring mind and persistence.

► **How is your approach to racing similar to your approach to research?**

If you let your brain run loose, then it's like living a whole life compressed into a short time. You have your highs, and then you get lows. You're on a roller-coaster, and your brain is telling you to stop. The challenge, which I find fascinating, is to stabilize your mind, to prevent these highs and lows from happening. And it's very close to exactly what you do in research.

► **How does that adversity apply to research?** In research, you want to solve a problem or prove something. You try something, and it fails. You try something else, and it fails. Then you

try something and you think it works. You're ecstatic, and then you realize there was a mistake. And it's always like this, but you have to keep your mind stable.

► **OK, what does physics teach you about ultra-marathons?** Being stuck on a problem, having to think about it non-stop, always having to overcome obstacles—this is the kind of challenge that presents itself in research. And it's exactly the same in a long race. The challenge is not the length and difficulty of the run itself. The challenge is to allow your mind to free your body—to let your body run. —MATTHEW KINGSTON

The Sharpest Edge That Doesn't Cut

It wasn't long ago that an Alberta patient with a hard-to-reach brain tumour could face an arduous and hours-long surgery, a lengthy hospital stay and months of uncertain recovery. The gamma knife suite at the University of Alberta Hospital has changed that for many patients, making some kinds of brain surgery safer and more convenient for patients and less costly for the health-care system.

THE KNIFE

It's not a single blade or even a real knife. Rather it's a device that aims hundreds of tiny beams of radiation onto a single spot in the brain, such as a tumour. It can treat sub-millimetre-sized areas without making a cut or damaging surrounding tissue.

THE PREP

The patient receives local anesthetic on parts of the scalp and possibly a sedative to help them relax. The head is immobilized by four pins on a lightweight frame, and the patient is wheeled into an MRI-like tube. They can choose some music to listen to, as they'll be awake through the procedure.

THE IMPORTANCE

The gamma knife can treat epilepsy, venous malformation and some types of chronic nerve pain, as well as malignant and benign tumours to relieve pain and extend life. "A radiosurgery gamma knife installation is a major part of a current, state-of-the-art brain centre," says **Keith Aronyk**, '77 MD, a neurosurgeon and one of the driving forces behind the acquisition. (See the 2020 Alumni Awards, page 45.)

THE TIME

A gamma knife procedure can take less than an hour, depending on the size, number and location of the affected areas. The patient usually goes home that same day and is back to their regular life in a matter of days.

THE MONEY

Donors to the University of Alberta Hospital Foundation's brain centre campaign funded the \$17.5-million Scott & Brown Families Advance Imaging and Gamma Knife Centre, which opened in late 2017. A business case Aronyk's team developed indicated the gamma knife suite would pay for itself in as little as three years. Now, hundreds of gamma knife procedures have supplanted costly brain surgeries and long hospital stays. That's pretty sharp. —MIFI PURVIS, '93 BA



Reversing paralysis.

T H E

Replicating the sun's power.

I M P O S S I B L E

Bringing a new lens to disease.

M A D E

Bridging the silence between people.

P O S S I B L E

What does it take to tackle
some of the world's most
complex problems?

By **Kate Black, '16 BA**

WHEN THE SPINAL CORD IS SEVERELY INJURED, THE BODY SHUTS DOWN.

The entire spinal cord goes into shock, setting off a firestorm. Oxygen and nutrients vital to nerve cells are cut off, causing initially uninjured cells to die. Immune cells flood the site to remove the dead cells, but the onslaught damages more nerve cells. The result: paralysis. Often, irreversible paralysis.

Vivian Mushahwar believes she has invented a tool that could finally change that outcome for some. In other words, it could reverse irreversible paralysis. Thirty years after she first envisioned such a device as a grad student, she can finally hold it in the palm of her hand.

It's a tiny micro-implant that, when surgically embedded in the spinal cord, creates an anatomical detour to restore function in paralyzed limbs. The device has the potential to change the lives of people with spinal cord injuries.

Zoom out from Mushahwar's hands on the fifth floor of the Katz building and you'll see researchers and scholars across the University of Alberta addressing seemingly impossible challenges, looking

for answers to questions most of us don't even know to ask. Little pockets of the future, thinking humanity's way out of problems that affect our lives and our world.

In theory, a great idea springs to life in a lightning flash. A solution hits the inventor's skull like an apple from a tree or a light bulb clicking on (we've all seen that cartoon). The genius jumps out of the bathtub and runs naked into the streets, triumphant, ready to change the world.

The eureka moment makes for a good story. It's a comforting idea, too, to imagine a special class of innovators living among us: geniuses bestowed with a unique ability to see into the future or, at least, find solutions to propel us out of the tough problems of our present. The climate crisis. Cancer. Deep social inequity. The challenges seem insurmountable, too complex to even begin to untangle.

It would make sense that the people who dedicate their careers to finding and fixing problems would have some kind of innate gift. Maybe the creative or problem-solving part of their brains is bigger than the average person's. Maybe they have a more robust morning routine. They love cold showers, eat more protein. *Something* sets them apart.

But ask researchers and scholars at the U of A to share their secret, what sets them apart, and they won't tell you. It's not because they're being cagey. It's because what makes them different — what spurs them to explore ideas and create new knowledge — is only partly about them. To break boundaries, they need others. They need a supportive space to work. They need communities to inform what they do, colleagues from within and outside the university to offer perspectives that inform and hone their theories, students to support vital research, guidance on how to take a great idea into the real world so it can start to make change.

You will not talk to an innovator without hearing about the funders, students, support staff and academic colleagues who helped them get their ideas across the finish line. The people we call innovators are being honest when they refuse to take sole credit for their work or shy away from hero stories.

It's a less-tidy narrative than the bathtub epiphany or an apple falling on someone's head. The real work of innovation is much more complicated.

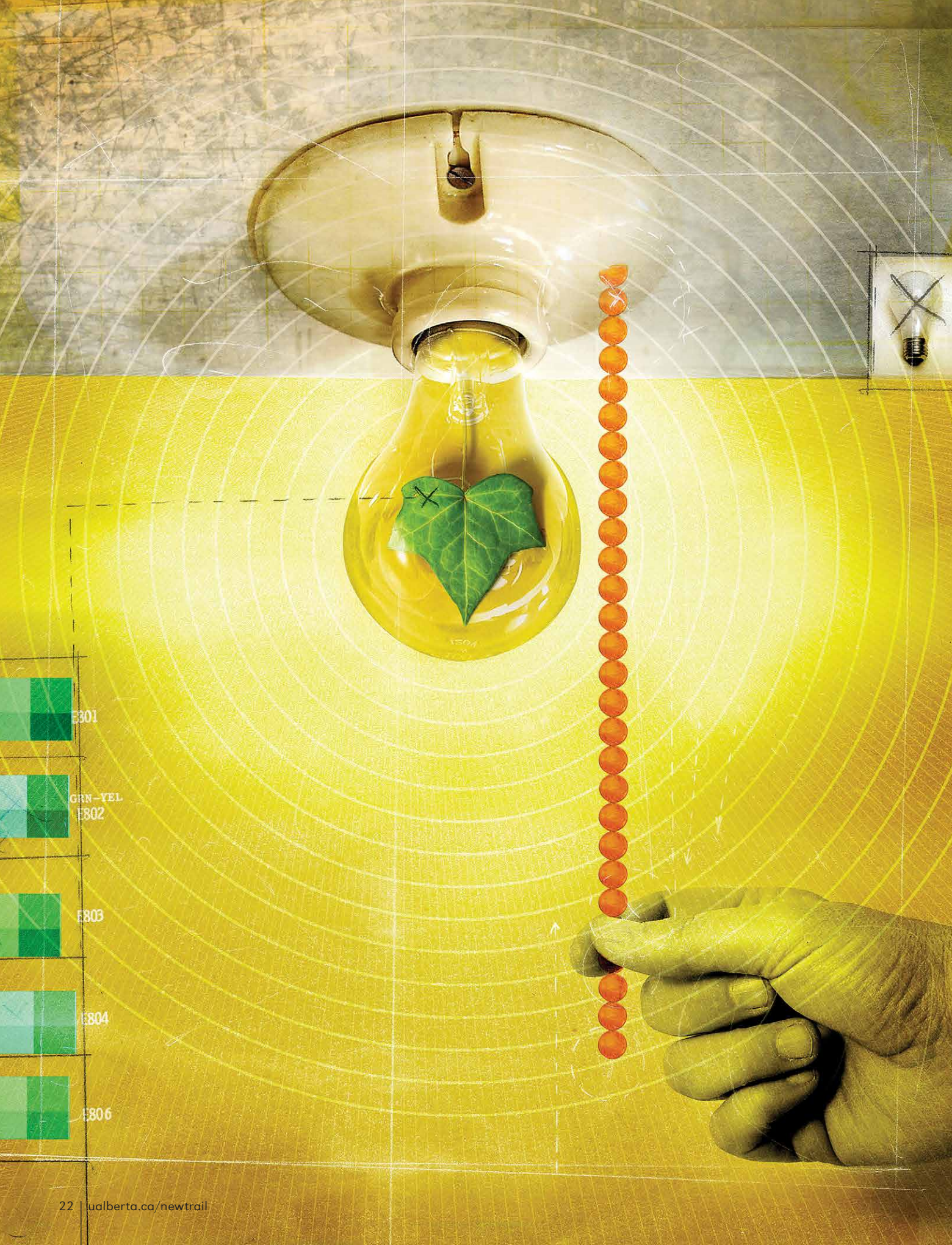
For Mushahwar, Canada Research Chair in Functional Restoration and director of the SMART Network, the real work of invention is about digging deep to discover the root of a problem.

"Innovation comes from getting a deep understanding of what the problem really is and understanding why what's being done isn't working," she says.

"Then, often, the solution is obvious."

One of the problems that caught her attention as a grad student in the early 1990s, and later as a U of A professor in biomedical engineering, was bedsores, also known as pressure ulcers or pressure injuries. Mushahwar was confounded that people in wheelchairs and hospital beds continued to experience devastating pressure injuries despite many new





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technologies to prevent them. Fancy as these technologies were, she realized, they were riffing on the same technique Florence Nightingale and her colleagues used 150 years earlier: turning patients every two hours. The thinking was that when someone is in one position for too long, the blood supply is cut off and, without oxygen, the tissue begins to erode, causing deep, gaping wounds that can become infected and even lead to death.

In 2004, her U of A team began looking at the problem from a new angle. They wondered why able-bodied people don't get pressure injuries, even when they sit for hours on end.

The answer was fidgeting: the micro-movements many of us make dozens of times an hour, even when we think we're sitting still. Her team determined that reduced blood supply was not the primary cause of pressure injuries. The real culprit is the way bones press against and deform muscles when a person sits or lies down for long periods.

Mushahwar's lab developed Smart-e-Pants, a garment that uses electrical stimulation to produce brief muscle contractions in areas of the body that develop pressure injuries, such as the buttocks and lower back. The pants, which look like a pair of boxer shorts, went through many iterations to make them comfortable to wear and easy to get on and off. They were tested in five centres to evaluate their safety, feasibility and acceptance by users, while clinicians, garment designers, scientists and engineers continued to adjust the technology. A version of the invention is marketed by Rehabtronics, a U of A spinoff company based in Edmonton, and has received approval from the Food and Drug Administration for sales in the U.S.

But Mushahwar's real white whale has been paralysis itself—one of the sources of pressure injuries and deep vein thrombosis. She has spent her career hunting for an implantable technology to allow the brain to communicate with the spinal cord (the bundle of nerves and tissue enclosed in the spine) as if it had never been injured. The intraspinal implant her team has invented delivers low levels of electrical current below the injured part of the spinal cord to trigger co-ordinated movement in the hips, ankles and knees. Getting the technology this far took the work of dozens of U of A experts across multiple fields, from neuroscience to computing science to engineering. It took many prototypes, failures, design changes, testing and retesting.

It also required a deep understanding of how the brain communicates with the body's muscles. That meant, essentially, having to translate two languages: the electrical pattern the brain sends down the spinal cord to limbs, and the electrical patterns the nerves translate to muscles to allow us to stand, walk smoothly and fidget. As the researchers discovered, the spinal cord is less

THE MINDS OF MAVERICKS

The university community is bursting with innovative people. Among them are entrepreneurs involved in the U of A's ThresholdImpact Venture Mentoring Service. VMS matches grads, faculty, staff and students who are starting or scaling up a business with mentors who can guide them on the often bumpy road from idea to market. They share their experiences and advice on pages 24 and 29.



MENTEE
Brittany Anderson
'12 BCom

Co-founder of Laser City, a laser tag and mini-paintball facility in Edmonton, and Codo, an online camp for kids developed during the pandemic



MENTEE
Deanne Beis
'03 BCom

Founding partner of Tenfold HR Solutions, which gives small to medium-sized companies access to a full human resources department



MENTOR
Ashlyn Bernier
'06 BSc, '11 PhD, '13 MBA

Chief operating officer at Samdesk, an AI-powered platform that monitors global disruptions and provides real-time crisis alerts



MENTEE
Rick Dowell
'03 BSc(MechEng), '09 MBA

Co-founder of Pontem Innovations, which provides customized analytics to businesses



MENTOR
Ashley Janssen
'06 BA

Co-founder and CEO of software company Code and Effect, and co-founder of Tadam, an app to help businesses organize meetings, agendas and minutes



MENTOR
Faaiza Ramji
'05 BCom

Founder of Field Notes, the first company in North America to make herbal liqueurs using peas

“Innovation comes from getting a deep understanding of what the problem really is and understanding why what’s being done isn’t working. Then, often, the solution is obvious.”

Vivian Mushahwar, Canada Research Chair in Functional Restoration and director of the SMART Network

like a telephone wire and more like a game of telephone — the spinal cord adds messages along the way that allow us to walk with a smooth, natural gait.

Mushahwar’s research these days takes place in the SMART Network at the U of A, a centre for multidisciplinary research dedicated to neural injuries and diseases. It is home to one of the largest and most diverse collaboration groups in Canada, bringing together researchers from engineering, biology, neuroscience, rehabilitation medicine, computing science, social science and other fields.

In her lab, Mushahwar is surrounded by gadgets that give the aura of a quintessential inventor: models of robotic hands, whiteboards spilling over with equations that look like hieroglyphics to the untrained eye. But the most important factor in her research, she says, is her colleagues.

“You can’t know it all. That’s why you have a lot of collaborators. And that’s why the SMART Network is so exciting to me because it brings all this expertise together.”

At a university, some of the most important work is in the invisible. Not in the high-tech gadgets or potential cures we see in the news but in unravelling old ideas and weaving bold new ones. So much of what we encounter every day as humans exists in this realm. How best to educate and support our children so they thrive. How to run a better business. How to formulate laws that protect society and individual rights. What history has to teach us. How to bear up in a changing, sometimes alienating, world.

This kind of research and scholarship requires someone to step back and question the way we think and act. Essentially, someone has to be willing to challenge assumptions.

While new technologies garner public attention, technology in itself isn’t always a solution, as educator **Joanne Weber**, ’84 MLS, discovered. She points to the cochlear implant, which promised to revolutionize deaf people’s abilities to communicate. But after teaching deaf high school students for 15 years, Weber was seeing Grade 12 students — with and without implants — graduate with the language skills of fourth-graders.

“Students were being deprived of language,” says Weber, now an assistant professor in the U of A’s Faculty of Education and the country’s first Canada Research Chair in Deaf Education.

Weber was teaching in resource classrooms in Saskatchewan when she noticed that students from poorer or newcomer families either

WHAT HAVE YOUR VENTURES TAUGHT YOU ABOUT INNOVATION?

“

Get the idea out into the wild and test it. Accept that being wrong, changing your mind when presented with new information, and iteration are not only part of innovation but necessary for it.”

Ashlyn Bernier

“

Innovation means creativity, being brave and trying something new. We ask everyone on our staff to embrace it. It can be something as simple as asking for a stepstool in the backroom to make things more efficient.”

Brittany Anderson

“

If you want to be innovative, don’t try to innovate. Just be curious, ask a lot of questions and don’t be discouraged if you don’t find an obvious new idea.”

Faiza Ramji

“

Innovation doesn’t have to be an earth-shattering discovery. It can also be an “aha” moment that changes the way you do things from the way you did them before.”

Ashley Janssen

“

Have an open mind and a thorough understanding of the overall objective. When day-to-day frustrations present themselves, remember to consider that as an opportunity for innovation.”

Deanne Beis



“The hardest part has been advocating for myself and my technology. ... That part is much harder than the science. The science is lovely—it’s fun.”

Lara Mahal, chemistry professor and Canada Excellence Research Chair in Glycomics

hadn't received cochlear implants or weren't getting proper support to maintain them, such as speech therapy and regular meetings with an audiologist to adjust the device. Deaf students who could not audibly communicate were considered failures and were taught American Sign Language as a last resort. As a result, students who communicated through sign language were marginalized, cut off from their deaf peers who could speak English out loud.

Perhaps more profoundly, Weber felt students were missing out on the rich life that communication allows: the joy in expressing oneself fully and the depth of connecting and building deep bonds with others through language. Her students weren't able to develop fully as a community.

Weber enrolled in a PhD program to find a better way. She came to realize that binary thinking was holding her students back: not only the binaries between hearing and deaf students but between deaf students themselves. The students who were able to use sign language and those who didn't weren't in conversation with each other.

She decided to look at the problem from a different angle.

Her dissertation, completed in 2018, suggested a radical new way to teach deaf students and to research teaching methods for deaf children. The approach explodes binaries between hearing and non-hearing people. It urges teachers and researchers not to compare deaf students' success with that of hearing students. For her dissertation, Weber put her theory to work in a series of theatre productions in Regina that included students and adults of all hearing abilities. She found that students not only expressed themselves better, they also communicated across the signing binary that once separated them. Her study of the theatre



ILLUSTRATION BY DAVID VOGIN



The university is a crucible

for solving problems. But researchers aren't business experts, and they're pretty busy just doing their research.

How can their promising inventions be put to work?

That has long been a goal at the U of A: to get the results of research out into the world to improve lives, enrich communities and boost economies.

A pre-accelerator program led by industry is the latest addition to those efforts. Innovation Masterminds Edmonton, or imYEG, is a partnership between the university and Brass Dome Ventures, headed by **Christopher Micetich**, '86 BEd.

ImYEG works with inventors who have created products or services that can benefit society. The goal is to help them overcome common barriers in

the early stages of creating a company and get their product or service to market.

"There's a wealth of innovation happening at the university, and initiatives like imYEG give us an opportunity to extract that out of our corridors and labs and get it into the business world through commercialization," says **Deborah James**, '89 BSc(Pharm), '96 PhD, U of A associate vice-president, innovation and commercialization.

Researchers in imYEG are matched with and mentored by a team of successful entrepreneurs, business experts and investors who help advance the new ventures. Since the program launched in January 2021, 18 U of A spinoff companies have participated, seven new jobs have been created and five ventures are ready for investment in 2022.

The program complements other business and commercialization initiatives at the U of A, such as eHUB, which supports student entrepreneurship, the University of Alberta Health Innovation Hub, Technology Transfer Services and ThresholdImpact Venture Mentoring Service, a business mentorship program for alumni and others in the U of A community.

The pre-accelerator program is designed to expand to Alberta's other post-secondaries.

GETTING IDEAS INTO THE WORLD

U of A smooths the path from research to business

By Karen Sherlock



production, published in *Sign Language Studies*, also describes how deaf students are misunderstood by non-deaf people around them, even those who can sign.

At the U of A, Weber plans to do more research on how arts-based approaches can support deaf students' dialogue and self-expression and to share that knowledge with teachers-in-training.

"I know there has to be a different way of approaching this. We need to allow deaf and hard-of-hearing youth to express their stories without being oppressed by the ways they're being told they should be."

It can be immensely gratifying to explore the boundaries of knowledge, share ideas across domains, feel the frisson of discovery, see your work recognized by your peers and, if all goes well, watch the impact of your research on people and the world.

But challenging accepted wisdom and introducing new ways of doing things can be difficult. There are so many scientists in the world working on their own theories and approaches, often in different languages. How do you get anybody to listen to yours?

Lara Mahal knows how hard that can be.

In grad school, Mahal got hooked on an approach that felt different from what others in her field were doing. She fell in love with the glycome, the vast array of sugars and carbohydrates that coat our cells. She was fascinated by their chemistry and their role in human biology. It seemed increasingly obvious to her that the glycome could unlock solutions to some of the most elusive health challenges of our time: cancer, diabetes, even the common flu.

But the glycome was missing from the "omics boom," Mahal says, the exploding popularity of sciences like genomics and metabolomics, the hyper-precise studies that explore the body's molecules—genes, metabolites and proteins—and the role they play in our health.

While the world huddled around the final sequencing of the human genome in the early 2000s, Mahal got to work connecting the dots between the glycome and human diseases. Her research led to the discovery that certain kinds of sugars called glycans trigger the rapid, devastating cell growth of metastatic cancer, the kind of cancer that spreads to other parts of the body.

But glycans are complicated, a constellation of enzymes and substructures, any of which could potentially be a factor in triggering disease. To tackle such a complex puzzle, she realized, she had to attract the attention of the larger scientific community. And to do that, she needed harder data on the glycome: a way to map out the tangle of sub-components that make up these fatally overlooked molecules. Then she could point to the most likely suspects and say, "Let's start here."

"I could talk until I was blue in the face, or I could figure out a way to get the data," Mahal reflects.

So, she invented a new technology.

DID FAILURE CONTRIBUTE TO INNOVATION IN YOUR EXPERIENCE?

“

Being an entrepreneur has changed my relationship with failure. It's just something that happens, and you learn from."

Brittany Anderson

“

If you aren't failing, there is zero chance you're innovating."

Ashlyn Bernier

“

Failure is a great teacher and forces you to examine how a different outcome could have been achieved. The next time a similar opportunity arises you are going to look at things differently and try something new, which is really the core of innovative approaches."

Rick Dowell

“

Absolutely. I think most innovation is founded in failure. Failure, combined with reflection and resilience, is what pushes us to try something new. Over and over."

Ashley Janssen

“

Outside forces and roadblocks definitely created the groundwork for innovation. Without the COVID-19 pandemic, we may have continued down the path of a dairy alternative and would not have gotten to market with such an appealing product."

Faiza Ramji

A decade ago she created lectin microarrays, a complex lab tool that allows researchers to view these molecules in a whole new way. The technology revolutionized the study of glycomics. For the first time, scientists could parse the distinct structures and related enzymes that make certain sugars and carbohydrates significant to our bodies and, more importantly, significant to the ways our bodies create diseases like cancer or respond to viruses and illnesses such as the flu.

In other words, Mahal created a method for other researchers to view problems like never before—to allow them to see what she was seeing. It's not the kind of invention we typically think of: this was an idea that opened new doors instead of definitely and triumphantly closing them. At times, Mahal has struggled to get other scientists to recognize the huge potential of unlocking the glycome and the technology she invented to do that. Sometimes it has been a struggle even to be recognized as the inventor.

"The hardest part has been advocating for myself and my technology. I mean, I'm good at it. But I hate it. That part is much harder than the science. The science is lovely—it's fun," she says.

"I love the science and I love my students. I want both to be successful. And they can't be successful if no one knows who I am."

She's cognizant, too, of the specific challenge of advocating for a challenging idea as a woman. You can't come across as "too preachy," she says, but you can't shrink, either. Not advocating for yourself is not an option: success as an academic (not to mention funding) depends on what you can show for your work. Plus, people can't use the theories and technologies that you've spent decades developing if they've never heard of them.

Over the course of her career, Mahal has found a community of collaborators, first in the United States and more recently at the U of A. In 2019, she was recruited to the university as Canada Excellence Research Chair in Glycomics and joined GlycoNet, a network hosted at the university that brings together glycomics experts from across Canada.

She and her collaborators are working to unpack the glycome's role in disease. Her lab has already teased out sugar's role in causing some people to die from the flu and how

THINK LIKE A DESIGNER

Unlock the innovator within you with these steps

By **Lisa Szabo**, '16 BA

There are problems, and then there are *wicked* problems. The former can often be tackled with elbow grease, good advice or help from Google. The latter are more complex.

Wicked problems, like how to live sustainably or raise a child in today's world, are difficult or next to impossible to solve because they have no single right-or-wrong answer—only a sea of good and bad options. So, how do we find the best ones?

Design thinking has emerged as a way to unlock innovative thinking and help people come up with new solutions to complicated problems. It's usually a five- or six-step approach to make the creative process more deliberate and bust people out of ingrained thought patterns that can hold back creativity.

"When you ask someone to innovate and they don't have an initial solution, that's a tall order—especially when there are multiple paths to multiple solutions," says **Justin Pritchard**, '13 BDes, '15 MDes, sessional instructor in the Faculty of Arts and co-creator of the Design Thinking workshop offered by the Faculty of Graduate Studies & Research.

"Having a framework or process makes the messiness less messy and eliminates that initial barrier of being overwhelmed."

Artists, entrepreneurs and business people often use the design method to dream up new products or services. But it has a place in daily work and personal lives, too. Design thinking can help you write your dissertation, decide between two jobs or plan your retirement.

Pritchard outlines the framework to help tackle tough problems in your own life.

ILLUSTRATION BY DAVID VOGIN



1 DEFINE

Before you can brainstorm solutions, you need to be clear about the problem. What are you trying to solve? For whom are you trying to solve it? What are the roadblocks that might

get in your way? It seems as though it should be simple to define the issue and move on to the next step. But Pritchard says complex problems have layers: sometimes solving one problem exposes others. You also want to define some of the constraints. Things like budget and time restrictions are common barriers—but so are your own thought

patterns. “If I’m not aware of deliberately acknowledging who I’m designing for, I could slip into the habit of just using my preconceived ideas,” he says. Be prepared to trade in habitual thinking for openness and curiosity about the task and the people involved.

2 RESEARCH

Research will help you understand the needs of the people or person for whom you’re problem-solving. Sometimes that person is you. If you’re a young grad trying to figure out your career path, part of your research will likely be scoping out different career options within a field of interest. But it might also be digging into the details of your daily life and thinking about your strengths and interests and what you’re willing to give up. Are you OK with shift work? Do you like working with people or do you prefer to work alone? Instead of letting your own inherent thoughts about the problem drive your solution, research tells you about the environment you’re working in and what your audience really cares about.

3 IDEATE

“Ideation is where the juicy stuff is,” Pritchard says. This is the phase where you generate a ton of ideas and hope some unexpected ideas emerge. There are entire books devoted to this topic, but you’ve likely used simple versions without realizing it—such as mind-mapping, where you begin with a central theme or idea and map out a spray of associations around it. Pritchard says that close to the centre the associations will be fairly obvious, but as you get farther out the links become more unusual—and interesting. When you start to see connections between

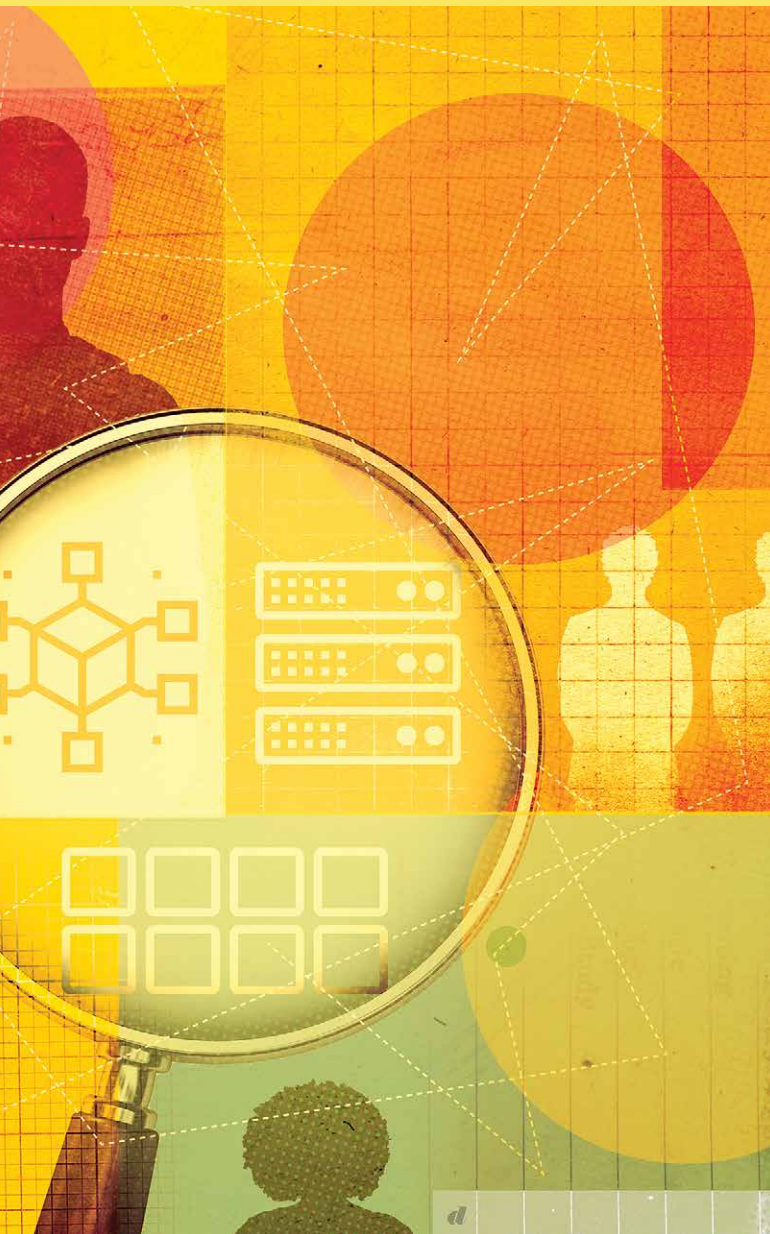
things that might not have seemed related, you unlock a world of new solutions. “That is really where creativity lies.” You can brainstorm on your own but Pritchard suggests brainstorming as a group so you can bounce ideas off one another. But beware of evaluating ideas prematurely; you never know what might spark a better one later in the process.

4 PROTOTYPE

“Prototype” might conjure images of 3D-printed gadgets but it’s also a verb. “Prototyping is about testing your ideas with intention,” Pritchard says. After you’ve done your research and chosen your best couple of ideas, you’ll need to find out if they work. For prospective homeowners, for example, this step might be renting a home in a given neighbourhood for a few months to see if it’s a lifestyle “fit.” As with any test, you might not get the answer you expected and, chances are, new problems will crop up. The learnings from the prototype phase will help you tweak your idea or decide on another one altogether.

5 IMPLEMENT

Once you’re satisfied with the idea, it’s time to put it into action. Maybe you’ve decided on a design for your fitness app or have finally figured out the plot for that novel you’ve been wanting to write. The design thinking process culminates when you implement the best solution to the problem you started with. Keep in mind that you can continue to learn about your audience, evaluate your ideas and test changes even after the “final” stage. By nature, wicked problems ebb and flow as circumstances change, and new solutions will always be needed. There’s no end to innovation.



“Even a beautiful failure has value. Somebody else might pick that up and use it later, in a way you can’t possibly conceive.”

Michael Taschuk, founder and chief technology officer of G2V Optics

sugars factor into deadly melanoma, to name just two of the threads she’s following. Both projects have given other researchers clearer targets to develop cures. Recently, in collaboration with U of A hematology professor **Bruce Ritchie**, ’76 BMedSc, ’78 MD, she is trying to determine if the glycome plays a role in making COVID-19 deadlier for some people than others. This is all the result of \$20 million that comes with the research chair appointment, which will fund Mahal and her new lab of 24 researchers for seven years. It means she can laser-focus on the field that has fascinated her for her entire career.

“This will allow us to take our glycomics work to the next level.”

Michael Taschuk, ’00 BSc(EngPhys), ’07 PhD, invented lights that can grow plants better than the sun itself.

It’s an impressive statement and one that has massive implications for tackling global food shortages. With the right lights—such as those produced by Taschuk’s company, G2V Optics—greenhouses can grow larger and more nutritious plants by extending growing seasons, shifting geographical range and creating ideal light conditions.

Taschuk is quick to note that the flashy product doesn’t tell the story of the long road it took to get here. The research alone took nearly five years of collaboration, trial and error and tiny adjustments to more closely render sunlight while keeping the device itself small enough for the user.

“I’ve been through an incredible number of failed attempts to make that work,” he says. “There’s an incredible number of potential eureka’s, most of

which turn out to be wrong.”

His path to invention began after he finished a bachelor’s degree and PhD. As an experimental physicist and research associate, Taschuk worked in the lab of Jillian Buriak, Canada Research Chair in Nanomaterials for Energy, to improve the light used to test organic solar cells. While there, he developed a technology that used LEDs to simulate the sun’s wavelengths better than the heat lamps used at the time.

The simulated sunlight worked on plants as well, he discovered, and botany professors at the university became interested in using the technology in their own research. It spurred Taschuk to found G2V Optics in 2015. The company sells light simulators to food producers and other users, including researchers who need a high-quality sun simulator to study things like new sunscreens, vehicle coatings and the effect of sending materials to space. The company continues to collaborate with U of A researchers, including biology professor Glen Uhrig, who uses the technology to understand how farmers can optimize plant growth in different climates around the world.

Innovators everywhere will tell you it’s important to become comfortable with failure, and Taschuk is perhaps even more comfortable than most.

As an experimental physicist by training, he knows that failure is not only inevitable when testing new theories—it’s essential to expanding scientific thought on a grand scale. The failure of one idea or theory can open the door to unexpected new directions or offer an invaluable insight for another researcher.

“Even a beautiful failure has value. Somebody else might pick that up and use it later, in a way you can’t possibly conceive,” he says.

But founding a business forced him to reckon with failure in a whole new way.

“The truth of what you’re after changes,” he says. “It’s no longer about whether something is technically true—it’s about its value to a customer.”

That was a tough leap. Starting a business meant dealing with a whole new host of what he calls “deeply uncertain externals.”

Then he discovered another U of A community to support him. He joined the ThresholdImpact Venture Mentoring Service, which matches experienced business leaders with alumni, faculty, students or staff who are starting a business (see more VMS participants on page 23). The network of mentors, including tech-transfer experts and entrepreneurs, didn’t solve problems for him but did increase his confidence to tackle them on his own, he says.

It was the key to success.

“The thing that is so special about that program is that this group of people are unequivocally on your side.”

So how does the world create more Taschuks, Mahals, Webers and Mushahwars to help solve problems, from global to individual?

It’s hard to imagine a place better suited to support the long game of research than a university, where its role is to interrogate problems, understand them deeply and work together to explore new answers and new directions.

Today, universities—especially a research university like the U of A—also see their role as helping translate that new knowledge into tangible products or programs that can help solve some of the world’s intractable challenges.

Researchers’ work involves butting up against things larger than they are—it means rethinking theories and dogma as old as the university itself. It means failure and lots of it. The work of research is fundamentally humbling.

It is also, if you think about it, rooted in a sense of hope. The people who hunt for new ways of doing things have to zero in on big, thorny problems and feel the gravity of them ... but also believe that humans, together, can find solutions to the seemingly impossible. ■

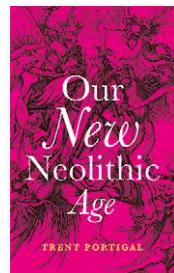
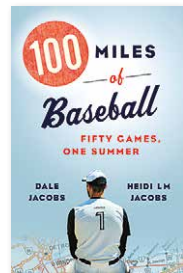
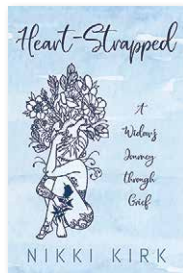
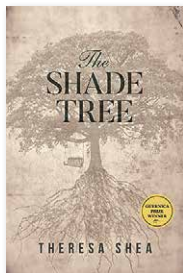
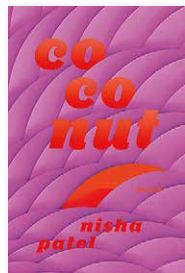
trails

WHERE YOU'VE BEEN AND WHERE YOU'RE GOING

Wildfire season in Canada is only a few months away, and fire social scientist **Amy Cardinal Christianson**, '03 BSc(Hons), '11 PhD, hopes to make an impact with a wildfire evacuation guide that she co-wrote. The book explores the evacuation experiences of seven First Nations and offers resources to help Indigenous communities and agencies better prepare for these emergencies.



Books



From fake news to baseball to the puzzling history of word games, here are the latest reads penned by U of A grads.

Compiled by Sharsvarnee Kundasawmy and Kate Black, '16 BA

▼
BIOGRAPHY
McClelland Barclay: Painter of Beautiful Women and More
by Patricia Gostick, '77 MA, self-published

Gostick offers a retrospective of the illustrator's career from the art deco period until his death during the Second World War.

▼
LAW
Daniels v. Canada: In and Beyond the Courts
Edited by Chris Andersen, '05 PhD, and Nathalie Keramoal, *University of Manitoba Press*

Scholars and professionals examine the influence of Supreme Court of Canada cases in shaping Canadian perceptions of Indigeneity.

▼
POETRY
Coconut
by Nisha Patel, '15 BCom, '15 Cert(Leadership), *NeWest Press*

National slam poetry champion Patel explores themes of racism, empowerment, love and grief through the lens of her diasporic identity.

▼
FICTION
The Shade Tree
by Theresa Shea, '97 PhD, *Guernica Editions*

Through three women inextricably linked by tragedy, *The Shade Tree* illustrates racial and sexual politics

in the United States from 1910 through the civil rights movement of the 1960s.

▼
ART
Very Fine Art Projects: For Artists and Educators
by Rayma Peterson, '72 BSc, '76 Dip(Ed), '77 BEd, '03 Dip(Ed), self-published

Peterson outlines 29 hands-on art project ideas, ranging from drawing and watercolour painting to tissue paper collage.

▼
SOCIOLOGY
Canadian Society in the Twenty-First Century: An Historical Sociological Approach (Fourth Edition)
by Trevor W. Harrison, '93 PhD, and John W. Friesen, *Canadian Scholars*

The newest edition of this textbook examines the impacts of nationalism, neo-liberalism, cultural values and the COVID-19 pandemic on Canadian society.

▼
SCIENCE
Entomovectoring for Precision Biocontrol and Enhanced Pollination of Crops
edited by Guy Smaghe, Otto Boecking, Bettina Maccagnani, Marika Mänd and Peter G. Kevan, '68 MSc, '70 PhD, *Springer Nature Switzerland AG*

This book examines the different applications and processes of entomovectoring,

a practice that uses pollinating insects to spread substances that keep plant pests and diseases under control.

▼
POETRY
Heart-Strapped: A Widow's Journey Through Grief
by Nikki Kirk, '10 BSc(HEcol), self-published

Kirk vividly depicts grief, loneliness and enduring love after the unexpected death of her husband.

▼
SHORT FICTION
The 'Starting Out' Years
by Charlene Brown, '63 BSc, self-published

This collection of stories revolves around six young women, from 1898 to the present day, each on the precipice of their adult lives.

▼
SELF-HELP
The Power of Surprise: How Your Brain Secretly Changes Your Beliefs
by Michael Rousell, '74 BEd, *Rowman & Littlefield*

Magicians, comedians and filmmakers all draw on the power of surprise to make an impact; Rousell draws on research to show how using surprise strategically can give us all an edge.

▼
JOURNALISM
Trusting the News in a Digital Age: Toward a "New" News Literacy
by Jeffrey Dvorkin, '69 BA(Hons), *Wiley-Blackwell*

Written for journalism and media studies students, Dvorkin's book draws from his experience as a journalist,

editor and ombudsman at National Public Radio to help learners suss out fake news.

▼
MEMOIR
100 Miles of Baseball: Fifty Games, One Summer
by Heidi L.M. Jacobs, '92 BA(Hons), '93 MA, and Dale Jacobs, '89 BA(Spec), '93 MA, *Biblioasis*

A couple sets out to watch 50 baseball games within 100 miles of their home in hopes of rediscovering their passion for the game and each other.

▼
ECONOMICS
Capitalism Perverted: Exposing the Sources of Income Inequality
by Wayne D. Armitstead, '58 Dip(Ed), '60 BPE, '61 BEd, self-published

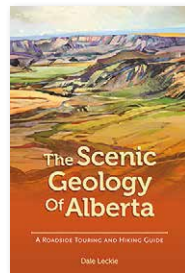
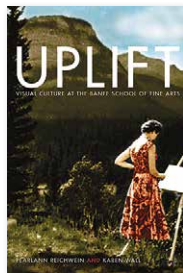
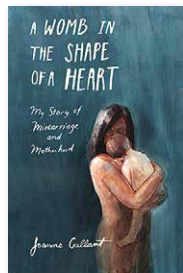
Armitstead unpacks the root causes of the 2008 financial fiasco and what it will take to prevent another one.

▼
NATURE
Beavers: Radical Rodents and Ecosystem Engineers
by Frances Backhouse, '83 BSc(Spec), *Orca Book Publishers*

Beavers immerses tween readers in the world of these semi-aquatic creatures and their impact on the ecosystem.

▼
FICTION
Chasseur au harpon
by Markoosie Patsauq, translated by Valerie Henitiuk, '85 BA, '88 MA, '00 MA, '05 PhD, and Marc-Antoine Mahieu, *Les Éditions du Boréal*

Translators Henitiuk and Mahieu revisit *Harpoon of the Hunter*, considered the first



published Inuit novel, in a new French-language translation. A European edition is also available as *Kamik: Chasseur au harpon*, published by Éditions Dépaysage.

▼
FICTION
Our New Neolithic Age
by Trent Portigal, '12 MA, self-published

In this satirical novel, society sees a controversial new economy come into play, culminating in cataclysmic conflict when a struggling museum accepts a gift from a corporate donor.

▼
ESSAYS
Midlife
edited by Sarah Chan, '03 BA, and Jhenifer Pabillano, '04 BA, self-published

From lamenting the loss of the VHS to asking questions about death and aging, *Midlife* captures musings on growing older from 27 colleagues who met at *The Gateway*, the U of A's student newspaper.

▼
FICTION
Light on a Part of the Field
by Kevin Holowack, '16 BA, '20 MA, NeWest Press

An Alberta couple is struck by lightning, triggering a Prairie saga spanning art, mental illness and deep family wounds.

▼
BIOGRAPHY
Writing the Empire: The McIlwraiths, 1853–1948
by Eva-Marie Kröller, '78 PhD, University of Toronto Press

Kröller details the personal and published writings of three generations of the

illustrious McIlwraith family and investigates the interplay between life writing and imperial history.

▼
MEMOIR
Happy Faces Only
by Karen Klak, '86 BCom, self-published

Klak chronicles her journey as the mother of a child facing an inoperable brain tumour.

▼
MEMOIR
A Womb in the Shape of a Heart: My Story of Miscarriage and Motherhood
by Joanne Gallant (Gomes), '11 BScN(Hons), Nimbus Publishing

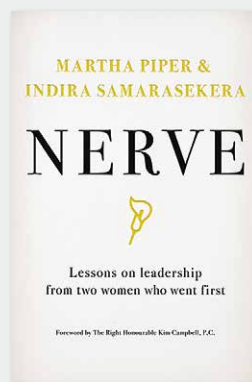
A pediatric nurse navigates the trials and joys of new motherhood while grappling with the heartache of child loss.

▼
MEMOIR
Say Please and Thank You and Stand in Line
by Dany Assaf, '91 BCom, Sutherland House Books

Aptly subtitled, "One Man's Story of What Makes Canada Special, and How to Keep It That Way," Assaf tells the stories of a four-generation Canadian Muslim family, from discrimination to his own success as a Bay Street lawyer.

▼
HISTORY
Uplift: Visual Culture at the Banff School of Fine Arts
by PearlAnn Reichwein, '88 BA, and Karen Wall, '98 PhD, University of British Columbia Press

Uplift reveals a multi-layered portrait of the Banff School of Fine Arts and its legacy in Canadian history and culture.



▼
LEADERSHIP
Nerve: Lessons on Leadership From Two Women Who Went First
by Martha Piper, '06 LL.D (Honorary), and Indira Samarasekera, '16 DSc (Honorary), ECW Press

The first—and only—female presidents of the University of British Columbia and the U of A reflect on their careers and share what they've learned from their experiences as leaders.

▼
MEMOIR
True to the End: A Journey into the Burdens and Risks of Executorship
by Germaine Dechant, '80 BScN, '89 PostgradDip, '93 MHSA, self-published

This personal reflection on becoming the executor of a late friend's estate sheds light on friendship, grief and resilience.

▼
BIOGRAPHY
Ted Reeve: The Bard of the Beach
by Frank Cosentino, '69 MA, '73 PhD, self-published

Cosentino offers a look into the life of Ted Reeve—an icon of Canadian sports and journalism—as told through the words of beloved characters from his newspaper columns.

▼
TRAVEL
The Scenic Geology of Alberta: A Roadside Touring and Hiking Guide
by Dale Leckie, '77 BSc(Hons), self-published

Leckie provides a detailed accompaniment for guiding road trips through Alberta's picturesque landscapes.

▼
MEMOIR
Forcing the Hand of Justice
by Joel Lefevre, '05 BA, self-published

Lefevre recounts his family's fight for justice in the aftermath of his brother's death in a hit-and-run.

▼
GAMES
The Whirl of Words: Puzzling Past and Present
by Jonathan Berkowitz, '76 BSc(Hons), '79 MSc, self-published

Berkowitz unpacks the history and allure of word games in *The Whirl of Words*, which also includes tips and practice games for readers.

▼
PSYCHOLOGY
The Power of Us
by Jay J. Van Bavel, '02 BA, and Dominic J. Packer, Little, Brown and Co.

Van Bavel and Packer draw on history and research to demonstrate how our changing identities can inspire personal and social change.

▼
MEMOIR
To B&B or Not to B&B: Deromanticizing the Dream
by Sue Marko, '95 BA, self-published

Marko's insider look at running a vacation rental in the Rockies promises an amusing and alarming glance into the realities of the business.

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Compiled by **Kate Black**, '16 BA

Class Notes

1960s

'68 **Michael Dunne**, BCom, hosted the 10th annual Beautiful Run BC in August. The five-kilometre run has raised more than \$145,000 to support children living at the Beautiful Gate child-care centre in Maseru, Lesotho. The next Beautiful Run will take place at Tynehead Regional Park in Surrey, B.C., on Aug. 6, 2022. For more information, visit beautifulrunbc.org.

'69 **John Blatherwick**, BSc, '69 MD, wrote in with exciting degree news for him and his wife, **Carol Blatherwick**, '69 MD, '21 BMedSc: an honorary doctor of science from Simon Fraser University for John and a bachelor of medical science for Carol. Carol did not receive her bachelor's degree alongside her medical degree in 1969 because the faculty did not recognize a physics course she took prior to entering medical school as a prerequisite. (At the time it was usual to enter

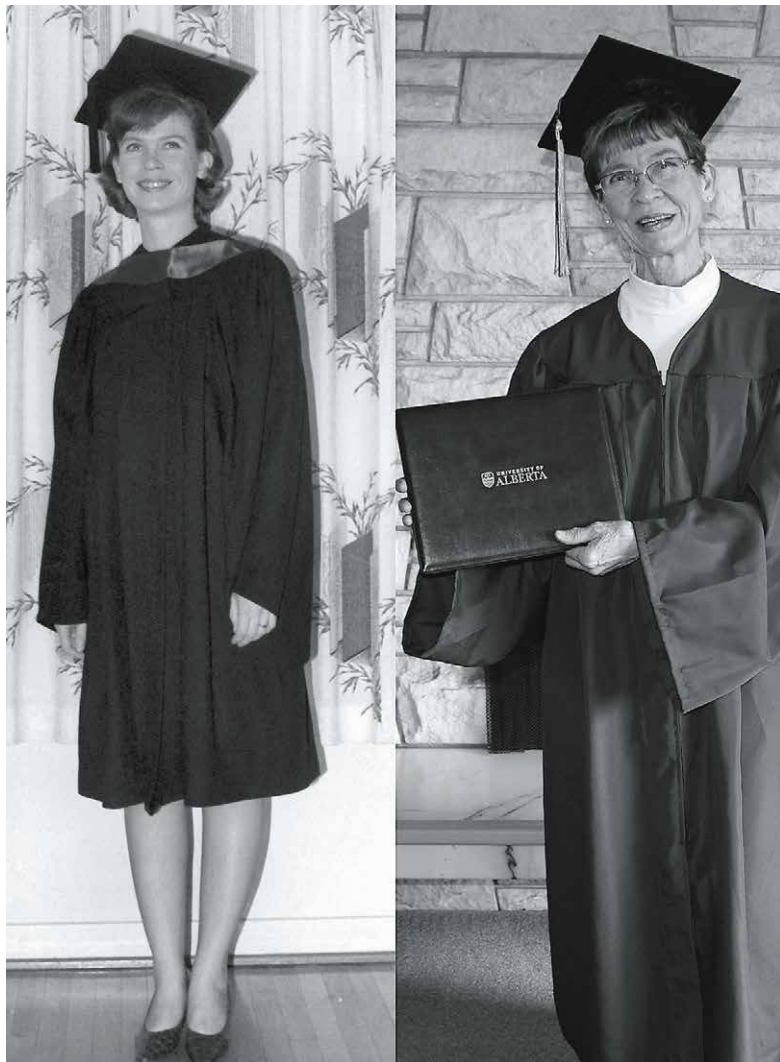
medical school without first completing a bachelor's degree.) In June 2021, the U of A's Faculty of Medicine & Dentistry finally conferred Carol her bachelor's degree — more than 50 years after she and John graduated from medical school!

'69 **Adrian O'Sullivan**, MA, has been appointed an honorary professor of intelligence history at Bishop Grosseteste University in Lincoln, England. He is currently conducting an inquiry funded by the Society of Antiquaries of London into dress, disguise and deception in the Second World War. He is also at work on a book about espionage and counterintelligence in Turkey.

1980s

'83 **Norman Daley**, BCom, received an honorary degree from Thompson Rivers University in August 2021, where he was recognized for his extensive business contributions and volunteer

Carol Blatherwick



service in Kamloops, B.C. Daley is a partner with Grant Thornton LLP and has held leadership positions at many local arts, community and



Norman Daley

sporting events, including the Kamloops Centre for the Arts Society and the 2016 International Ice Hockey Federation Women's World Hockey Championship.

'84 **Steven Knudsen**, BSc(CompEng), '87 MSc, a U of A engineering professor, wrote to share how the faculty supported students during the COVID-19 pandemic. Alongside students, lab technicians, instructors and professors such as electrical and computer engineering chair **Ivan Fair**, '85 BSc(ElecEng), '89 MSc, Knudsen assembled and sent more than 2,000

“kitchen table” lab kits to U of A electrical engineering students across Canada and around the world. The kits ensured students still received hands-on learning opportunities while classes were moved online. Knudsen writes: “I may be biased, but I think this is a great story to illustrate the can-do spirit the U of A has shown throughout the pandemic.”

'85 **Kevin Hanson**, BA(Hons), is the president and publisher of Simon & Schuster Canada, where he has published numerous bestselling Canadian authors including **Beverley McLachlin**, '65 BA, '68 LLB, '68 MA, '91 LLD (Honorary), Peter Mansbridge, Clara Hughes, Will Ferguson and Rupi Kaur. “My U of A years provided me with the foundation to think deeply and pursue my curiosities, both skills that have fostered my publishing path,” writes Hanson.

'86 **Anthony Fulmes**, BSc(Spec), has retired after 30 years in the Canadian Army, following injuries he received while serving in Sierra Leone and Sudan and for which he was awarded the Sacrifice Medal. In addition to those two deployments, Fulmes served in Bosnia and Syria. Now living in Placencia, Belize, with his wife, he has established a company renting guest houses while providing part-time sommelier services to high-end resorts in the country.

'86 **Janet McElhaney**, MD, received the 2020 Jonas Salk Award from March of



IN THE NEWS

A First for Fields

Tony Fields, '74 MD, '16 DSc (Honorary), a celebrated oncologist and U of A professor emeritus, has become the first chancellor of MacEwan University in Edmonton. Before his retirement from Alberta Health Services in 2011, Fields was vice-president of cancer care and was named one of Alberta's 100 Physicians of the Century. In his new role, he will help increase the university's profile and realize its vision. “It is easy to look at the world and wring our hands about the present or worry about the future,” Fields says. “It is important to remember that positive change is something we must choose and work for.” —EDMONTON JOURNAL

Dimes Canada. **McElhaney**, a geriatrician and the scientific director at Health Sciences North Research Institute in Sudbury, Ont., was recognized for her seminal research on vaccine-preventable disability—a term she coined to describe using immunization as a tool to reduce age-related frailty.

'87 **Timothy Caulfield**, BSc(Spec), '90 LLB, and **Tim Bowling**, '97 MA, were recognized at the 2021 Alberta Literary Awards held in



DID YOU KNOW?

The “Ghost of Emily” supposedly haunts Corbett Hall, where she has reportedly been seen drifting across the auditorium stage. According to legend, she is a spectre from the 1930s, when the building was a training ground for teachers at the Edmonton Normal School.

June. Caulfield received the Wilfrid Eggleston Award for Nonfiction for his recent release, *Relax, Dammit!: A User's Guide to the Age of Anxiety*. Bowling's piece, "The Floating Library," which was originally published in *Queen's Quarterly*, won the James H. Gray Award for Short Nonfiction.

1990s

'90 **Rebecca Calder (Saul)**, BA(Hons), '93 MA, was named one of the most influential people in gender policy by *Apolitical*. The website recognized her nearly 30 years of research, policy and field experience around the world as a feminist anthropologist and advocate for girls' and women's empowerment. In 2019, Calder co-founded Kore Global Consulting, a feminist, women-led consultancy practice. She is also a board member of KadAfrica, a social impact enterprise that works with adolescent girls and young women in Uganda.

'91 **Ish Uttam**, BSc(ElecEng), has earned the Certified Business Intermediary designation from the International Business Brokers Association. The designation is granted to individuals who have completed the required coursework, passed a competency exam and agreed to uphold the association's ethics and standards. Uttam has served as CEO at

Rebecca Calder

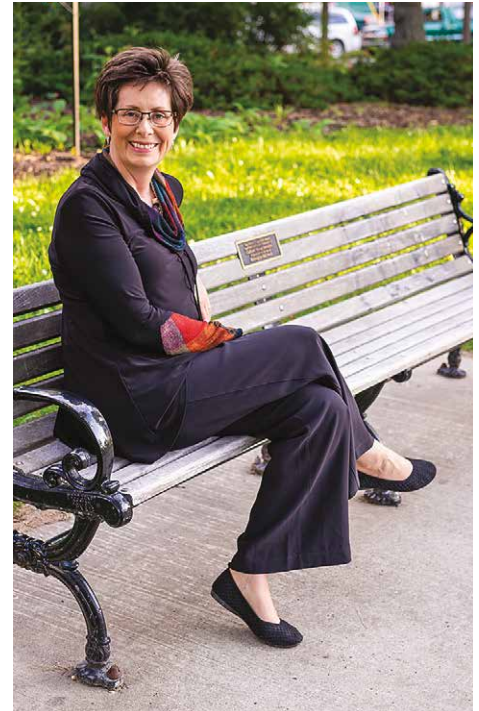


Edmonton's Sunbelt Business Brokers since 2017.

'94 **Karen Willsey**, BSc(Spec), has combined her knowledge of stretching and her love of technology in WeStretch, an app that pairs more than 5,500 physiotherapist-approved stretching exercises with artificial intelligence to build custom stretching routines. She also had the opportunity to speak at an Alberta Machine Intelligence Institute event to share what she has learned from creating WeStretch. Willsey, a former Pandalas gymnast, has thoroughly enjoyed app development and has big plans for future apps.

'95 **Shona Nichols**, BA, '99 LLB, created a YouTube channel, My Canadian English, to support English language learners making the shift to online learning during the pandemic. Tied to the federal government's Canadian Language Benchmarks, her video lessons focus on digital literacy, access to information and writing skills. Nichols credits her time at the U of A—including her current studies toward a master's of education in teaching English as a second language—for giving her the

Karen Willsey



skills, knowledge and confidence to launch this new initiative.

'96 **Paul Bourassa**, BA, was appointed to the Alberta Public Health Appeal Board and to the Alberta Parole Board. In June, he celebrated the first anniversary of his appointment as a board director and North American vice-president for the Altia software company. Among volunteer endeavours, Bourassa is a member of the boards for the Legal Education Society of Alberta and l'Association des juristes d'expression française de l'Alberta. He is also a member of the Canadian

Bar Association's policy committee and the criminal justice section.

'96 **Pam Liyanage**, BA, launched an educational technology company with **Ruwan Liyanage**, '96 BSc, and **Gene Lee**, '98 BA, during the pandemic. MoneyPrep uses video games to teach children financial skills like budgeting and saving. "The future is bright for MoneyPrep and we are excited to be teaching the

(continues on page 40)



MoneyPrep uses online games to help kids learn financial literacy skills.

Leadership isn't just for CEOs. Indira Samarasekera (left) and Martha Piper say that all people can lead through their actions.



FIVE THINGS WE'VE LEARNED ABOUT...

LEADERSHIP

Two former university presidents share lessons from above the glass ceiling

By *Lisa Szabo*, '16 BA

"IT TAKES MORE THAN TALENT. It takes a kind of nerve ... a kind of nerve and a lot of hard, hard work."

These words, attributed to painter Georgia O'Keeffe, have become a mantra for **Martha Piper**, '06 LLD (Honorary), and her longtime friend and colleague, **Indira Samarasekera**, '16 DSc (Honorary). The pair are no strangers to talent, hard work or nerve. Both have held vice-presidencies in research at two of Canada's leading post-secondary research institutions and they have 25 honorary degrees between them. Most notably, they are the only female presidents to have served at their respective institutions: Samarasekera at the U of A from 2005 to 2015 and Piper at UBC from 1997 to 2006. Here, they cull decades of experience to share five lessons on leadership.

1 BE WILLING TO SHAKE THINGS UP

Leaders have something in common. It's not jaw-dropping oration or a huge social media following. Nor is it solely ability. Leaders have to be willing to take risks, to push back against the status quo. In other words, they have nerve. "You don't have to be talented to succeed," Piper says. "But you have to be prepared to do something risky." Great leaders

don't just pick up where the last one left off. They have the courage and willingness to make measured change.

2 TAKE STOCK OF YOUR ABILITIES

When someone singles you out as a great leader, do you believe them? Many people answer a resounding "no." To combat insecurity, Piper and Samarasekera recommend you reflect on your experiences. "Taking stock is about looking at major events in your life and assessing them for how they've demanded certain qualities of you," Samarasekera says. Chances are, you've handled challenging situations better than you thought.

3 STOP TRYING TO FIND BALANCE

In particular, women in leadership struggle with balance: that evasive equilibrium between work and personal life.

"There's no such thing," says Samarasekera, who prefers the metaphor of juggling. The balls you decide to keep in the air change depending on your priorities. "You make choices," says Piper. "Am I getting up to take a phone call at 5 a.m.? Am I going to the gym today?" Instead of trying to have it all—a notion Piper says hurts women—prioritize, delegate and enlist help.

4 KNOW WHEN TO WALK AWAY

Deciding on the right time to leave a leadership position can be a challenge. No single answer fits everyone. To help you decide, Piper recommends re-evaluating your attitude about the role. "When you feel repetitive and jaded, when you start being sarcastic about things, you've got to move on," she says. And it's not just for your sake, either. "The organization that you care so much about deserves energy, excitement and new leadership."

5 PAY IT FORWARD

Both Piper and Samarasekera have had "sponsors" throughout their careers. Unlike a mentor, whom you seek out for leadership advice, a sponsor finds you. "They're behind the scenes. They're telling people about you," Piper says. A sponsor recognizes your leadership abilities and advocates on your behalf, often without you knowing about it. "We need to sponsor people who we see the spark in, who we think can succeed," says Piper. "How do you get a sponsor? You just excel at what you're doing." ■

Martha Piper and Indira Samarasekera co-authored Nerve: Lessons on Leadership From Two Women Who Went First (page 35).

Vik Kohli



(continued from page 38)

next generation money skills they will use in their everyday lives,” Liyanage writes.



'01 **Vik Kohli**, BSc(ElecEng), has been promoted to vice-president of safety and reliability at Enbridge. Here, Kohli is accountable for company-wide safety, environment and lands services for both operations and projects, as well as establishing cross-company governance of functions delivered through each business unit.

'02 **Stefania Cerisano**, BCom, helped launch Women+Power, an Alberta-based non-profit

organization addressing challenges surrounding the under-representation of women in the power industry. Cerisano writes: “As a power industry professional, I view diversity and inclusion efforts as a fundamental component of the transformational change currently underway throughout Alberta’s power industry.”

'03 **Kirk Nyquist**, Dip(Ed), has turned his longtime advocacy of cannabis into a passion project: a podcast called *Reefer MEDness*. In the podcast, Nyquist draws upon knowledge from his 40-year nursing career (spanning emergency and frontline management to community health in remote Manitoba communities) and interviews with cannabis scientists, prescribers, users and growers to explore society’s changing understanding of cannabis.

'04 **Robert Warburton**, BA, founded CloudWorks, a hybrid social enterprise



Stefania Cerisano



DID YOU KNOW?

The University Observatory was erected in 1942 to accommodate a reflecting telescope made and donated by hobbyist astronomer Cyril G. Wates.

and real estate investment company providing co-working spaces, offices, staff accommodations and event spaces in Yellowknife, N.W.T. Warburton has also been a vocal advocate for housing in the North for the past 10 years and has recently joined the city's community advisory board on homelessness. Here, he has supported the board's efforts to fund critical programming, shelter spaces and housing for long-term community benefit.

'06 **Hesham Fouli**, PhD, a professional engineer and former associate professor at King Saud University in Saudi Arabia, now works as a water resources engineering and education consultant. After experiencing global weather extremes in Canada, Egypt, Germany and Saudi Arabia, Fouli has become inspired to champion the potential of ocean, stream, solar and geothermal energies, among other renewables, to reduce the global carbon footprint. His education includes a master's degree from what is now known as the Karlsruhe Institute of Technology in Germany. In addition to nearly 10 years at King Saud, Fouli has also worked at AECOM Canada.

'06 **Andrea Samaratunga**, BSc(ElecEng), and **Andy Burke**, '09 BSc(EngPhys), have launched Quench, a device that tells houseplant owners precisely when their plants need more water. After four years of engineering, testing and prototyping soil moisture detection methods, the device is ready for market. Quench

had raised nearly \$100,000 on Kickstarter and Indiegogo by the summer of 2021.

'06 **Vivin Thomas**, BSc(MiningEng), managed the planning and creation of Platform Innovation Centre & Parkade—the first of its kind in Alberta—as a capital projects engineer at the Calgary Parking Authority. The \$80-million, 500-stall parkade includes a 50,000-square-foot hub offering office, classroom and presentation space for local startups. It may also be repurposed into commercial, mixed-use or residential space in the future. Thomas compares the project to a puzzle: once the pieces started to come together, the immense, multi-faceted efforts of the entire team came into view.



'10 **Chelsea Jones**, MSc, '21 PhD, has been named a fellow of the Professional Photographers of Canada organization—making her the youngest person and the first woman in the organization's 51-year history to receive this designation. Jones, an occupational therapist, founded Vitality Images Photography in 2013, and recently completed her doctor of rehabilitation science degree at the U of A.

ALUMNI APPROVED

Video Games

GOT SOME DOWNTIME? STRETCH YOUR IMAGINATION—AND YOUR THUMBS

By **Francine Cayanan**

Adrien Cho, '98 BSc(MechEng), '04 MDes, knows video games. The industry veteran has worked on everything from art to management on games like *Mass Effect*, *Dragon Age* and the *Halo* series. With his latest project, *Halo Infinite*, released in December 2021, Cho offers video game recommendations for everyone from seasoned pros to newbies.



FOR NEWCOMERS WITH A CREATIVE STREAK: **Super Mario Maker 2** Nintendo Switch

Enjoy the timeless fun of Super Mario with a twist: you design the levels. Choose from a range of terrains, enemies and power-ups to create the level you've always wanted to play.

FOR TIME-STRAPPED GAME ENTHUSIASTS: **Star Wars Battlefront II** PlayStation, Xbox One and PC

Three eras of Star Wars collide in this first- or third-person shooter adventure game. "If I want to be a storm trooper for 20 minutes," Cho says, "I play a few rounds to get that hit."

FOR PARENTS TO PLAY WITH KIDS:

Moss PlayStation VR or Steam with a VR headset

Join a mouse, Quill, on an epic journey filled with magic and adventure. While virtual reality can be a personal experience, Cho says, it's also very social as you watch each other fumble around in this virtual world.

FOR SEASONED PROS UP FOR A CHALLENGE:

Dark Souls Trilogy PlayStation, Xbox One and PC

Casual gamers, beware. Take on the role of a cursed undead character and test your skills and mental fortitude in this role-playing action game. The tried-and-true classic is known for making people rage-quit in frustration but keeps players coming back for its excellent gameplay, immersive atmosphere and intricate level design.

'11 **Shumaila Hemani, MA**, '19 PhD, taught courses in world music and soundscapes in spring 2020 with the Semester at Sea program offered by the Institute for Shipboard Education and Colorado State University. Hemani's recent composition *Perils of Heavy Rainfall* won second place in the Canadian Association for Sound Ecology's Listening in the Time of COVID contest and she released her debut album, *Awakening*, in May 2021.

'11 **Tony Shields**, BSc(MechEng), and **Tegan Shields**, '13 BSc(Nutr/Food), co-founded a thriving mushroom startup, FreshCap Mushrooms. Beginning as a gourmet mushroom farm in 2015, FreshCap began offering functional mushroom-based products—including capsules and elixir teas—in 2017. In 2019, the company secured a strategic partnership with one of the largest mushroom packers in the U.S.

'12 **Demian Pimentel**, PhD, has joined Edmonton-based software company Pleasant Solutions as an electronics engineer. Drawing on decades of experience in the electronics industry, Pimentel supports Pleasant Solutions' tech developments including Paranoid, a hands-free device that blocks smart speakers from hearing and uploading private conversations to third parties.



IN THE NEWS

A Voice for the People

Titilope Sonuga, '08 BSc(CivEng), was named Edmonton's ninth poet laureate in June. The poet, playwright and performer will spend her two-year term observing and reflecting the city and its people through poetry. Sonuga will bring a welcoming and inclusive spirit to the role, says Sanjay Shahani, director of the Edmonton Arts Council. "Her focus on healing and hope makes space for all Edmontonians to come together through poetry and is exactly what the city needs in this moment."—CTV NEWS

'13 **Anastasia Naylor (Evarts)**, BA, completed a master of science in speech-language pathology at Dalhousie University after attending the U of A's Augustana Campus. She recently started her

own private practice serving pediatric clients in and around Leduc, Alta. A former mentor with Augustana's Indigenous Student Mentorship program, Naylor says she stays involved with Indigenous community

initiatives as much as possible. Currently, she is a reviewer for the Belcourt Brosseau Métis Awards, is taking Cree language classes and has started beading.

(continues on page 44)



Friends Forever

TWO DECADES AFTER WE GRADUATED, WE'RE LEARNING ABOUT LIFE FROM OUR UNIVERSITY FRIENDS ALL OVER AGAIN

In the early 2000s, *The Gateway's* offices were a grubby, windowless warren in the basement of the Students' Union Building, where 20-somethings in boot-cut jeans made two newspapers a week. The newsroom walls were papered with movie posters and band stickers sent free to the entertainment section. The photo lab, with its faintly acrid smells, hid at the end of a long corridor in the back. In the large meeting room, a circle of vinyl couches and drooping second-hand loveseats was ringed by giant bookshelves bearing bound editions of *Gateways* going back to the early 20th century.

It was functional and sort of gross, and for both of us—arts writer Sarah and news editor Jhenifer—it was home. Those rooms were filled with the wittiest people we knew. People like **Dan Lazin**, '05 BA, the ebullient nerd whose speech was peppered with footnotes; **Kati Kovacs**, '04 BSc(Spec), the astrophysics student who wrote a legit astronomy column that peeked into her social life; **Leah Collins**, '05 BA, an enormous-brained pop-culture expert; and **Neal Ozano**, '03 BSc, imprinted in our minds as a celebrated genius of words and humour.

Every week, 10 editors and countless volunteers

would fight, laugh, cry and produce print newspapers on Tuesdays and Thursdays. Outside work, our lives were filled with each other as well. Scattered in and around Whyte Ave, there were parties, outings, romances and intrigues, part of our collective coming of age. And then, as people do, we moved on. *The Gateway* was a bright, youthful moment of the past. We were graduating to bigger and better things.

Or so we thought. Twenty years on, as we hit our 40s, our attendant mid-life reckonings brought renewed clarity. Growing up had been about moving to the next big thing, exploring

the world away from our roots, finding the “real” people we would spend our lives with—funnier, better versions of our youthful trial runs. And while we did achieve great things—graduate degrees, families, world travel, flourishing careers—we realized we missed our *Gateway* friends.

So, in deepest pandemic times, we reached out and brought those intelligent and insightful people back together to write again. We emerged with *Midlife* (page 35), a book of essays about growing up, flailing in a nebulous direction and discovering you are the only person you are ever going to be.

In writing, we reunited the community of our younger days, and we realized we could lean on each other as grown-ups, too. Mostly, we discovered we were more than the definitions loaded onto us by mid-life. You don't have to explain yourself to people who stayed up all night with you to put a newspaper together, the people who knew you at your most creative, the people you saw wearing ridiculous Halloween costumes at the Power Plant. They're your friends for life, even when you're not trying. You can never leave them behind. ■



Sarah Chan, '03 BA, is a musician, teacher and mother of two. She leads community engagement with the Alberta Mentoring Partnership.



Jhenifer Pabillano, '04 BA, earned a master's degree in journalism after her tenure as news editor. She is now a project manager with the City of Vancouver.

Tomáš Andel



(continued from page 42)

'17 **Tomáš Andel**, BA, has been releasing music under the moniker Saint Idiot. Supported by the Edmonton Arts Council, the Alberta Foundation for the Arts and the Canada Council for the Arts, he has released the album *Alternate Utopias From a Nostalgic Future*, an art-pop album that explores masculinity, emotional intelligence and interconnectedness.

'17 **Matty Flores**, MA, was featured as an expert voice in the documentary *SpiderMable: A Real Life Superhero Story*. In 2017, Flores wrote a research paper analyzing the significance of superhero narratives and the social media response to the day Mable Tooke, a six-year-old cancer patient, undertook an Edmonton-wide superhero quest organized by the Children's Wish Foundation. View streaming options at spidermablethefilm.com.

'17 **Deanna Funk**, BSc, is completing her rural family medicine residency in Grande Prairie, Alta., while living with her husband, their American Eskimo puppy, Benzo, and an orange cat named Cheddar. Last year, Funk was awarded the Department of Family Medicine's Lionel A. Ramsay Award for being a source of support and assistance to her fellow residents. Funk notes that she looks forward to providing primary care to northern Alberta and helping address the area's need for family doctors. ■



IN THE NEWS

Sustainable Startup

Anka Chan, '21 BSc(Hons), and Nicole Sanchez, '20 BCom, '20 Cert(ILS), launched an eco-friendly line of menstrual pads called Ruth, named after the late U.S. Supreme Court Justice Ruth Bader Ginsburg. Plant-based materials, including kenaf and bamboo fibres, make up 93 per cent of the pads, eliminating some of the plastic waste created by traditional menstrual products. The entrepreneurs hope to use their business for social good by boosting menstrual hygiene education and breaking down barriers surrounding menstruation.—EDMONTON JOURNAL



DID YOU KNOW?

It's reported that in the 1930s, education students and professors would hang out at the café downstairs in St. Joseph's College. When word of the often boisterous parties reached Rome, the Pope supposedly sent a firm letter warning that the "cabaret" in the basement of St. Joseph's must cease.

The 2020 ALUMNI AWARDS

These 10 recipients of the 2020 awards have enriched communities near and far as leaders in health care, the arts, education and sport. (The last of a three-part series.) *By Therese Kehler*

ALUMNI HONOUR AWARD

For bringing the very best in brain care to Alberta

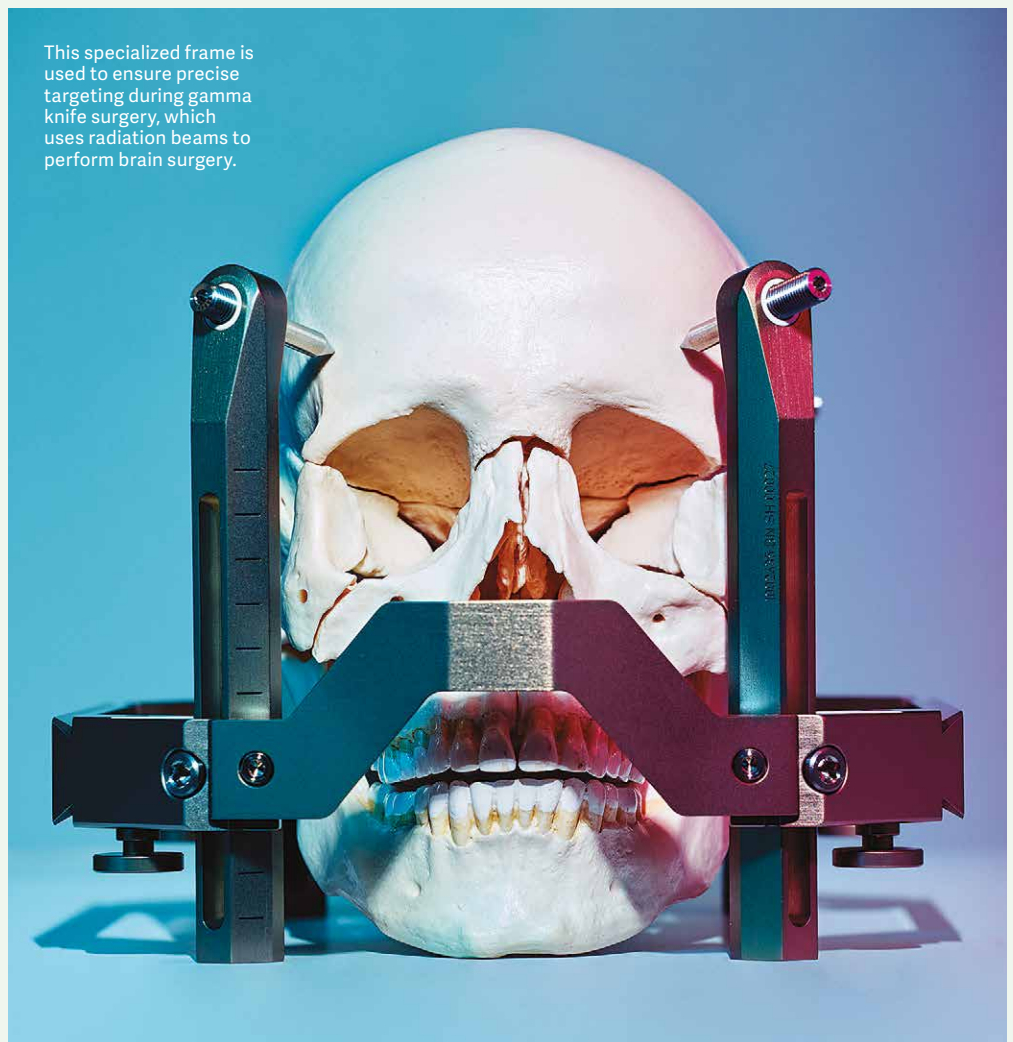
Keith E. Aronyk, '77 MD
Neurosurgeon, visionary

Keith E. Aronyk is a brilliant neurosurgeon, an inspiring teacher and the champion behind a visionary plan to make Edmonton a leader in brain care. He is a driving force behind a campaign to raise \$80 million to help create a "brain centre" at the University of Alberta Hospital, which will eventually include a neurological intensive care unit. Aronyk's ambition is to bring the latest in treatment and non-invasive brain surgery to patients.

Surgical GPS

The success rate of removing brain tumours increased substantially when the U of A Hospital pursued the novel idea of building an operating room around a functioning MRI. The intraoperative MRI, one of the most advanced surgical suites in Canada when it opened in 2013, allows surgeons to get real-time information from radiologists and create better outcomes for patients.

This specialized frame is used to ensure precise targeting during gamma knife surgery, which uses radiation beams to perform brain surgery.



An invisible knife

No drilling, no incision and most patients go home that day. In 2017, brain surgery took another leap forward with the U of A Hospital's \$17.5-million gamma knife unit, which uses radiation beams rather than a scalpel to perform brain surgery with pinpoint accuracy. From

fundraising to being the first neurosurgeon trained to use it, Aronyk was central to bringing the technology to Edmonton. (See *The Sharpest Edge That Doesn't Cut*, page 17.)

A special ambulance

When someone has a stroke, the clock starts ticking and the likelihood of death or

serious injury goes up every minute treatment is delayed. Enter Canada's first stroke ambulance, which hit the road in 2017. Equipped with a CT scanner and audio/video technology to communicate with hospital neurologists, this specialized ambulance is speeding up brain care for rural Albertans.

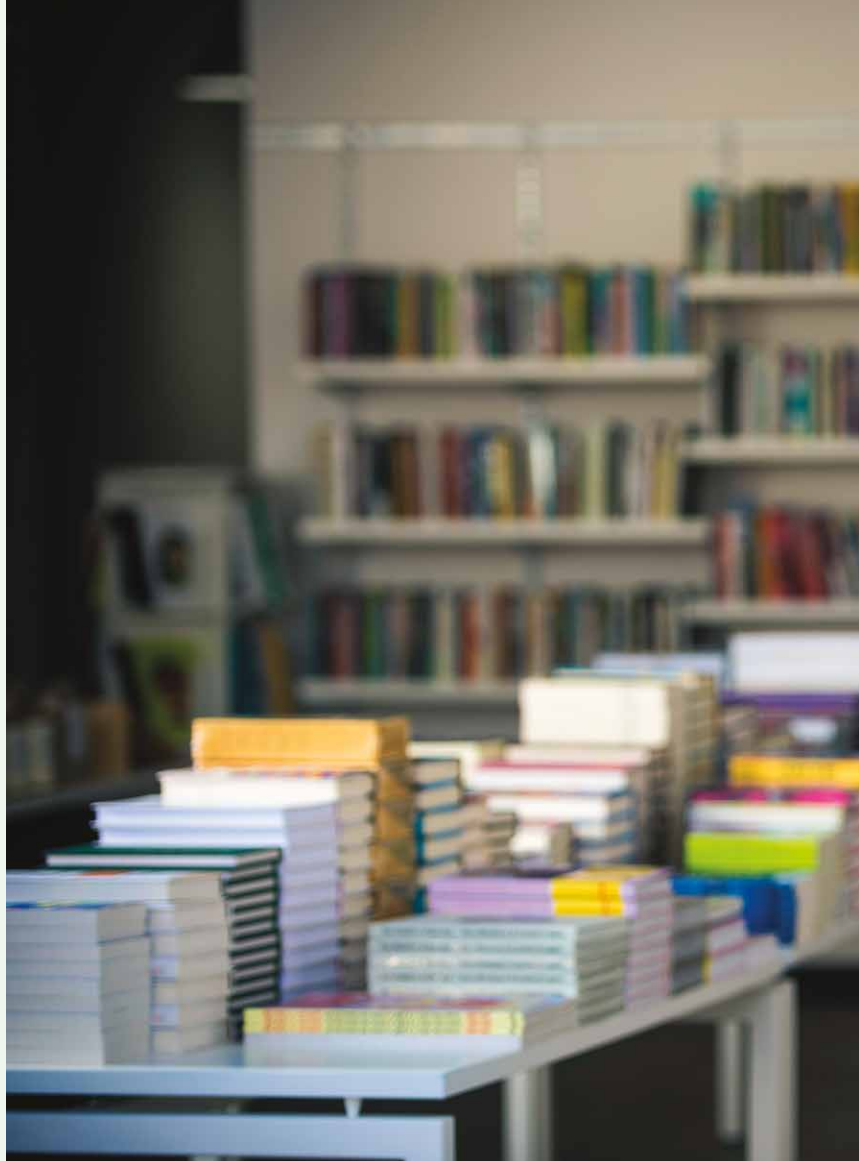
ALUMNI HORIZON AWARD

FOR CHAMPIONING MARGINALIZED AND EMERGING WRITERS

Matthew Stepanic, '12 BA(Hons)

Poet, mentor, publisher, entrepreneur

In the novel *The Garneau Block*, neighbours build a museum in the shape of a glass buffalo head for citizens to house items with significant stories—or “mythic power.” When Matthew Stepanic co-founded the literary magazine *Glass Buffalo*, and later the independent bookstore Glass Bookshop, he did the same: made room for emerging and marginalized writers to share their stories of mythic power. As poet, mentor, publisher, editor, playwright and entrepreneur, Stepanic has championed Edmonton’s creative literary community. Whether by holding events and more than 200 consultations as Edmonton Public Library’s 2019 writer-in-residence or stocking the bookstore’s shelves with works by LGBTQ+, Black, Indigenous and other underrepresented authors, he is helping preserve important stories.



ALUMNI SERVICE AWARD

For helping the U of A build bridges between cultures

Chuen Hing William “Bill” Cheung, '86 LLB

Lawyer and volunteer

Set some short-term goals. Achieve them. Create new goals. Accomplish them. Repeat as often as possible.

Bill Cheung’s life has been guided by goals—modest ones, he says—that have seen him become a social worker in Hong Kong, move his family across the world to Canada, establish careers in real estate and law, and serve many communities.

“Bill embodies the kind of active engagement in civil society that we need much more of,” says Christopher

Lupke, former chair of the U of A East Asian Studies department, who nominated Cheung for the award. “He facilitates intercultural communication while building and maintaining local grassroots organizations.”

That work began not long after Cheung and his wife arrived in Edmonton in 1979. As he acclimated to life in Canada, he began making connections and finding ways to help.

Within a year, he was a founding member of the Edmonton Chinese Lions Club. He later helped establish Chinese bilingual instruction in the city’s public schools; it’s now the most extensive such program in North America. After he earned a law degree from the U of A in 1986, Cheung provided legal advice and guidance to board members of many cultural organizations.

The U of A has been a grateful recipient of his efforts on many fronts. He has served multiple terms on the Alumni Council, Board of Governors

and Senate. University of Alberta International considers Cheung an ambassador for its activities and credits him for the success of its Global Academic Leadership Development (GALD) program for academic and government employees worldwide.

Since 2012, GALD has offered a three-month professional development program to university administrators from China. Cheung’s presentations—in English or one of several Chinese dialects—and his post-presentation chats over a pint of Alberta beer, are highlights for participants.

Cheung says his passion to help others stems from his modest upbringing in Hong Kong and the many kindnesses offered to him as he pursued his first degree in the late 1960s and his law degree at the U of A.

“Goodwill will bounce back, either through other people or by itself,” says Cheung, who retired from practising law in 2018. “That’s my belief.”



SPORTS WALL OF FAME

FOR BEING AN EXEMPLARY PLAYER ON MANY TEAMS

Daniel G. Syrotuik, '75 MSc, '84 PhD

Golden Bears football coach, professor, sport builder

Daniel Syrotuik came to Edmonton in 1973 as a CFL draft pick but soon realized that education, not professional football, was the future he wanted. Three years later, the PhD student became a coach to the Golden Bears football team, kicking off four decades as a coach, mentor, volunteer and builder of the sport. Syrotuik modestly describes himself as a "football coach that happened to earn his PhD," but his record indicates greater accomplishments. He was a Bears coach until his 2012 retirement as a professor in the Faculty of Kinesiology, Sport, and Recreation. He researched topics such as the mental tendencies of elite athletes, and his leadership skills were tapped in increasingly senior faculty roles. Off-campus, Syrotuik tackled sport development as a volunteer with Football Alberta and Football Canada, where his achievements include the creation of football's first National Coaching Certification Program.

ALUMNI HONOUR AWARD

For listening to, learning from and working for Indigenous youth

Leith Campbell,

'69 BSc, '73 Dip(Ed), '78 MEd

Educator, cultural adviser, advocate for Indigenous youth

Leith Campbell didn't know where to start when, as a young teacher, he became a counsellor for Enoch Cree Nation students who were attending eight different schools while their own was being built. Campbell's success, then and throughout his career, came from advice he'd received from a university mentor as well as his own good instincts.

► **Connect**

Campbell's ability to create relationships helped him build trust and lifelong friendships. The impetus to do so came from his master's supervisor, **Leslie Gue**, '47 BEd, '67 PhD.

"He said you've got to be there with them for everything, not just school life but real life," Campbell says. "So, I started to read and listen, and the people of Enoch helped me immensely, letting me come into their homes and talking to me. It was the greatest education."

► **Commit**

If you need to track down Campbell, try calling any of Edmonton's Indigenous service organizations and someone will have seen him. His commitment to improving opportunities for Indigenous youth was a mainstay of his career, from his teaching days to his position as supervisor of Indigenous Education for Edmonton Catholic Schools to his directorship at the Kitaskinaw Education Authority. That commitment also fuelled his vast volunteer work and followed him into retirement, when he became a cultural adviser at amiskwacyi Academy in Edmonton. "When we are committed to doing something, we do not accept any excuses, only results," notes fellow educator **Sandra Woitas**, '80 BEd, '96 MEd, '14 LLD (Honorary). "This is Leith's compass."

► **In his words**

"You never stop learning; listen to your personal elders. Failure is a learning tool. Cherish the time you have with your friends. Be open to new experiences. Run at least one marathon in your life to understand what commitment is all about."

Now that you've met these amazing grads, don't miss the celebration for the 2021 award recipients. Details and complimentary tickets at uabgrad.ca/awards.

ALUMNI HORIZON AWARD

For creating choices for Guatemalan girls

Danielle Elyse Skogen,
’11 BEd

Teacher and change-maker

A teacher by trade, Danielle Elyse Skogen believes education and empowerment are keys to ending poverty and creating a more just world. In Guatemala, she co-founded SERniña by REALgirl, a non-profit organization that helps girls develop skills and confidence, while teaching youth about equitable, safe communities.

“As a teacher, she is impacting many young lives in ways that are not only life-changing but can also result in social change — an impact far greater, far broader and far more meaningful than what many of us could hope to accomplish in a lifetime.”

Clare Lindsay, past-president, Medicine Hat Sunrise Rotary Club

“In a society where girls’ education is an afterthought, SERniña has tackled tough issues, including dropout rates, teenage pregnancy and unhealthy relationships where domestic violence and sexual abuse are commonplace.”

Desirée Kendrick, ’81 BA, alumni relations director, Faculty of Education

“Without a doubt, SERniña wouldn’t exist if not for Danielle. The impact we have had, from reducing rates of pregnancy and keeping kids in school, to inspiring a new vision of their lives and paths forward beyond poverty, would not have been possible without Danielle’s passion, dedication and tenacity.”

Anea Bogue, REALgirl founder and creator

SPORTS WALL OF FAME

FOR ELEVATING THE GAME OF WOMEN’S HOCKEY

Pandas Hockey, 2001-07

The Pandas hockey team was riding a 123-game undefeated streak when, on March 13, 2005, it lost the national championship. But the hard-working, high-achieving team, led by coach **Howie Draper**, ’91 BPE, ’13 MA, made good on its vow to regain the title in 2006 — and then won it again the year after. The Pandas are the only women’s hockey team in Canadian university sports to win three consecutive national championships, a feat that remains unmatched. Team members from the 2001-07 dynasty, a who’s who of women’s hockey in Alberta, went on to be lawyers, leaders in business, professors, coaches and Olympians, with many still involved in the game and inspiring new generations of athletes.

5

Number of national titles in six years. This achievement has never been matched by another U Sports women’s hockey team and it came during a time when the calibre of play was extremely competitive.

65

The number of Academic All-Canadians from 2001-07. The players’ average grade point average over six seasons was 3.0.

61

Number of players over the six seasons coached by Howie Draper.

The year the Pandas were named to Canada West Hall of Fame

2019

123

Number of games in the Panda’s undefeated streak. The run of 122 wins and one tie began in October 2001, stretched through regular-season games, tournaments, exhibition matches and playoff seasons, and saw the team scoop up four Canada West titles and three national championships.

ALUMNI EXCELLENCE AWARD

For giving a voice to the community

Nisha Patel, ’15 BCom, ’15 Cert(Leadership), Poet, performer, community organizer

Nisha Patel didn’t dream of becoming a poet. She didn’t even consider herself one until she attended her first national competition in her early 20s. But within a few years of graduating from business school she had made poetry her full-time gig. In 2019, she became Edmonton’s eighth poet laureate, executive director of the Edmonton Poetry Festival and champion of the 2019 Canadian Individual Poetry Slam. These hard-earned titles came out of her determination to build a stronger artistic community. “A poet’s job is to reflect the truth of their experience and of the times that they live in, either through reimagining themselves or being unforgivingly honest,” she told Poetry In Voice. Lauded as a community builder, Patel conducts workshops, offers mentorship and volunteers with spoken word arts agencies. Her path, like the poetry she writes, speaks to the importance of community, resiliency and believing in one’s self.

Hear Nisha Patel talk about creative careers on *What the Job?*, uabgrad.ca/WTIJ.



ALUMNI HONOUR AWARD

FOR IMPROVING PERINATAL CARE AND BEING A CHAMPION FOR NURSES

Selikke Verdonk Janes-Kelley, '83 BScN

Nurse, professor, hospital administrator

Selikke Verdonk Janes-Kelley kept extra bassinets in her hospital administrator's office, just in case a new mom unexpectedly needed one. It's one of many ways she solved problems for mothers, babies and families — while helping change the health-care system — over four decades.

ALWAYS A NURSE

Janes-Kelley's passion for perinatal care was born during her first nursing job in Toronto, where she joined — and eventually led — the transport team for critically ill newborns. The start of her lifelong commitment to continuing education for nurses began in 1981 when she came to

Edmonton to pursue her nursing degree. Janes-Kelley remained a steadfast ally to nurses, even as her career moved into teaching and hospital administration. She initiated Alberta's neonatal nurse practitioner program and created training opportunities with the Alberta Perinatal Health Program. And she was always ready to step in at the bedside when her clinical staff needed a break.

REIMAGINING HOSPITAL CARE

The 2001 opening of the Stollery Hospital at the University of Alberta Hospital was an innovative solution to providing child-centric care within

an adult setting. Janes-Kelley's calm, patient stewardship of the project kept the Stollery dream alive, and her experience proved invaluable nine years later when she successfully led the Lois Hole Hospital for Women to its opening within the Royal Alexandra Hospital. It's Edmonton's second hospital-in-a-hospital and Alberta's first one dedicated to women's care. In 2018, the Royal Alex was the site of another milestone when, under the guidance of Janes-Kelley, it opened North America's first hospital-based supervised consumption service for patients with substance abuse disorders.

PERINATAL CARE FOR EVERYONE

"It's absolutely heartbreaking to watch women and their partners come in and have their babies apprehended because they live on the street and they've had zero prenatal care." Janes-Kelley says this in a short video seeking support for a program called Pregnancy Pathways, which she helped launch at the Boyle-McCauley Health Centre in 2017. Janes-Kelley is known for seeing needs in the community and answering them — in this case pregnant women experiencing homelessness giving birth to unhealthy babies. Pregnancy Pathways finds homes for pregnant women and offers services to give them a healthy path forward. As Janes-Kelley notes, "It's a start."

ALUMNI HONOUR AWARD

For creating sport opportunities for people with disabilities

David Legg, '00 PhD

Professor, volunteer, advocate of adapted physical activity

For two decades, David Legg has created sport opportunities for people living with disabilities, helping to ensure that everyone can know the joy sport brings.

"David is motivated by a genuine desire to help others and ensure that those involved are enriched by the experience — not seeking recognition but rather asking how he simply might help to make things better. His gracious voracity for volunteer commitments is extremely impressive as he continually raises his hand whenever he sees a need."

Patrick Jarvis, International Paralympic Committee governing board member 2005-17

"David has always stressed the importance of respecting those with disabilities and doing whatever we can to accommodate their needs. He understands that playing sports provides physical and mental benefits, such as helping develop muscles, building teamwork skills and promoting leadership abilities."

Dale Henwood, '74 BPE, '76 MA, '76 Dip(Ed), former president and CEO, Canadian Sport Institute Calgary

"David became an influence within the new lexicon that discusses and promotes the 'Responsibility Revolution,' which is compelling all well-intentioned community, business and academic leaders to not only be aware and supportive of social responsibility and sustainability but to 'walk the walk.'"

Robert Steadward, '69 BPE, '71 MSc, '02 LLD (Honorary), leader in the field of disability sport

Grads Go for Gold in Tokyo

Red may have been the official colour of Team Canada, but there was no shortage of green and gold at the 2020 Olympic and Paralympic Games in Tokyo.

Martin Lam, '82 BA(RecAdmin), Hong Kong Paralympic Committee, general secretary

Sock Miang Teo-Koh, '83 BPE, '86 MSc, Singapore National Paralympic Council, president

Lynda Kiejko, '03 BSc(CivEng), Team Canada shooting, athlete

Ross Wilson, '05 BCom, Team Canada para cycling, athlete

Angelena Dolezar, '08 BSc, '12 BEd, Team Canada women's sitting volleyball, athlete

Maria Gallo, '08 PhD, Team Canada women's rugby sevens, interim assistant coach

Christine Biggs, '09 BEd, '09 BPE, '19 MCoach, Team Canada women's sitting volleyball, assistant coach

Kirsten Wishloff, '10 BPE, Team Canada sailing, medical staff

Jessica Sevick, '11 BSc(CivEng), Team Canada rowing, athlete

Nikita Ens, '14 BScN, Team Canada para swimming, athlete

Jeremy Hall, '14 BSc(MechEng), '19 MSc, Team Canada para rowing, athlete

Nicole Ban, '15 MCoach, Team Canada women's sitting volleyball, head coach

Chelsea Hobbs, '15 MEd, Team Canada women's sitting volleyball, assistant coach

Michael Asselstine, '16 BEd, Team Canada wrestling, training partner

Brett Walsh, '17 BCom, Team Canada men's indoor volleyball, athlete

Josephine Wu, '17 BCom, Team Canada badminton, athlete

Molly Henneberry, '20 BKin, '20 Cert(ILS), '20 Cert(ResearchKin), Team Canada women's sitting volleyball, strength and conditioning coach

Do you know a U of A grad who should be on this list? Email us at newtrail@ualberta.ca.

WHAT YOU NEED TO KNOW ABOUT...

HELPING KIDS STAY ACTIVE

You might just get yourself moving, too

By Sharsvarnee Kundasawmy

If the words "physical activity" make you sigh, you're not alone. Even fitness enthusiasts find it hard to be consistently active, and only 39 per cent of kids and youth meet Canada's national physical activity guidelines.

"Movement is part of what it means to be human," says **Doug Gleddie**, '06 MA, '10 PhD, professor of physical education in the Faculty of Education. But how do you motivate your kids—and yourself—to get going? Gleddie has some tips.

Show them it's fun

Giving kids a say in what they're doing generates more interest and willingness to indulge in the activity. So, ask them if they'd prefer to snowboard or ski, and make sure you get out on the slopes yourself. "You can't make your kids like physical activity without actually liking it yourself," he says. Research shows that kids who have active parents are more likely to be active.

Make it a challenge

If kids are bored, they lose interest. "Trust your kids to

choose challenges that are just right for them," says Gleddie. "They're waiting for that perfect kickflip that they've been working on and they're having fun with it." While trying to get it just right, kids develop motor competence and reap health benefits. It's part of the learning process to take risks, fail and try again.

Amp up the social interaction—safely

Children find exercise more engaging when there's healthy competition and social interaction, he says. So, find a group of people to get active with, while staying within your area's current COVID-19 safety guidelines. Don't let winter mess up your routine. Get outdoors, regardless of the season. "There's no such thing as bad weather," says Gleddie, "only bad clothing."

Make it meaningful

Parents may want to share their favourite pastimes with their kids, but kids need to discover which activities are meaningful to them. If they're not sure what they're into yet, springboard off activities your children already enjoy. Playing at the park can translate into gymnastics, and kicking a ball can turn into an interest in playing soccer. These little connections can strike a chord with kids and help them find an activity they want to invest in. ■



The Alumni Association notes with sorrow the passing of the following graduates (based on information received between February 2021 and October 2021).

In Memoriam

1940s

'43 **L. Iain Younger**, BSc, '45 MD, in February 2021

'44 **Marjorie Barron Norris**, BEd, '44 Dip(Ed), in March 2021

'45 **Fay E. Winning (Rodney)**, BSc(HEC), in April 2021

'46 **Elizabeth Leffers (Wilson)**, Dip(Nu), '47 BSc(Nu), in February 2021

'47 **Edith Marie Dumont**, BSc(HEC), in April 2021

'47 **Esther Labelle Sanden**, Dip(Nu), '48 BSc(Nu), in July 2021

'47 **Harold F. Ulmer**, BEd, '49 MEd, in June 2021

'48 **Norah Marian Alford (Brown)**, BSc(HEC), in March 2021

'48 **Isobel Evelyn Clancy**, Dip(Nu), in December 2020

'48 **John Harvey Day**, BSc, '52 LLB, in January 2021

'48 **Phyllis Jean Fowler (Fitch)**, BSc(HEC), in July 2021

'48 **Morris Klimove**, BCom, in July 2021

'48 **John Edwin Maybin**, BSc(EngPhys), in July 2021

'49 **Teddy Eugene Brewerton**, BSc(Pharm), in September 2021

'49 **George Edward Gunn**, BSc(CivEng), in May 2021

'49 **Thomas Hardin**, BSc, '51 MD, in June 2021

'49 **Jeannette Marie E. Letourneau**, Dip(Ed), in May 2021

'49 **Alex Wasylewsky**, BSc(Hons), in March 2021

1950s

'50 **Douglas Alexander De Wolff**, BSc(CivEng), in February 2021

'50 **Frances Elizabeth Downie**, BSc(HEC), in September 2021

'50 **Frederick Charles Harvey**, BSc(CivEng), in July 2021

'50 **John "Ivan" Krpan**, BSc(ElecEng), in July 2021

'50 **G. Douglas Mackie**, BSc(Ag), in February 2021

'50 **Marion Madeline Minion**, Dip(Nu), in August 2021

'50 **Henry Vincent O'Connor**, BA, '51 LLB, in March 2021

'50 **Gerald W. Watkins**, BCom, in January 2021

'50 **John P. Whitehead**, BSc(ElecEng), in December 2020

'51 **Terrence Wathan Adamson**, BSc(ChemEng), in July 2021

'51 **Marion Bennett**, BSc, '90 BA, in April 2021

'51 **David Byron Grant**, BSc, in January 2021

'51 **Stella Jeanette Little (Hanna)**, Dip(Nu), in September 2021

'51 **Stanley Albert Milner**, BSc, '94 LLD (Honorary), in April 2021

'51 **Ruth E. Smillie**, Dip(Ed), in April 2021

'52 **Peter Alwin Boldt**, BEd, in July 2021

'52 **William Miros E. Boytzu**, BSc(CivEng), in March 2021

'52 **Malcolm Ben Ferman**, BSc(CivEng), in December 2020

'52 **Doris Derbyshire N. Garner (Melling)**, BSc(Nu), in September 2021

'52 **Krishan Partap Kamra**, BSc(ElecEng), '66 MSc, in January 2021

'52 **Mitchell Kiriak**, BSc(CivEng), in April 2021

'52 **Joseph Kischuk**, Dip(Ed), '54 BEd, '70 Dip(Ed), in January 2021

'52 **Irmgard Gertrude Lindquist (Freitag Hooks)**, Dip(Ed), '59 BEd, '75 BA, '88 Dip(Ed), in September 2021

'52 **Howard M. Lynnes**, BSc, '54 MD, in December 2020

'52 **Judy Hideko Matsuba (Aoki)**, BEd, in March 2021

'52 **John Burton Millar**, BSc(Hons), '53 MSc, in April 2021

'52 **Ralph Austin Omoe**, Dip(Ed), '53 Dip(Ed), '55 BEd, in August 2021

'52 **Lawrence Patrick Purcell**, BSc, in December 2020

'53 **John Ferrara**, BSc(MiningEng), in February 2021

'53 **Moira A. Finnigan (Scott)**, BSc, '57 MD, in January 2021

'53 **Doris Clair Fyvie (Bainbridge)**, BA, in January 2021

'53 **John Gavinchuk**, Dip(Ed), '58 BEd, '62 BA, in 2021

'53 **Calvin David Oughton**, BA, '56 LLB, in May 2021

'53 **John Myles Pourbaix**, DDS, in January 2021

'53 **Irvin S. Rude**, BSc(Pharm), in September 2021

'53 **Eleanor Wilma Sutherland**, MD, in January 2021

'53 **William F. Wells**, BSc(CivEng), in February 2021

'53 **Robert Russel Wright**, BA, in August 2021

'54 **Garry Sidney Brody**, BSc, '56 MD, in April 2021

'54 **Margaret Elizabeth Clarke (Feyrer)**, Dip(Nu), '55 BSc(Nu), in February 2021

'54 **William Taylor Cromb**, BEd, in December 2020

'54 **Roman Paul Fodchuk**, BSc(Ag), in February 2021

'54 **Charles Richard Harington**, BA, '57 BSc, '77 PhD, '04 DSc (Honorary), in September 2021

'54 **Jane Anne Maslin (Robinson)**, BSc, in March 2021

'54 **Alec Thirlwell Murray**, BCom, '60 LLB, in July 2021

'54 **Gordon James Rancier**, BEd, '62 MEd, in March 2021

'54 **Ethel May Unsworth (Sanderson)**, BA, '55 LLB, in February 2021

'54 **Brian George S. Withers**, BSc(ChemEng), in August 2021

'55 **Elaine Phyllis Antoniuk (Sloboda)**, Dip(Nu), in March 2021

'55 **Roger Philip Kerans**, BA, '56 LLB, in August 2021

'55 **Glen Hanlan Mead**, BSc(ElecEng), in March 2021

'55 **Gerald Francis Stansberry**, BSc, '57 MSc, in March 2021

'56 **Barbara Joan Bratland (Smith)**, Dip(Nu), '61 Dip(Ed), '74 BEd, in September 2021

'56 **Ann Elizabeth Dea (Donald)**, BA, in April 2021

'56 **Olinda Elsie Germaine**, Dip(Nu), in September 2021

'56 **Aileen Patricia Huff**, BSc(Nu), in June 2021

'56 **Lloyd Anthony Koller**, BSc, '56 MD, in September 2021

'56 **Diane Alice Kuzyk**, Dip(Nu), in July 2021

'56 **Alan Leonard Lyons**, BA, in April 2021

'56 **John Wallace Madill**, BSc(Ag), in July 2021

'56 **William Alexander Stevenson**, BA, '57 LLB, '92 LLD (Honorary), in July 2021

'56 **Henry Malcolm Sutherland**, BSc(Pharm), in September 2021

'56 **Sheila Kay Vasicek (Kelly)**, Dip(Nu), in February 2021

'57 **Helen M. Colwell (Gummow)**, Dip(Ed), in December 2020

'57 **Gene Leta Eisert**, BA(SpecCert), in April 2021

'57 **Peter Gill**, Dip(Ed), '58 BEd, '63 BSc, in September 2021

'57 **Marguerite Marie Lafore**, BEd, '67 MEd, in August 2021

'57 **Evangeline Joyce S. MacDonald**, BSc(HEC), '59 BEd, '78 MEd, in September 2021

'57 **Jack Hastings McMahon**, BCom, in February 2021

'57 **Loverne Rubin Plitt**, BSc(MiningEng), '66 MSc, in June 2021

'57 **Jim Sandham**, DDS, in January 2021

'57 **Valeria A. Wilson (Liss)**, BSc(HEC), in September 2021

'58 **Audrey Marie Ackroyd (Carson)**, BEd, in 2021

'58 **A. Patrick M. Dea**, BSc(MiningEng), in July 2021

'58 **Beverly Anne Fallis (Brunelle)**, BA, in August 2021

'58 **Steven Fedoruk**, DDS, in June 2021

'58 **Agnes Irene Fisher (McMillan)**, Dip(Ed), '60 BEd, '71 BA, in July 2021

'58 **Doreen Georgina Gagnon (Alton)**, Dip(Nu), in May 2021

'58 **Rosie Jean McKenzie**, Dip(Nu), '59 Dip(PHNU), '73 BScN, in April 2021

'58 **Stanley Samuel Sidjak**, BCom, in July 2021

'59 **J. Carol Duggan (Stevenson)**, Dip(Nu), in March 2021

'59 **Donna Kay Enger (Huestis)**, BPE, in May 2021

'59 **Peter Metro Hapchyn**, DDS, in February 2021

'59 **Emerson Francis Howard**, BSc(MineralEng), in February 2021

'59 **Jacob Isaac**, MEd, '72 PhD, in April 2021

'59 **Bill G. Labatiuk**, BEd, '75 MEd, in February 2021

'59 **Paul Lukomskyj**, BSc(CivEng), in July 2021

'59 **James Stephen McCaffrey**, BSc, in June 2021

'59 **Wilbur Breeze Metcalf**, BSc(ElecEng), in February 2021

'59 **Marlin Lloyd Moore**, BA, '62 LLB, in March 2021

'59 **Robert Wallace Pollock**, BSc(PetEng), in June 2021

'59 **Daniel Richmond Prowse**, BSc(ChemEng), '64 MSc, in January 2021

'59 **Elsie Serediak (Gelech)**, BA, in July 2021

'59 **Walter C. Zieber**, BA, '60 BEd, in March 2021

1960s

'60 Alan Wells Askey, MD, in May 2021

'60 Joanne Eleanor Cole (Graves), Dip(Nu), '61 BScN, in June 2021

'60 Catherine Anne Dobbie (McCleary), Dip(Nu), in July 2021

'60 Terrence Armitage Drolet, MD, in May 2021

'60 Charles Lorne A. Hutton, BA, '65 MA, in April 2021

'60 Robert James McGhee, BSc(CivEng), in May 2021

'60 Elburn James Ottewell, BSc(CivEng), in February 2021

'60 Christine Ann Culp Rosenfield, PhD, in June 2021

'60 James Harvey Sherstan, MD, in February 2020

'61 Colleen Frances Frederiksen (Cameron), Dip(RM), '84 BSc(PT), in February 2021

'61 Helen Mitchell, Dip(Nu), in January 2021

'61 David Harry Searle, LLB, in March 2021

'61 Jean Ruth Snider, BSc(MedLabSci), in July 2021

'61 David Tupper Spurr, BSc(Ag), '65 MSc, in April 2021

'62 Anthony Audia, BSc, in March 2021

'62 Uldis Delveris, BSc(ElecEng), in May 2021

'62 Nick Gushaty, BSc(ElecEng), in March 2021

'62 Errol Bruce Miller, BA, '65 BEd, '70 Dip(Ed), in May 2021

'62 Leonard Barry Pashak, BSc, in February 2021

'62 Jean Carol Richardson (Blake), Dip(Nu), in September 2021

'62 Jo-Anne Mary Shaw (Roy), Dip(Nu), '90 BScN(Hons), in April 2021

'62 John Henry Sprague, MD, in June 2021

'62 Fred W. Unger, BSc(ElecEng), in January 2021

'63 William Scott Allison, BA, '65 BEd, in January 2021

'63 Marjorie Helen Cote (Westerberg), Dip(Nu), in April 2021

'63 David Robson Galbraith, BSc, in May 2021

'63 W. Lawrence Gregoret, BA, '70 MA, in May 2021

'63 Harry Frank Holub, DDS, in April 2021

'63 James Hopkins Jeffrey, BEd, '80 MEd, '89 PhD, in July 2021

'63 William Robertson Johnston, BSc, in May 2021

'63 Martha Helen Kruhlak, Dip(Nu), in August 2021

'63 Maynard MacLennan Vollan, BSc(CivEng), '64 MSc, in July 2021

'63 Ernest J.M. Walter, BA, '64 LLB, in January 2021

'64 Mary Joyce V. Bobey, BA, in June 2021

'64 Stephen Harold, PhD, in January 2021

'64 David John Schroder, BSc(Ag), '69 MSc, in March 2021

'64 Evelyn Joyce Shapka (Winnick), BSc, '66 BSc(HEC), in July 2021

'64 W. Robert Sinclair, BSc(MechEng), '71 MEng, in June 2021

'65 Stuart Byron Bailie, BEd, in August 2021

'65 Cecile June Bushko, Dip(Nu), '77 BScN, '86 MEd, in July 2021

'65 Michael William Edwards, BSc(MetEng), in September 2021

'65 Ellen Winnifred Howrith (Appleyard), BSc, in March 2021

'65 Alvin G. S. Isbister, BA, '70 MEd, in August 2021

'65 Robert Elzear Lefebvre, MD, in March 2021

'65 Regine Julienne M. Norlin, BEd, in July 2021

'66 Peter Macdonell Clark, BA, in March 2021

'66 Pamela Kathleen Farmer, BEd, in 2021

'66 Margaret Patricia Greene, BA(Hons), in March 2021

'66 Joseph Paul Haracsi, BEd, in March 2021

'66 Glenn Howes, BSc(MechEng), in November 2019

'66 Harry Lutzer, BSc, '74 PhD, in March 2021

'66 Gary Norman Marshall, BSc(MechEng), in December 2020

'66 Donald Andrei Melnychuk, BPE, '68 BEd, '82 PhD, in June 2021

'66 Helen Marjorie Moncrieff, BSc, in May 2021

'66 Patricia Lillian O'Brien, BEd, '74 BA, in April 2021

'66 Edwin Gustave Shaske, BCom, in June 2021

'67 Steven Dmytro Chwyl, BEd, '71 BSc, '77 Dip(Ed), in September 2021

'67 Klaas Elzinga, BEd, '68 BA, in June 2021

'67 Marjorie Jean Ford, Dip(Nu), '68 BScN, in March 2021

'67 Rowena Vawdrey Leivo (Roux), BEd, '71 Dip(Ed), in January 2021

'67 Terrence Gene Neraasen, BSc, '70 MSc, in September 2021

'67 Kenneth James Purvis, BA, '70 LLB, in September 2021

'67 Thomas Rolland Sheehan, BEd, '95 MEd, in June 2021

'67 John William Stamm, DDS, in April 2021

'67 Dennis James Wellar, BSc, in May 2021

'67 Bryan Warner Westerman, BA, '68 LLB, in March 2021

'67 Douglas D. Wolansky, BSc, in May 2021

'68 William Thomas Beecroft, BA, '90 BEd, in 2021

'68 Marilyn Elizabeth Rainbow (Hutchinson), Dip(Nu), '69 BScN, in March 2021

'69 Mildred Marie Apel, BEd, in April 2021

'69 Eileen Margaret Betker (Brown), BSc, in June 2021

'69 Warwick Burgess, BEd, '80 MA, in June 2021

'69 George Walter Cormie, BSc(Hons), '75 MSc, '76 Dip(Ed), in March 2021

'69 Daniel Paul Gitzel, BCom, in May 2021

'69 Kenneth Hoyano, DDS, in February 2021

'69 Kenneth James Macrae, BEd, '71 Dip(Ed), in July 2021

'69 Isla Marguerite Nicholson (Adair), BA, in July 2021

'69 Ellen Marie Paradis, BEd, in July 2021

'69 Dennis Melvin Pasenau, BSc(ElecEng), in March 2021

'69 Hector Alex Poirier, BEd, '72 Dip(Ed), in September 2021

'69 Norma Irene Sandercock (Eyre), Dip(DentHyg), in April 2021

'69 Rudy Seneka, BSc, '73 BSc(Pharm), in March 2021

'69 Donna Ann Trenchie (Olchowy), Dip(Nu), '70 BScN, in March 2021

'69 Joseph Wasyluk, BCom, '72 MBA, in September 2021

'69 Millie G. Weishoff, Dip(Nu), in January 2021

1970s

'70 Ausma Janitens Birzgalis, BA, '80 MA, in March 2021

'70 Maria Esther Kurylo, BEd, in July 2021

'70 Carl Gilbert Langstaff, BEd, in June 2021

'70 Vivian Lipovski, BEd, '74 Dip(Ed), in February 2021

'70 Barbara Joan MacBeth (Pitfield), BSc(HEC), '86 LLB, in May 2021

'70 James William Pasos, BSc(Spec), '75 MSc, in June 2021

'70 Myrna Louise Smith, BA, in June 2021

'70 J. Byron Traynor, BPE, in August 2020

'70 Peter Woloshyn, BEd, '73 MEd, in July 2021

'70 David L. Zirul, MSc, in June 2021

'71 Kevin Joseph Angel, Dip(Ed), '71 BEd, in September 2021

'71 Phyllis Rose Basaraba, BA, '76 BEd, '02 MA, in September 2021

'71 Roland Arsene Baert, BSc(MechEng), in May 2021

'71 Ivor Terrence Behennah, BSc, '72 BEd, in February 2021

'71 Christine Anne Campbell (Badmington), BEd, '89 Dip(Ed), in July 2021

'71 Frank Alexander Josey, BEd, in February 2021

'71 Randall Anthony Junck, BSc(Med), '72 MD, in June 2021

'71 Brenda Frances Marie Love, BA, '72 Dip(Ed), '90 BEd, '01 MEd, in June 2021

'71 Margaret May Mah, BSc(Pharm), in August 2021

'71 Murray Vincent Miller, BA, in September 2021

'71 Orest Motowoyo, BEd, in June 2021

'71 Doreen Marie Ross (Walsh), BPE, '72 Dip(Ed), in April 2021

'71 Edward Leslie Shipka, BCom, '72 MBA, in February 2021

'71 Rose Marie Shumansky (Bilski), BSc(Spec), in 2021

'71 Robert Alexander Smith, BA, '72 Dip(Ed), '82 MEd, in June 2021

'71 Peter Gregory Smith, BPE, '72 Dip(Ed), '84 Dip(Ed), in May 2021

'71 Denise Marie Teierle (Malowany), BEd, in February 2021

'71 Shirley M. Uhryn (Bayers), BEd, in April 2021

'72 James Murray Cunningham, BA, '11 MA, in January 2021

'72 James Scouler Douglas, BSc(Ag), in January 2021

'72 Eugene Thomas Harmel, LLB, in March 2021

'72 Joan Carolyn Irvine (Conrad), BSc(HEC), in August 2021

'72 James Craig Kinniburgh, BEd, in July 2021

'72 David Paul Knapp, BSc(Med), '74 MD, in March 2021

'72 Kent Walter Kozlinski, BSc, in May 2021

'72 Robert Cecil Maskell, BEd, in April 2021

'72 Margaret Elizabeth McGovern, BEd, in August 2021

'72 James Allen Redfield, PhD, in April 2021

'72 Carole Patricia Schmidt (Gilmore), BFA, '74 Dip(Ed), in March 2021

'72 Hazel Moira Staples, BA, '73 Dip(Ed), in February 2021

'72 **Patricia Louise Tompkins (Stepchuk)**, BEd, '74 Dip(Ed), '76 Dip(Ed), in April 2021

'72 **Richard William Venables**, BSc(CivEng), in July 2021

'72 **Roy Brian Whetstone**, BSc, in July 2021

'72 **Gerald Walter White**, BSc(Pharm), in February 2021

'72 **Dianne Adele Willisko**, BA, in July 2021

'73 **Edelone Margaret Ball (Arnold)**, BEd, in September 2021

'73 **Roman John Cherkawsky**, BA, '76 LLB, in April 2021

'73 **Elvie June English**, BA, in January 2021

'73 **Marianne Erno**, BSc(Pharm), in July 2020

'73 **Diane Marie Ewanishan (Dumont)**, BSc, '89 MBA, in June 2021

'73 **Margaret Heather Frankish**, BEd, in June 2021

'73 **Robert John Giebelhaus**, BSc(CivEng), in August 2021

'73 **Eva Maria A. Luczynska**, BA(Hons), '81 MA, in February 2021

'73 **Douglas Victor Rahnell**, BEd, in April 2021

'73 **Stuart George Robbins**, PhD, in June 2021

'73 **Donna Roxanne Shymko**, BSc(HEC), in June 2021

'73 **Charles Ross Tait**, BEd, in March 2021

'73 **Beryl Elizabeth Taylor**, BEd, in February 2021

'73 **Erzsébet Julianna Tóth**, BSc(Hons), in March 2021

'73 **Rosalie Anne Willsie (Nalesnik)**, BSc, in January 2021

'74 **Lorraine Paulette Ashton (Belik)**, BEd, in July 2021

'74 **Beverley Anne Browne**, BA, '75 LLB, in March 2021

'74 **David Earl Cullen**, BSc(Spec), in August 2021

'74 **Gurinder Singh Dhaliwal**, Dip(Ed), in August 2021

'74 **Michael Victor Falk**, PhD, '76 Dip(Ed), in September 2021

'74 **Glenda Fern Graham (Leech)**, BA, '75 LLB, in February 2021

'74 **Nora Marie Mabillard**, BEd, in June 2021

'74 **John Gerald McCutcheon**, BA, '78 DDS, in July 2021

'74 **Derek Charles Read**, BSc(Ag), in January 2021

'75 **Deborah Anne Barrett (Dunkley)**, BA, '89 MSc, in April 2021

'75 **Jean Margaret Barry**, BEd, in February 2021

'75 **Susan Lynne Burns (Hurley)**, BA, '76 Dip(Ed), in August 2021

'75 **Dorothy Mae Cook**, BCom, in January 2021

'75 **Yvonne Rose Freelove**, BScN, in July 2021

'75 **Evelyn Grace Malone**, BEd, in February 2021

'75 **Barry John Massing**, BA, '78 LLB, in July 2021

'75 **Terrance Harold Ostapiw**, BEd, '80 Dip(Ed), in May 2021

'76 **George William Boorman**, BSc, in May 2021

'76 **Mildred Faye Burton**, BA, '81 BEd, in May 2021

'76 **Letitia Jean Coffin**, Dip(Ed), in February 2021

'76 **Dianne Jeanette Dubetz**, BSc(MedLabSci), '94 LLB, in August 2021

'76 **R. Eleanor Haddow (Waefler)**, BEd, in September 2021

'76 **Wilfred Paul Hanneman**, BEd, in September 2021

'76 **Merilyn Mabel King (McAfee)**, BEd, in May 2021

'76 **Caroline Mae Suk**, BEd, in January 2021

'76 **Gerald Augustine Widgiz**, BSc, in July 2021

'76 **Joel Luther Zimmerman**, BEd, in April 2021

'77 **Donna Gail Feldberg**, BA, in April 2021

'77 **Stanley Waldmer Hess**, BSc(Spec), in June 2021

'77 **Yolanda Wanda Lopata Pearson**, BSc, in June 2021

'77 **Randall Wayne Marcinko**, BSc(Hons), in March 2021

'77 **Patricia Ann Molyneaux (Carter)**, BEd, in August 2021

'77 **Evie Grace Pysyk (Popowich)**, BEd, in April 2021

'78 **Franklin Lewis Kobie**, MBA, in September 2021

'78 **Stephen Henry Lindop**, BEd, in March 2021

'78 **David Paul Pysyk**, BEd, '00 PhD, in February 2021

'78 **Marie Pilek**, Dip(Ed), in 2021

'78 **Jean Patricia Smellie (McIntyre)**, MEd, in June 2021

'79 **Mary Elizabeth Chmara**, BEd, '86 MEd, in August 2021

'79 **Lorene Catherine Davies**, BSc, in March 2021

'79 **Bryan James Doidge**, BEd, in June 2021

'79 **David Richard Galloway**, BEd, in August 2021

'79 **Andrée Antoinette Gargagliano**, BEd, in July 2021

'79 **Catherine Marchuk**, BA, in February 2021

'79 **Terry Rodney Simon**, BCom, in May 2021

'79 **Wayne William Whittaker**, DDS, in August 2021

'79 **Elizabeth Gray Woolnough**, BSc(PT), in April 2021

1980s

'80 **Catherine Keswick**, BA, in March 2021

'80 **Brenda Lynn Mann**, PhD, in January 2021

'80 **Terry Michael Naciuk**, BA, '86 BSc(Spec), in February 2021

'80 **Robert Gray Ruggles**, MSc, in January 2021

'81 **Janice Lee Sarich (Acten)**, BPE, '95 MEd, in February 2021

'82 **Arlene Ann Christie**, BEd, in May 2021

'82 **Lisa Gail Valens (Reddon)**, BEd, in February 2021

'83 **Holly Gail Ames**, BSc(Spec), '92 MSc, in August 2021

'83 **Leonard James Berglund**, BSc(CivEng), in January 2021

'83 **Rodney Kent Burr**, BSc(CivEng), in March 2021

'83 **Peggy Gouin**, BA, '88 LLB, in June 2021

'83 **Barbara Ann Hankinson**, BCom, in August 2021

'83 **Bartley Wayne Oegema**, BSc(CivEng), in February 2021

'83 **Lance Phillippe Whissell**, BA, '86 BCom, in February 2021

'84 **Cedric Charles Abday**, BMus, '98 MMus, in August 2021

'84 **Wade Everett Peters**, BSc(PetEng), in August 2021

'85 **Grant Ulrich Bergquist**, BA, in April 2021

'85 **Paul Sven Chell**, BA(Spec), in July 2021

'85 **Dennis Albert DeChamplain**, BCom, in August 2021

'85 **Theresa Maria Dychna**, BEd, '93 Dip(Nu), '95 BScN(Hons), in August 2021

'85 **David James Wright**, BA(Hons), in June 2021

'86 **Monica Blais**, BA(Spec), '92 MA, in March 2021

'86 **Gloria Lai-Ping Chow**, BSc(CompEng), '92 MSc, in December 2020

'86 **Christopher William Judge**, BFA, in 2021

'86 **James William Shelast**, BCom, in May 2021

'86 **Erma Jean Steele**, BEd, in June 2021

'87 **Thomas Michael Feehan**, BA, '93 BEd, in September 2021

'87 **Caroline Nadia Lesniak**, BEd, '90 Dip(Ed), in July 2021

'87 **Rachel Elizabeth O'Brien (Loiselle)**, BSc(PT), in April 2021

'88 **Murray Glen McCalpin**, BPE, '90 BEd, in March 2021

'88 **Derek Roy-Brenneis**, BA(Spec), in May 2021

'88 **Virginia D. Rozeboom**, BScN(Hons), in January 2021

'89 **Dick Au**, BMedSc, '91 MD, in June 2021

'89 **Edeltraud Erna Crow (Jeske)**, BEd, '91 Dip(Ed), in March 2021

'89 **Rosaleen McEvoy**, BA(Hons), '91 BEd, in July 2021

'89 **Jan Rynierse**, BEd, in April 2021

'89 **Roman Andrey Wasarab**, BSc(Spec), in September 2021

1990s

'91 **James Philip Eadie**, MFA, '93 MA, in February 2021

'94 **Demetrios Chroniaris**, BCom, in February 2021

'94 **Lance Regan Rancier**, BA, in June 2021

'95 **Elizabeth Fodor**, BEd, in March 2021

'95 **Phyllis Nanninga**, BFA, in April 2021

'95 **Anne Leslie Willans**, BScN(Hons), in April 2021

'96 **Andrea Mae Brodeur**, BEd, in January 2021

'99 **Christopher Shea Prendergast**, BSc(Spec), in March 2021

2000s

'00 **Yolanda Chui-San Loo**, BSc(PT), in February 2021

'01 **Patrick James Murray**, BSc(Spec), in February 2021

'03 **Rebecca Anne Holmes**, BCom, '07 BSc(Nutr/Food), in June 2021

'03 **Valerie Soderberg**, BSc(Pharm), in July 2021

'04 **Anubhav Chaitanya**, LLB, '11 MBA, in March 2021

'04 **Curtis Richard Devereux**, BSc(Spec), in January 2021

'04 **Kara Suzanne Lindholm**, BCom, in July 2021

'09 **Mark Andrew Brown**, BSc(Spec), '16 JD, in June 2021

'09 **Garvan Elliott Gilmour**, BCom, in July 2021

2010s

'10 **Albert Bandura**, LLD (Honorary), in July 2021

'14 **David William Schindler**, LLD (Honorary), in March 2021

2020s

'20 **Lori Denise Schroeder**, MSc, in 2021

If you've lost a loved one who was a University of Alberta grad, contact alumni records at alumrec@ualberta.ca, 780-492-3471 or 1-866-492-7516.

thehub

ATTEND / VOLUNTEER / LEARN / BENEFIT

SPEAKER'S CORNER

HOW TO KICK FAST FASHION

By **Lisa Szabo**, '16 BA

The fashion industry is a major contributor to global pollution, with millions of tonnes of textile waste dumped in landfills every year. Thankfully, fashion companies and researchers have noticed this massive environmental footprint, and people like **Marilyn McNeil-Morin**, '77 BSc(HEc), are catalyzing lasting change. McNeil-Morin is the director of the Fashion Exchange (FX) at George Brown College in Toronto, and she shares tips on how consumers can help spin the thread of a more sustainable future.

UNDERSTAND THE IMPACT

Two to eight per cent of all CO2 emissions come from the fashion industry. "Part of the issue," she says, "is that it's an intricately connected global industry." At every stage of the supply chain, products are travelling around the world to get to the consumer. "We need to shift consumer mindsets to slower, local fashion."

TAKE CONTROL OF YOUR PART

Start by reducing the amount of clothing you buy, reusing what you already have



and repairing items that just need a little love. If something doesn't fit you anymore, donate it. A thrift store or charity may be the obvious end of the road for you, but McNeil-Morin says that, on average, consumers only donate around 15 per cent of their unwanted clothing. The rest ends up in the trash—usually, she says, after leaving the closet only five times.

LEAVE THE "MAYBES"

ON THE RACK Online shopping exploded during the pandemic, and not being able to try on garments means many don't fit properly. "One of the biggest wastes in fashion comes from problems with fit," McNeil-Morin says. "Things that don't fit get returned, and they don't necessarily make it back onto the shelf." Often, they go to waste. Avoid online purchases that you're not confident will fit

or invest in alteration services to turn your purchase into a new favourite.

LOOK FORWARD TO THE FUTURE

Sustainable change for the industry would mean a total shift in the way we think about clothing. For McNeil-Morin, that means moving to a circular economy, where all inputs are used and reused in a continuous loop. So, once your much-loved pair of jeans has seen its last wear, it gets broken down into fibres and made into something new. A circular system would literally turn trash into treasure by turning textile waste into a valuable commodity.

McNeil-Morin, who received a 2020 Alumni Honour Award, is one of many speakers to share expertise through alumni webinars. Visit uabgrad.ca/OnDemand for more content.

DON'T MISS OUT ON...

DEGREE FRAMES

You've got your degree, now show it off! You can purchase a branded U of A degree frame at bookstore.ualberta.ca to display your credentials in green and gold. All profits from the sale of degree frames support Alumni Association programming for grads and students.



LIVING ROOM LESSONS

Grab some comfy clothes and prepare to de-stress with "Anxiety Hacks," an On Demand webinar led by yoga instructor and breath therapist **David Wilson**, '03 MMus. Learn how to use yoga and breathing techniques to reduce anxiety in this free virtual session. Or unlock more tips from U of A experts at uabgrad.ca/OnDemand.



PODCAST WISDOM

"The frontier of science is that you're always feeling as if you have no idea if it's going to work or not. The hypothesis is that it should work, but if it doesn't, that will be a pretty informative experiment."

▼ **Kory Mathewson**, '10 BSc(ElecEng), '14 MSc, '19 PhD, research scientist with DeepMind, talks about AI and improv on the alumni podcast *What the Job?*



6

The number of books read by the UAlberta Virtual Book Club since September 2020. Join 1,100 U of A community members from nine countries in January as they begin *The Push*, a psychological drama by Ashley Audrain. Sign up at uabgrad.ca/OnDemand.

110

The number of heat sensors covering Harry Burns, the life-sized mannequin used by the U of A's Protective Clothing and Equipment Research Facility to test fire-protective clothing. Harry starred in an episode of *Campus Curiosities* created as part of Alumni Week(end).



Be Social



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Natasha Danha
is a second-year
science student and
scholarship recipient



Paying it forward with a gift of life insurance

Former international student **Dilip Kembhavi and his wife, Alaka**, wanted to give back to the community that gave them so much.

By arranging a gift of life insurance to the university, the Kembhavis will help more students than they ever imagined possible.

To learn how you can make a difference by giving a gift of life insurance, please contact us:

780-492-2616 | giving@ualberta.ca | uab.ca/LifeIns



"Donating life insurance was appealing – providing good tax benefits while allowing us to create a substantial impact in the future."

Donors Dilip Kembhavi, '74 MEng, '78 MBA, and his wife, Alaka.

smalltalk



Who Knew?

➤➤ There are courses you can't wait to start, and others you can't wait to finish. Then there are the ones that surprise you. We asked grads to share their unexpected favourites. Find more campus memories or share your own at facebook.com/UAlbertaAlumni.

I was a biology major hating my compulsory organic chemistry course when I took calculus and loved it! I switched majors and taught post-secondary math for 35 years. Life-changing!

—Wendy Huseman (Pringle), '76 BSc, '77 BEd

Advanced agricultural business management with Len Bauer, linking economic theory to real-life applications. Four months of "aha!" moments led to a fulfilling lifelong career translating the fundamentals of "better business management choices" — only to be eclipsed by the opportunity to return and teach the course as cover for a sabbatical!

—Dale Kalliel, '77 BSc(Ag), '82 MSc



The sociology of death and dying was a transformative class! I have made it my personal mission to normalize speaking about death because of the myriad benefits the openness can have on our lives. I would recommend the class to anybody!

—Miki Zwarich, '08 BA, '21 BA

For an English major, the idea of having to take two science courses for my degree felt archaic and cruel. I decided if I was going to have to pay for them, I might as well pick something I actually found interesting. Paleontology and plant science were two of my favourite courses.

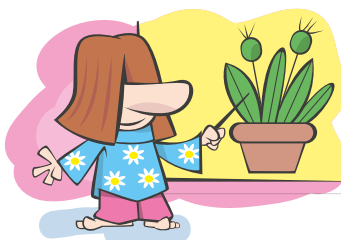
—Kirstyn Smith, '16 BA

Intergenerational theatre (and GeriActors) with David Barnet.

—Silvia Koso, '10 MPH

Drug plants of the world was an unexpected favourite of mine. I still bring that class up in conversations because it reminded me that "natural" doesn't mean better — it just means it was first discovered in plants and still needs rigorous research and testing before commercial use. The class has also saved me loads of money over the years by largely avoiding herbal supplement stores!

—Jaime Gonek, '99 BSc(MedLabSci)



There was a course I took in pharmacology on drugs of abuse, taught by **George Hunter**, '63 BSc(Pharm), '65 MSc. Amazing class. A lot of people who weren't even registered came to the lectures just to hear his stories and to learn.

—Lindsay Arsenaault (Bowers), '05 BSc(Spec)

My last year of pharmacy, and I had to take some out-of-faculty options. I took an economics class and really enjoyed it!

—Stacy Uhryn (Brant), '93 BSc(Pharm)

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

Alumni Insurance Plans can help.



ALUMNI



2020 will go down as the year of the great reset. The year we all got back to basics and were reminded of what really matters: family and protecting it. Maybe it's time to reset the way you protect your loved ones.

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CHALLENGE

We not only welcome change. We redefine it.

Change is inevitable. How we take it on defines our purpose. Walk our hallways, our classrooms and our labs and you can feel the energy created by those *Leading with Purpose*.



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