Western Alumni Magazine

Fall 2024

ENOUGH.
A systemic crisis calls for radical change

Western

Story by Keri Ferguson
Photo by Steven Anderson

For students like Miles Leslie and Jade Shi, Western's new Ronald D. Schmeichel Building for Entrepreneurship and Innovation is the place to turn their ideas into real-world solutions.

Open to the entire Western community, the state-of-the-art, net-zero facility is home to Canada's largest maker space available to all students across all faculties, as well as staff, faculty and alumni. It's equipped with everything from woodworking and metal tools to sewing machines and 3-D printers, plus plenty of open space for collaboration.

Named in recognition of a $10-million gift from Western law grad and Canadian entrepreneur and financier Ron Schmeichel, JD'95, it brings together the university's key entrepreneurship programs, including the Morrissette Institute for Entrepreneurship, Powered by Ivey, along with its incubators, accelerators and networks.

Leslie is a fourth-year medical sciences student and Shi, a third-year nursing student. Both are members of the Founders Program, which provides entrepreneurial education, mentorship and a $20,000 tuition bursary.

Shi sees the Schmeichel Building for Entrepreneurship and Innovation as a place to create a tool or business to address health-care system inefficiencies. "The more I learn about nurses advocating for patients and policy changes, the more I believe health-care providers should collaborate with the entrepreneurship community to drive real change."

Leslie shares a similar vision for the new building. "I truly believe in the power of entrepreneurship to change this world. This dedicated space can help to inspire the next generation of entrepreneurs, by teaching them to embrace creative problem solving and the mindset to adapt through challenges." ●

Illustration by Jeannie Phan

How scholars challenge what we know—and spark action

This issue of *Western Alumni Magazine* takes on some difficult and controversial subjects.

One of them is our cover story on intimate partner violence.

Another is the call to replace fossil fuels with nuclear energy, which is explored in a feature article.

On the surface, these two issues couldn't be more different. But the connections become clearer when you consider that each affect all of global society and both are steeped in stereotypes, conjecture, wrong assumptions—and secrecy.

The complexity surrounding these topics makes them perfect for university research and scholarship.

Universities are purpose-built for challenging accepted theories. This ability applies to everything—the range of topics studied in depth never fails to amaze me.

But it's not the university that carries out this work—it's our community of scholars. This was articulated well in a landmark report published almost 60 years ago.

In 1967, a committee at the University of Chicago was struck to develop a position on the school's role in political and social action. The result was a short document that has come to be known as the Kalven Report, named for its chair, Harry Kalven, Jr., a legal scholar.

The report's basic premise is that a university doesn't take stances on political or social matters but has a core mission to create and sustain an environment for the free-flowing exchange of ideas, discussion and debate by its community of scholars—faculty and students.

I'm continually inspired by Western's community of scholars—and by their energetic, bold discussion and exploration of their disciplines and passions. It happens daily in all corners of the university, producing important thought and action that has a direct impact on society.

Our scholars shine a light where there wasn't one before, coaxing out new thoughts and debating perspectives.

Importantly, that community also includes alumni, who take what they learn and experience at Western into the world to apply it in countless ways.

One of them is Diane Goodman, BA'79, a lawyer who has spent much of her career working in the human rights field in senior roles with agencies such as the Office of the United Nations High Commissioner for Refugees. She's been on the front lines with asylum seekers and refugees as they fled often appalling conditions. More recently, she has focused on prevention and response to sexual exploitation. We're immensely proud to count Diane among our global community of scholars. She is the subject of our Alumni Q&A on page 46. We're grateful to her for sharing her experience and insights.

I hope you enjoy this thought-provoking issue.

Alan Shepard
President & Vice-Chancellor

Western Alumni Magazine

Fall 2024

PUBLISHER
Althea Blackburn-Evans

EDITOR-IN-CHIEF
Marcia Steyaert

SENIOR EDITOR
Paul Fraumeni

DESIGN/ART DIRECTION
Raj Grainger

ASSISTANT EDITORS
Amanda Jackman
Trista Walker

CONTRIBUTORS
Steven Anderson
Jacklyn Atlas
Patchen Barss
Sophie Bouquillon
Keri Ferguson
Gotham Studios
Mike Hensen
Melinda Josie
Kurt Kleiner
Darryl Lahteenmaa
Allan Lewis
Leith Mahkewa
Frank Neufeld
Carol Off
Nicole Osborne
Luke Pauw
Jeannie Phan
Melanie Randall
Jeff Renaud
Megan Stacey
Alice Taylor
Dalbert B. Vilarino

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Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Attawandaron peoples, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum.

This land continues to be home to diverse Indigenous Peoples (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society. Their distinct rights are an important part of our institutional responsibility to Reconciliation, and they are essential partners as we continue our commitment to increasing Indigenous voices and presence across all levels of community life, work, study and research.

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Beadwork detail on a kahlu (cradleboard in Oneida), a baby carrier used in many Indigenous Nations. Indigenous artist-in-residence (2023–24) Leith Mahkewa created the intricate design during her residency at Western, inspired by the experience of using a cradle-board with her children.

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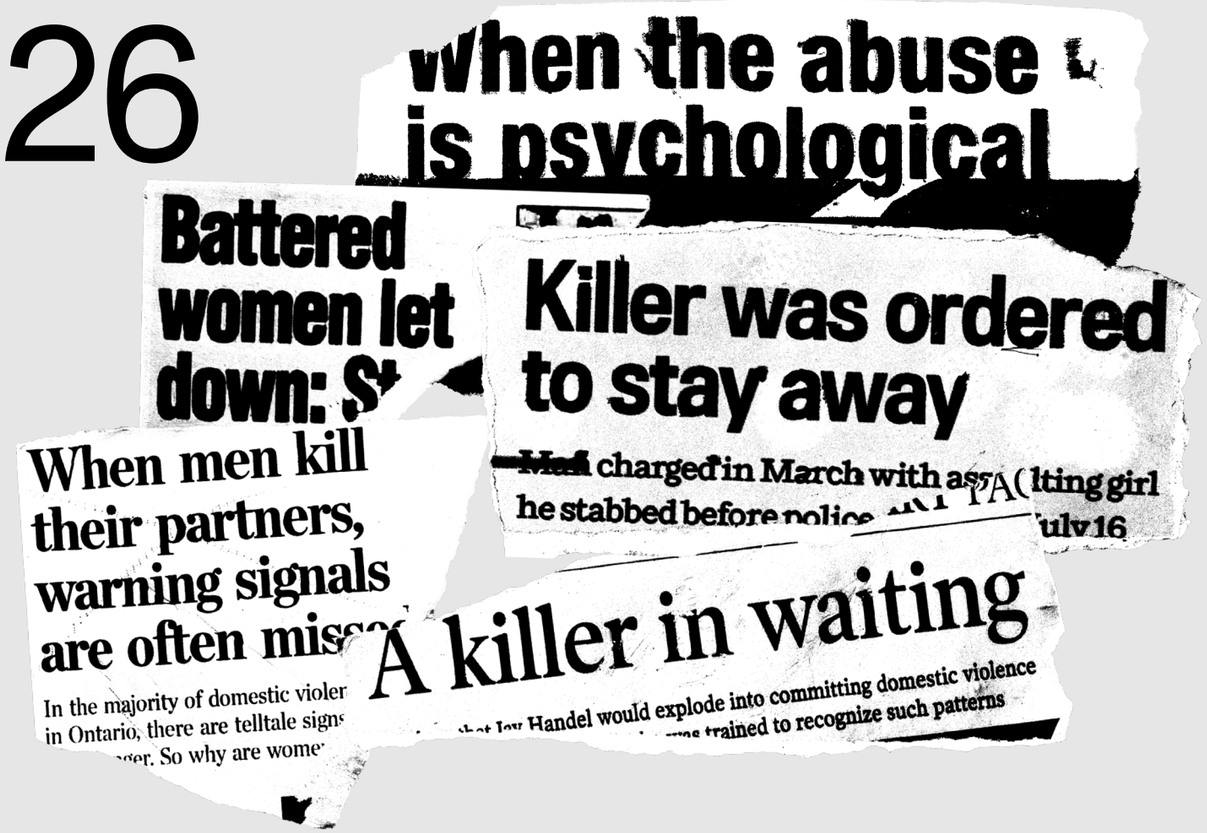

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ALLAN LEWIS/SCHULICH SCHOOL OF MEDICINE & DENTISTRY

Dr. Michael Strong: New breakthrough in ALS research

A Western research team, led by Dr. Michael Strong, is making significant strides towards curing ALS (amyotrophic lateral sclerosis).

Their study, published in the journal *Brain*, found that targeting an interaction between two proteins present in ALS-impacted nerve cells can halt or reverse the disease's progression. The team also identified a mechanism to make this possible.

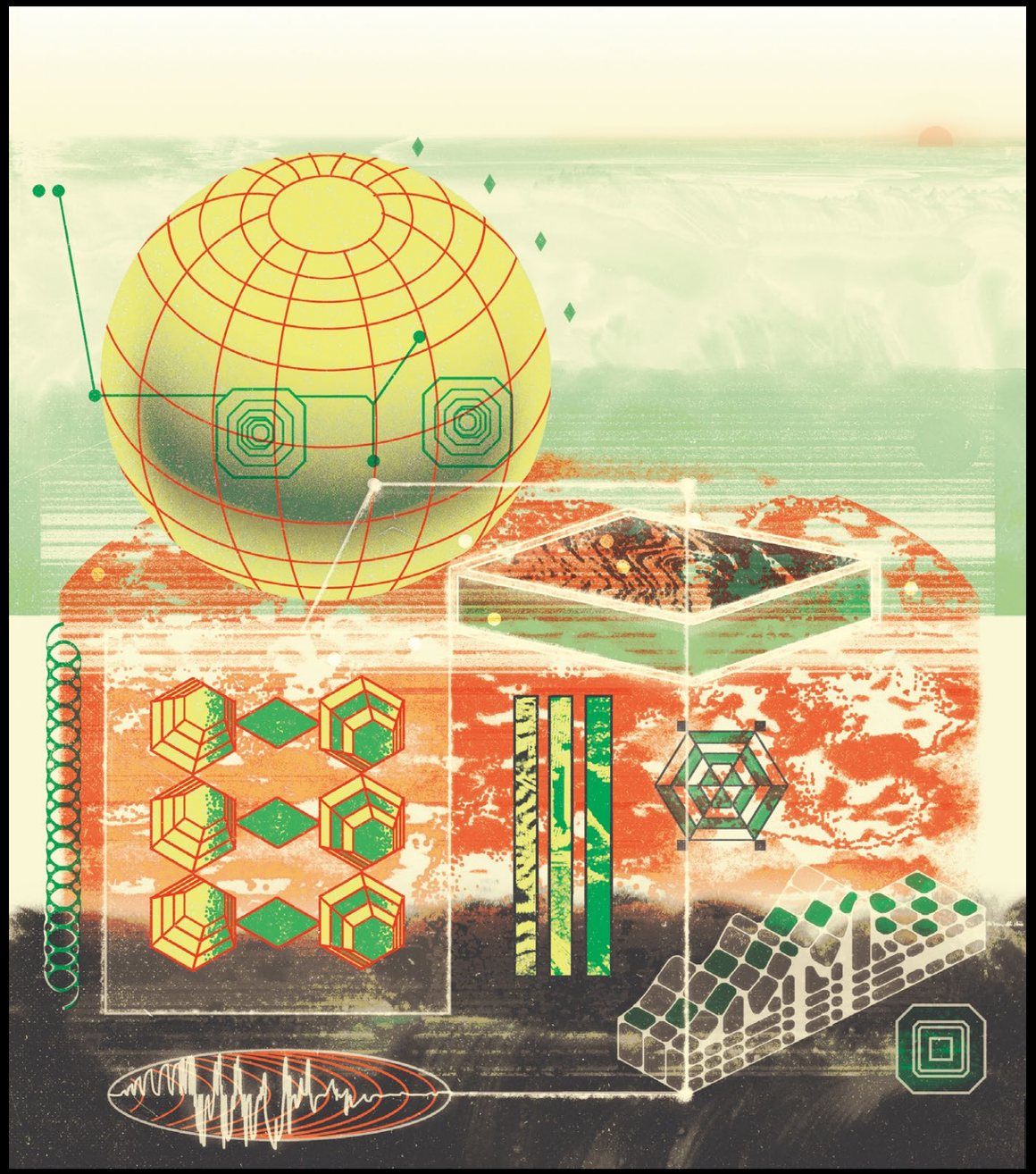
"This interaction could be key to unlocking a treatment not just for ALS but also for other related neurological conditions, like frontotemporal dementia," says Strong, who holds the Arthur J. Hudson Chair in ALS Research at the Schulich School of Medicine & Dentistry. "It is a gamechanger."

ALS, also known as Lou Gehrig's disease, is a debilitating neurodegenerative condition that progressively impairs nerve cells responsible for muscle control, leading to muscle wastage, paralysis and, ultimately, death. The average life expectancy of an ALS patient postdiagnosis is just two to five years.

"It's been 30 years of work to get here, 30 years of looking after families and patients and their loved ones, when all we had was hope. This gives us reason to believe we've discovered a path to treatment," says Strong, a clinician-scientist who has devoted his career to finding a cure for ALS.

The next step is to bring this potential treatment to human clinical trials in five years, supported by a new $10-million donation from the Temerty Foundation. ●

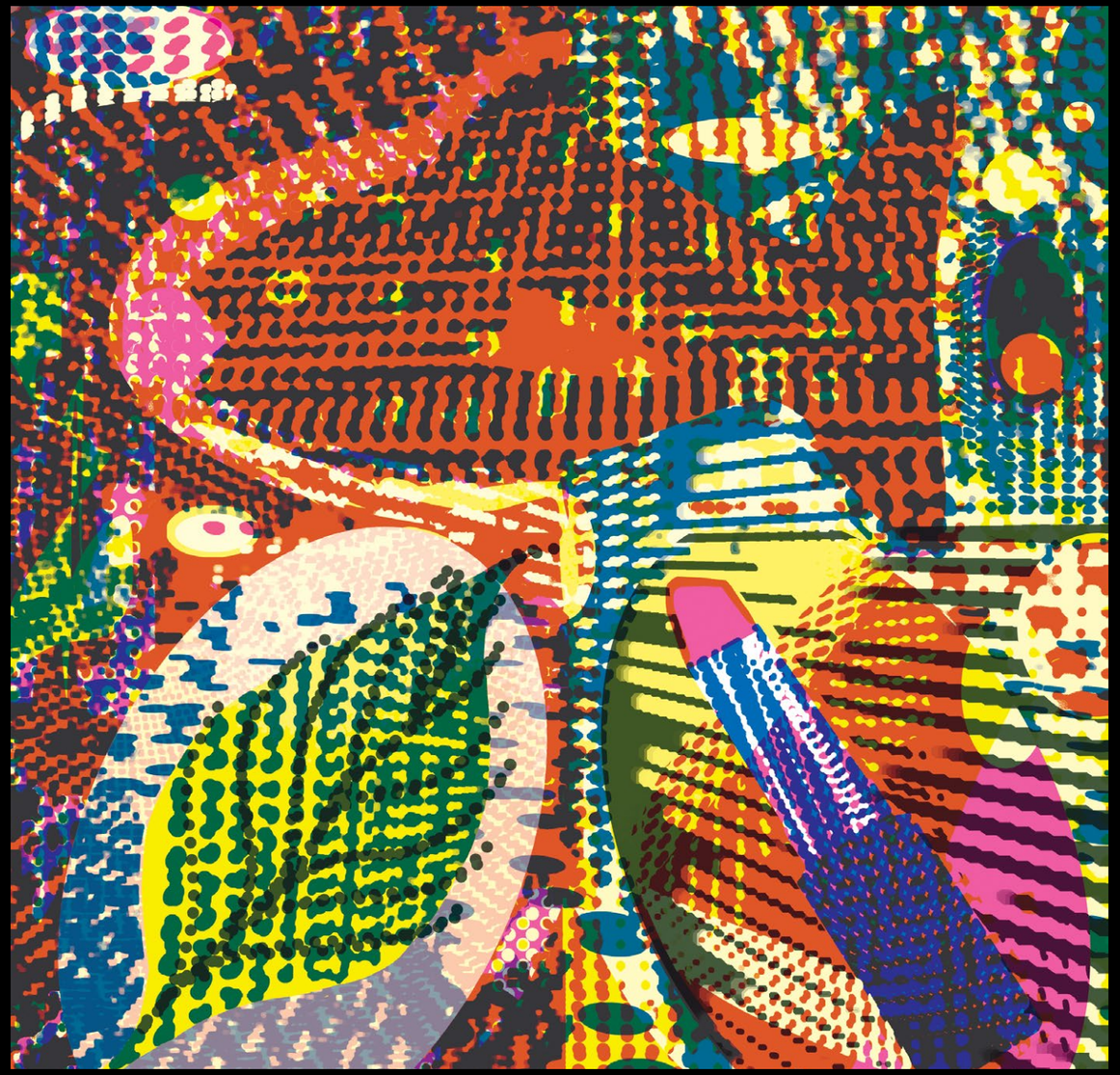
More on these stories online:
magazine.westernu.ca



Seismic impact

Illustration by Dalbert B. Vilarino

Western's seismic research team is enhancing earthquake preparedness in Vancouver. Under the direction of Earth sciences professor Sheri Molnar, the team has created detailed seismic hazard maps that assess and analyze the region's ground conditions. The maps are based on measurements from more than 2,300 locations and aim to inform emergency preparedness, land-use planning and seismic risk assessments. ●



Marine makeover

Illustration by Dalbert B. Vilarino

Imagine finding a way to repurpose salmon heads in agricultural or cosmetic products or developing health-care solutions using proteins found in eels.

This kind of innovation is the focus of Western Research Chair and biology professor Raymond Thomas, who leads the $15.8-million Marine Biomass Innovation project. The initiative brings together Indigenous communities in Newfoundland and Labrador, as well as industry partners and academics to reduce waste and fully utilize all products in Canada's fishing industry.

Marine biomass includes primary material typically processed and sold, such as fish fillets as well as discarded parts like skins, shells, bones and heads. Up to 70 per cent of it often discarded as waste.

"We want to find components that will allow 100 per cent utilization of biomass and allow rural, remote, coastal and Indigenous communities to be hubs of innovation in Canada—all centred around a green, marine-based economy," says Thomas. ●

Former Queen's exec named Western's VP, University Advancement

Karen Bertrand joined Western as Vice-President (University Advancement) on Aug. 1. She is leading university-wide efforts to engage alumni and donors and manage fundraising initiatives to support students and key projects.

Prior to joining Western, Bertrand was Vice-Principal (Advancement) at Queen's University where she led a team that raised more than $426 million over four years.

"There's so much we can build on at Western. The incredible scholarly community backed by a brilliant 150-year history of innovation, a vibrant student population and strong connections between alumni, donors and the university. I'm honoured to help Western make an even greater impact in the future." ●

Expanding food and family studies

Western's newly established Brescia School of Food and Nutritional Sciences welcomed over 400 students this fall. The school offers undergraduate and graduate programs in food, nutrition, family studies and human development and makes the Faculty of Health Sciences one of the broadest interdisciplinary health sciences faculties in Canada.

"Not only does the school add expertise, but it also creates new opportunities for collaboration and opens doors for students to explore other areas of health and wellbeing they may never have considered," says Jayne Garland, health sciences dean. ●

(IN)DETAIL

Western by the numbers

11,692
Meals served in Western dining halls every day

1,616
Fresh eggs

281
Bananas

288
Sushi packs

1,017
Coffees

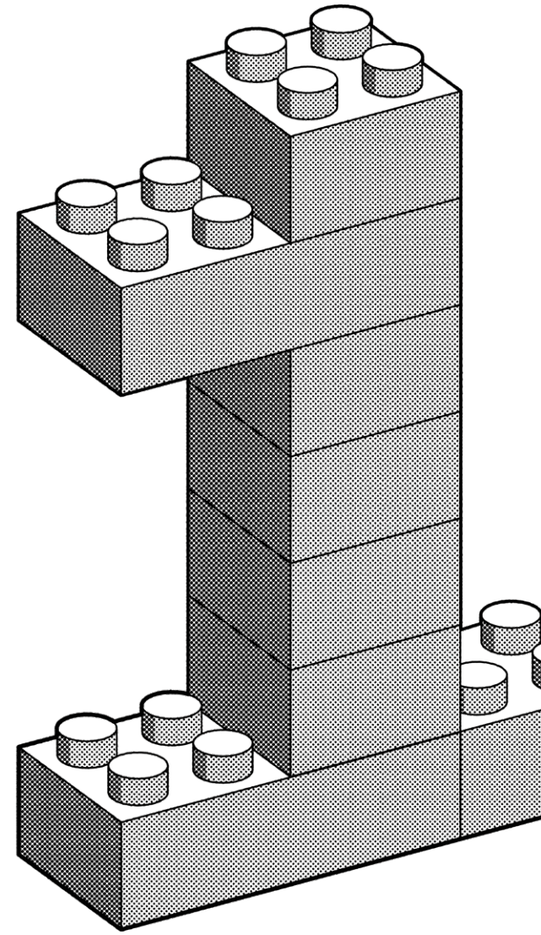
959
Pounds of potatoes

452
Freshly baked cookies

7,210
Number of on-campus residence spaces—the largest student housing program in Ontario and 2nd largest in Canada

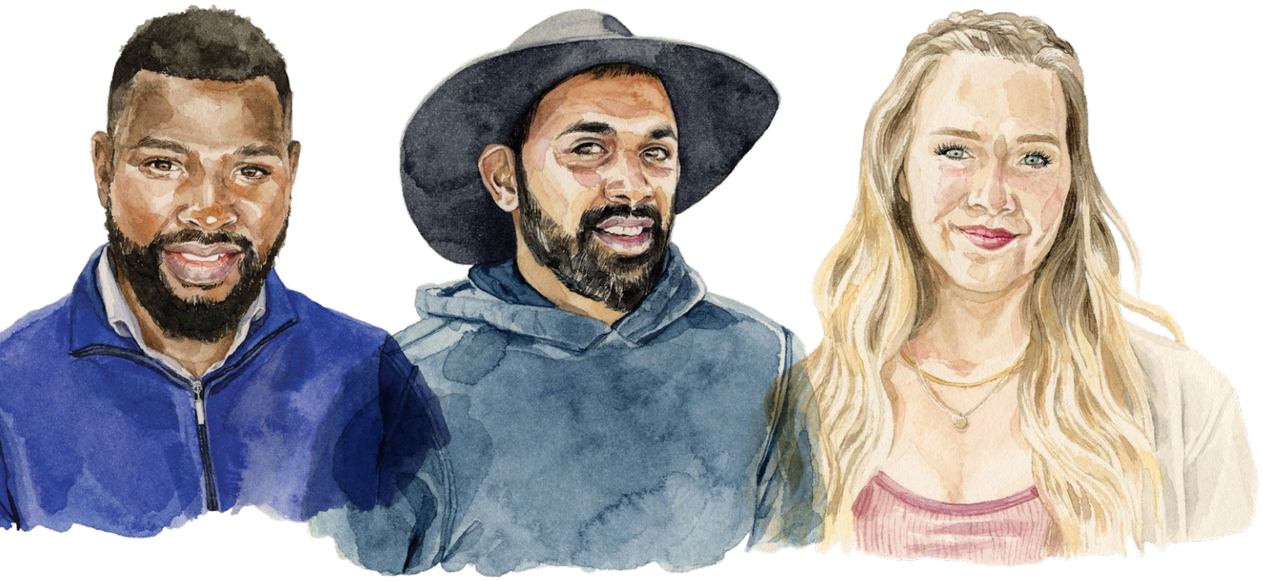
1,110
Additional student spaces in two new residence buildings by 2026

27
Number of years Western has offered guaranteed residence to all incoming first-year undergrads



Research for a better world
These Western PhD students are tackling pressing issues in developing countries, thanks to the International Doctoral Research Awards. Funded by the International Development Research Centre through Universities Canada, the awards empower researchers to apply their innovative ideas and improve lives around the world.

Illustrations by Melinda Josie



Daniel Amoak
Geography and Environment

MY RESEARCH:
About 80 per cent of Malawi's population is engaged in farming. Given that seeds are the bedrock of this agricultural system, my research focuses on understanding seed insecurity in these communities and its impact on nutrition, climate resilience and the empowerment of small-scale farmers.

MY GOAL:
Find solutions that support Malawian farmers in maintaining their crops, preserving their traditions and ensuring food security for future generations.

MY INSPIRATION:
As a boy in Ghana, my family hosted foreign researchers and exchange students who became friends, spending time in our community, visiting schools and donating items. Hearing them talk about their work and its impact sparked my interest in research as a path to explore the world and make a meaningful impact.

Arun Jentrick
Gender, Sexuality and Women Studies

MY RESEARCH:
The 30-year Sri Lankan civil war resulted in 25 per cent of households being led by women. I study the challenges faced by these households, focusing on the differences between Sinhalese, Muslim and Tamil communities, and looking at factors such as religion, age, class, education and disability.

MY GOAL:
Inform social, economic and legal policies to benefit women-headed households in Sri Lanka and around the world.

MY INSPIRATION:
I grew up in a male-dominated environment in Sri Lanka where women, even in my own family, were treated differently. My mother taught me these beliefs were wrong. Questioning these norms led me to study women's health, leading to a master's and a career in gender equality and women's empowerment.

Brianne O'Sullivan
Health Information Science

MY RESEARCH:
I look at ways medical delivery drone systems are implemented in Madagascar, Rwanda and the Democratic Republic of the Congo. I'm also working with Moose Cree First Nation in northern Ontario to establish and assess a medical and emergency response drone system there.

MY GOAL:
Improve global health equity access by using new technologies and collaborating with leaders from low- and middle-income regions to advance health outcomes.

MY INSPIRATION:
Fiery dinner table debates on politics were the norm in my Irish family and ignited my passion for global public health and health equity. Books—my lifelong teachers—fueled my understanding of history and inequities. This combination led me to where I am today, as a student, advocate and global health professional.

re•stor•a•tive jus•tice

Restorative justice is an innovative approach to crime and wrongdoing. It is both a theory and a practice that aims to address harms and remedy wrongs through an idea of justice which engages three parties to "what happened"—the victim, the wrongdoer and their respective communities.

People often mistakenly use the term "restorative justice" to describe alternative forms of dispute resolution such as mediation. To complicate things further, there are many models and programs under the restorative justice umbrella. This makes it hard to explain just how restorative justice works. Nevertheless, there are some basic ideas that help to define it.

Retributive justice is familiar to most: a person commits a crime, and a judge and jury determine their punishment, typically prison.

But restorative justice takes a broader view of possible solutions to crime, focusing not only on holding the criminal offender responsible, but also requiring their active participation in constructing a remedy to address the harm caused.

Restorative justice requires the wrongdoer to agree to the restorative process from an initial position of acknowledging the wrong they have committed. They cannot plead "not guilty." In this way, it differs significantly from the criminal justice system. By engaging the communities of both victim and offender (including friends and family of both), restorative justice embraces a broader view of who has been harmed when a crime or some other wrong is committed.

Restorative justice can be applied to many situations. Its primary advantage lies in its emphasis on responsibility and repair rather than accusation and punishment. As criminologist John Braithwaite observed, restorative justice is about "holistic change in the way we do justice in the world."

This transformative approach shifts our response to wrongdoing by prioritizing accountability, repair and restitution. It centres the needs of those harmed, encourages wrongdoers to take meaningful responsibility and fosters a more expansive and inclusive sense of justice. ● **Melanie Randall**

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NOUN
A system of criminal justice which focuses on the rehabilitation of offenders through reconciliation with victims and the community at large.

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Melanie Randall is a professor in Western's Faculty of Law. She specializes in legal issues pertaining to gender equality, human rights, violence against women and feminist legal theory. She has published extensively on issues of sexual violence, intimate partner violence and trauma-informed law. As a leading voice in the fight for gender justice, her work has significantly influenced legal policy and advocacy.

Moving memories

Story by Carol Off
Photo by Sophie Bouquillon

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Above: Carol Off at Radio Western, April 4, 2024

I was just leaving Toronto, merging into highway traffic under a sign that read "401 West London," when I began to hear comments emanating from the backseat.

The first was a woman's plaintive call for help—then came an angry snort of indignation from a Russian-speaking man, followed by a declaration of victory from a voice I knew to be that of an Afghan warlord. Suddenly, my car was alive with the chatter of dozens of voices, many speaking different languages. Filling the air with pleas, opinions, arguments and accusations; punctuating their speech with tears, laughter, empathy and rage. All of them competing to tell their stories, demanding that they be heard by me.

There was, of course, no international entourage travelling in my SUV; no one was there except me. But I was carrying dozens of cardboard boxes that contained interview tapes, transcripts and powerful memories from my decades as a journalist. As I drove, I was suddenly overwhelmed with recollections of those who had spoken to me over the years. There had been so many encounters I had forgotten most of their names. But perhaps I had also pushed their stories out of my head because they were just too painful or disturbing to retain. And now their ghosts were vying for my attention as we sped down the 401.

I was headed to a rendezvous with Amanda Jamieson, an archivist at Western University, who was eager to get hold of my files before they all fell into useless decay. The material in the boxes had been mouldering in my basement for years, long after I had left work as a globe-trotting field reporter and settled into the comfort of studio life as co-host of CBC's *As it Happens*. I don't know why I saved those crates; I suppose I couldn't bring myself to toss out the collective humanity that was now pouring out from the backseat.

Among the cast of characters in those files were the good, the bad and the ugly—generals and judges, soldiers and politicians, the victors and the vanquished. There were the survivors of war, upheaval, ethnic cleansing, drone attacks, terrorism, tsunamis and forest fires. I had met them in Europe, Africa and Asia. But there were also the voices of people I had talked to in every part of Canada and the United States where I covered elections, natural disasters, gun violence and the fallout from the 2001 attack on the twin towers in New York City. As I packed it all up for the trip—between dusty sneezes—their stories surged into my consciousness. And now their voices were haunting me as I drove to London.

What occurred to me on that drive is my clear memory of travelling in the opposite direction decades earlier, newly graduated from Western. On that sunny September day in 1981, as I followed the signs that read "401 East Toronto," I had a dream of becoming a journalist along with a seemingly impossible expectation that I would do exactly what I ended up doing—touring the world, telling people's stories.

I arrived in Toronto that fall, bright-eyed and naive, full of questions and curiosity but also with critical faculties—essential qualities honed during my years studying English literature at Western. That education served me well as a reporter. Now decades later, I was returning with my harvest, the work of a lifetime, back to the place where I had started, both as an arts and humanities student and as a reporter/editor for the student *Gazette*.

The irony was not lost on me, when Amanda toured me through the archives in D.B. Weldon Library, that the building had been my home away from home while I studied and dreamed of my future. Here I was again in that concrete bunker, watching as a hydraulic lift carried what I had achieved since I left Western up to the shelf where it will be stored for years to come.

Anyone can go and review what's there. But be prepared. My files have a lot to say. ●

Carol Off, BA'81, LLD'17, is an award-winning journalist, documentarian, author and was 2023/24 visiting lecturer in Western's School for Advanced Studies in the Arts & Humanities. Her latest book, *At a Loss for Words: Conversation in the Age of Rage*, explores how words like democracy, freedom and truth have been distorted and weaponized, and asks if we can reclaim their value.

Healing Rwanda

Thirty years after the 1994 genocide against the Tutsi, Rwandan-born researchers Glorieuse Uwizeye and Egide Kalisa are driving recovery in their homeland and shaping global perspectives on trauma and environmental health.

Story by Kurt Kleiner
Photos by Jacklyn Atlas

In 1994, Rwanda suffered a hundred days of genocide. Members of the Hutu majority targeted the Tutsi minority, killing an estimated one million people.

Thirty years later, Rwanda is in many ways a different country. It put in place a justice and reconciliation program that brought perpetrators to trial, but also attempted to heal the rift in the population. It ended official recognition of different ethnic groups.

But the country still faces problems from those years, and people are still suffering the effects of trauma—some of whom were in the womb when the genocide occurred.

And it faces other problems common to many other developing African countries, including elevated levels of air pollution.

Two Western University researchers originally from Rwanda are conducting research they hope will help their country confront and overcome these pressing challenges.

I.

UNCOVERING HIDDEN TRAUMA

WARNING
This story contains references to crimes against humanity which some readers may find disturbing.

GLORIEUSE UWIZEYE was a high school student when the Rwandan genocide happened. She and her immediate family managed to survive by hiding at home.

Today, Uwizeye is a professor of nursing at Western. She studies the intergenerational effects of trauma—how trauma experienced by a mother can go on to affect children born after the experience is over.

"Rwanda is a country that has renewed itself. It is a country that is really being transformed after the genocide, where people are progressing in life, and it's a safe country. But the effects of genocide are still lingering, 30 years later," she says.

She has found that children of survivors who were conceived in the country while the genocide was occurring have greater physical, mental and emotional problems than those conceived by Rwandans who were living outside of the country at the time of the genocide. And those who were conceived by rape have even more problems than the others.

"These are the people who need support in order to be able to achieve the same quality of life as anybody else," Uwizeye says.

When Rwanda was colonized by Europeans in the late 19th century, the population consisted of a Hutu majority and a politically dominant Tutsi minority, along with a smaller number of forest-dwelling people known as the Twa.

German and Belgian colonizers hardened the categories, defining them in racial terms and backing a Tutsi ruling class. After decolonization, political conflicts continued. In 1994, Hutu extremists, launched a genocide in response to plans for a new unity government, with the military, organized militias and ordinary Hutus attacking Tutsis.

Uwizeye was a member of the Tutsi minority, and a high school student studying nursing. By the time the genocide was over she had lost over 100 members of her extended family. But she and her immediate family survived.

Afterwards, she went back to high school and attended nursing school at the University of KaZulu Natal in South Africa. When she came back, she had a master's degree in mental health.

During breaks she worked with her mother's non-profit Association Mwana Ukundwa, or Association of the Beloved Child, which helped children who had survived the genocide, and put her in touch with the problems survivors were experiencing.

"After my master's degree, I started wanting to advocate for survivors, especially because there were all these social, economic and mental health factors that were not given enough attention," she says.

As part of her work, she interviewed women who had been raped during the genocide, and then given birth.

"The children were seen as children of perpetrators, so there was no support for them. Then the women would feel like they were being doubly punished, because of their rape experience, and because they were abandoned to care for the children."

She felt there were gaps in the research being done, which didn't always take into account the concerns of the survivors. Determined to address this, she earned a PhD from the University of Illinois Chicago and embarked on research projects of her own.

Of course, the genocide was traumatic for everyone who lived through it. But Uwizeye

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Above: Glorieuse Uwizeye (right) and her aunt, Therese Mukamakuza honour lives lost in the 1994 genocide at a mass grave in Biguhu, Rwanda (May 2019).

believed the trauma was especially damaging to children who had been in the womb when it was occurring. The trauma experienced by the mother, she suspected, had affected the unborn children.

She found 91 adult children of survivors who had been in the first trimester during the genocide, an especially important time in fetal development. By the time of her first study, these survivors were 24 years old.

Thirty of them had been conceived by men who raped their mothers; another 31 were born to mothers who had lived through the genocide but not been raped; and 30 were born to Rwandans living outside of the country.

All of them answered questionnaires about their physical and mental health, and it became clear that having been in the womb during the genocide caused problems for many of them.

Compared to those whose mothers had not lived through the genocide, the survivors' children had worse mental and physical health overall, higher scores for post-traumatic stress disorder (PTSD), and worse anxiety, depression, problems with pain, and sleep disturbances.

Those who had been conceived by rape had even more symptoms of depression and PTSD, and worse problems with pain than those who were not conceived of rape.

Why should these children be suffering from the trauma their mothers experienced? There are a number of possible reasons.

First, it's known that conditions during pregnancy can affect the child. This was shown dramatically in the Dutch Hunger Winter Study of children born to mothers who were malnourished in 1944 because of the Second World War, Uwizeye says. Those children grew up to have higher rates of obesity and heart disease.

One theory is that the fetus was adapting to signals it was about to be born into a world of scarcity and adapted itself to use food more efficiently. When they were born into a world without famine, those adaptations made them obese instead.

Likewise, children about to be born into a dangerous and traumatic world might undergo mental and emotional changes that would help them survive, such as being more cautious and anxious. But those adaptations could also come at a cost, especially when the danger is gone.

Regardless of whether higher anxiety is adaptive, researchers have some idea about how it might be passed on.

In one paper, Uwizeye points out that responses to stress, including anxiety, are controlled by the interactions among the brain's hypothalamus and the pituitary and adrenal glands. This system begins developing in the embryo, and it's affected by the levels of the stress hormone cortisol in the mother's system. Children born to mothers who experienced more stress have been shown to react more strongly to cortisol than others.

In her most recent work, Uwizeye also showed the longer the children were exposed to the genocide in the first trimester, the higher their anxiety and depression were. But this only happened in the children who weren't conceived by their mothers' rapists.

Among the children conceived by rape, their scores were equally poor no matter how long they had been exposed in the womb.

It seems likely, Uwizeye says, that for their mothers the stress didn't go away when the genocide was over. Instead, the mothers continued to feel stress throughout the pregnancy because of shame and stigma.

The children of rape survivors also faced worse conditions after they were born, Uwizeye says. They were often resented by their mothers and rejected by their communities.

"Somebody would come and kill your father, kill your brothers, kill your family and then rape one of the women. These children are being raised by the mothers, and these are the victims of the child's father, and sometimes they are in the community of survivors," she says.

Uwizeye is also looking at the survivors' children's epigenetic markers—that is, the molecular signals that determine whether certain genes are turned on and off. These markers are changed by the environment, including the environment in the placenta.

So far, she has found that children of survivors, who are 30 now, seem suffer from accelerated aging, which could put them at greater risk for early onset of chronic diseases.

"I wanted to look at those biomarkers that continue to be transmitted through the generations and advise on intervention that will make sure there is health equity, that the descendants of survivors achieve the highest quality of life they deserve, despite what has happened to their parents," she says.

One of the things she tries to ensure is that participants in her studies aren't further

traumatized by the research. In designing her studies, she says, she works with Western experts on trauma- and violence-informed approaches to research.

"Rwanda has really shown a high level of resilience, and the people don't always think about the genocide. So then the challenge was, how do I go back to people who are still strong and tell them, 'Oh, you are carrying some effects of the genocide'?"

Uwizeye says she accepted the position at Western in 2022 because she wanted to continue working with Rwandan survivors at a leading research university that would fully support her efforts.

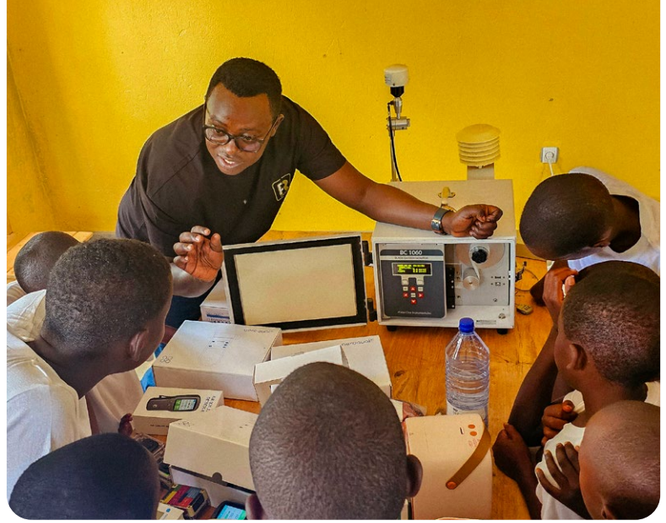
"I love Canada. I love the people here, and I think it's a good place to be, in particular here at Western. I have a really good group of colleagues. They are so supportive," she says.

In addition to what she describes as "incredible support" from Western, Uwizeye has received a grant from the Social Sciences and Humanities Research Council to conduct a long-term study on the adult quality of life of Rwandans prenatally exposed to genocidal violence, as well as the intergenerational impacts on their children.

She hopes the lessons learned from Rwanda can also benefit Canada, a country dealing with its own history of colonialism and violence, and support immigrants who have experienced violence in their homelands.

In the meantime, she says Rwanda is a transformed country where ethnic differences are emphasized less and people work together peacefully. Nevertheless, the people she studies still deserve help.

"I think it is important, even when a population is smaller, to pay attention to their lives, because as a minority population, we get lost into the bigger population. Even if a problem is not big enough to affect everybody, it is still affecting our population, a population that needs to be paid attention to." ●



II.

CLEARING THE AIR

WHILE EGIDE KALISA was a child growing up in Rwanda, both of his parents died of what was likely a respiratory illness.

He was raised by his siblings, and as he got older he knew two things—he wanted to be a teacher like his father and he wanted to do something about the air pollution he suspects contributed to his parents' deaths.

Today, Kalisa is a professor of epidemiology and biostatistics at Western's Schulich School of Medicine & Dentistry. He studies the origins and effects of air pollution in his home country and around the world. And he works on projects to try to prevent pollution and counter its effects on health.

"After losing my parents, I thought, if someone can do something, why not me? It has pushed me to really focus on my goals," Kalisa says.

Globally, air pollution is the greatest cause of premature death worldwide, contributing to disease like pneumonia, lung cancer and chronic lung disease.

Rwanda and Africa in general face an especially big problem. The continent has the fastest growing population in the world, with the number of people set to double by 2050. With that growth comes sources of air pollution, including larger cities, more industry and more motor traffic.

Although studies on air pollution in Africa are still lacking, those that have been done show it exceeds limits recommended by the World Health Organization in many regions, says Kalisa. Even routine air monitoring isn't common.

"We still lack data in most of Africa. So we are trying to build networks of robust, inexpensive sensors," he says. The sensors would track air quality over time and give researchers the data they need to understand the problem.

After earning a bachelor's degree in environmental conservation at the University of Rwanda, Kalisa was granted a scholarship to the University of Birmingham, where he earned a master's in air pollution management and control.

From there he went to the Auckland University of Technology for his PhD, where he studied how pollution travels globally, and how air quality can be forecasted. The work included studying air quality levels in New Zealand, Japan and Rwanda.

He notes that although we often think of pollution as a problem within a country's borders, in fact it is international.

"Pollution doesn't require a visa. Pollution can travel from one location to the other."

When Kalisa finished his PhD, he came to Canada to do a postdoctoral fellowship at the University of Toronto, and then worked for two years as a research scientist for Environment and Climate Change Canada. He joined Western in 2023.

In a 2018 study, he confirmed pollution levels in Africa were often much higher than recommended, exposing many Africans to a higher risk of disease.

He found that in rural areas, air pollution tended to come largely from wood fires, frequently used for cooking. In cities the main source was gasoline and diesel vehicles. Motorized vehicles are an especially bad problem because they tend to be older and more poorly maintained than in more developed parts of the world, so they pollute more.

Much of Kalisa's lab research focuses on understanding the exact composition and sources of pollution.

In the big picture, researchers tend to be concerned about tiny particles that hang suspended in the air and are easily inhaled. They're particularly worried about particles under about 10 micrometers, especially those under 2.5 micrometersas they can easily penetrate the lungs.

Often simply understanding the overall level of pollution is enough to know the air is bad to breathe. But much of Kalisa's work is also concerned with the composition of the particles.

They can include a number of toxic compounds, including some that are carcinogenic. And they can also include biological material, such as disease-causing bacteria and fungi.

"It's really hard as these are two totally different fields," he says. One requires using techniques like mass spectroscopy to recognize the chemicals in a sample. The biological elements have to be classified using DNA sequencing.

Another part of his research examines the possible synergistic effects different combinations of pollutants can have, each potentially multiplying the harm of the other.

Some of his recent work has focused on air pollution school children are exposed to. Pollution in schools, he says, can affect not only overall health, but also cognitive ability, academic performance and school absences.

Schools in Rwanda typically rely on natural ventilation, so air isn't filtered. And schools are often situated near main roads, so are exposed to pollution from vehicles.

In one study he found a surprising amount of air pollution was caused by cars dropping off and picking up students. Pollution levels at the schools could double during those times.

"I found there's significantly high pollution from the cars idling at the school. If you look at the concentration, it is quite alarming in the morning. It's higher than the concentration you could measure on the 401 highway in Ontario," Kalisa says.

Unfortunately, he was working on some of this research during the worst days of the COVID-19 outbreak, when schools were temporarily shut down. But he was able to use the opportunity to study the decrease in air pollution levels from reduced traffic activity.

He also had data from Rwanda's "car-free" days, the two Sundays out of every month when Rwandans are discouraged from driving.

"I found on a car-free day, the air pollution can be decreased by up to 30 per cent, and then that reduction can indirectly result in several million dollars in health care savings," he says. The reduction in hospital bills, he says, comes from reduced pollution causing fewer diseases over time in the population.

Kalisa says he is just as interested in finding solutions to the problems as he is in research for its own sake. He says he wants to make a difference for Rwandans and others.

"I was thinking that just publishing a paper, that is not enough. How can I use my work to also propose a solution?" he says.

Partly for that reason, Kalisa launched a pilot program called HumekaNeza, or Breathe Easy, in two schools in Rwanda's capital city of Kigali.

Kalisa provided workshops to teach children the science of air pollution. And he gave them low-cost sensors that can detect the quality of the air both in school and at home.

At the schools, he also instituted a system using green and red flags to indicate when the air quality made it unsafe to play outdoors. He enlisted students to plant trees to create a barrier between schools and roads and will study how much difference it makes for air quality. And he gave students tips on how to encourage their parents to turn off their cars during school pickup and drop off.

Other work includes a project to see if replacing diesel school buses with electric buses can improve air quality at the schools, in both Rwanda and Ontario.

He's also studying how to use air purifiers in African classrooms, and assessing the effects on blood pressure, lung function and academic performance.

Kalisa says Western has been a good fit for him and his research, especially because the university supports his interest in research abroad.

"Western has strong international collaborations, which has been very important for me.

"I feel I'm a global citizen. Especially when I'm teaching the global health of air pollution, this is not an issue related to only Canada or Rwanda. It's a global problem." ●

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Left: Egide Kalisa leads Rwandan schoolchildren in hands-on air pollution monitoring, teaching them to analyze data and control pollution in their communities (April 2023).

Amit Rahalkar
From the fight of his life to the ongoing battle for inclusion

Story by Keri Ferguson
Photo by Frank Neufeld

In 2014, Dr. Amit Rahalkar, MD'10, was halfway through his fellowship in endocrinology and metabolism, working in Halifax, Nova Scotia. The Western alum's life and career were on track. Then one night while driving the Cabot Trail, a driver ran a stop sign, T-boning Rahalkar's car. The crash left him paralyzed from the chest down and uncertain about his future.

"I knew immediately what had happened because I couldn't feel a thing," Rahalkar says, recalling the moment his life changed forever. He also feared everything he'd been working for was gone.

A team of off-duty first responders came upon the crash. They got him out of the car and to a local hospital, where X-rays showed a cervical spine fracture and spinal cord injury. An air ambulance rushed him to Halifax.

He spent four weeks in a spinal injury ward and six months in rehabilitation. His recovery was grueling, yet faster than expected—a testament to his determination and drive.

But there were more challenges ahead.

His apartment, with thresholds and stairs, was no longer suitable. He needed a new place to accommodate his motorized wheelchair and a special van.

"From there, it took another seven or eight months to figure out how I was going to go back to work."

He met some resistance reframing his approach. Some suggested he switch to another specialty. But Rahalkar remained resolute in his desire to practice endocrinology—an interest he developed through a research internship during his early years in medical school at Western.

"I couldn't see myself doing anything else."

Three years after the accident, Rahalkar completed his fellowship. He did so with the support of his parents, and partner Jeff MacPherson. At the time of the accident, MacPherson and Rahalkar had been dating for eight months.

MacPherson was in the car the night of the accident and has been by Rahalkar's side since—as his primary caregiver, and, having proposed just two months after Rahalkar left intensive care, his husband. He's also Rahalkar's most fierce advocate.

"While I focused on getting better, Jeff fought the powers that be, so I could get back to work," Rahalkar says. "He was the 'bulldozer' who cleared away a lot of the obstacles."

One of MacPherson's easier tasks was contacting the publisher of Rahalkar's heavy endocrinology textbook, requesting a digital copy he could access independently. It took more work negotiating the supports Rahalkar needed to finish his fellowship: voice dictation software and a nurse to "act as his hands," taking notes and conducting physical exams.

Rahalkar employs the same supports today, operating his endocrinology clinic in his hometown of Sarnia, Ont. He provides a much-needed service, treating patients with Type 1 and gestational diabetes, thyroid problems and gender dysphoria.

Ten years into his remarkable journey of resilience, Rahalkar's not one to tout personal triumphs. He'd rather bring awareness to the barriers people with disabilities face. Curbs, steps and narrow entrances. Limited transit and travel options. "Even something as simple as leaving your house or apartment is not easy and it should be attainable."

MacPherson agrees. "It's heartbreaking to see the guy who would climb hillsides and hike being limited to only what's accessible. We've gone from 'go, go, go,' to having to plan things now."

Rahalkar's grateful for the resources that allowed him to customize his home and office with ramps, wide doorways and other modifications, but asks, "What if you don't have the money?"

He's as practical as he is passionate in his desire to see a more inclusive society.

"As the population ages, there will be more customers, more clients, more patients who need to be accommodated somehow, whether by making things physically barrier-free, or having spaces accepting of people with autism or visual or hearing impairment.

"It shouldn't be this hard for someone in my situation to work and to contribute. And there are lots of people like me who would love to contribute. How do you do that if the world isn't built to accommodate you? It shouldn't take a bulldozer to get it done." ●

ENOUGH.

A systemic crisis calls for radical change

Story by Megan Stacey

WIFE-KILLING

In this family, everyone knew it was coming

told Small about an off-white dress she had bought

After he pleaded with her, she

killed by their com... and 43 were kil...

Homicide case hig... domestic violence among...

Stronger laws needed to curb domestic abuse

Emergency funding for women, families fleeing violence is only a temporary solution, experts sa...

Domestic violence in pandemic: Nine killed in 34 days

When men kill their partners, warning signals are often misse...

In the majority of domestic violenc... in Ontario, there are telltale signs

MOLLY HAYES
CRIME AND JUSTICE REPOR...

husband shoots wife, takes own life: police

...threat to public, deputy ch...
...nce rocks s...

50% of women report assaults

Ground-breaking Statscan survey finds violence pervasi...

...e in 10 said they had been ...in the 12 months be... were polled. That ...nore than one million

...tional crisis. We need [the gov... ernment] to take clear action." Bob Glos... co-ordinator of programs and research for the

Glenda Simms, president of the Canadian Advisory Council on the Status of Women. "We have

...UCK A wom... ...ospital after sh... ...side a home by he...

There was a fire...

Ontario can't curb domestic violence

Too often, domestic violence is no surpris...

...ven professionals miss wo...

Killer was ordered to stay away

...Man charged in March with assaulting girl he stabbed before police shot him Jul...

killer in waiting

...hat Jay Handel would explode into committing domestic violence

VIOLENCE AGAINST WOMEN

Women in more danger at home than on street, vigil on violence is told

...disputes or murder-sui...

Femicide occurs on 'regular basis' in Canada: data

Pregnant women often abused, doctors warned

Ontario to stiffen law governing restraining orders

Partners pose greatest danger to women: study

More than a third of females murdered...

...termine the impact of

Alberta pressed to speed up laws on family violence

Caroline is not her actual name. But she is a real person.

She describes herself as a strong personality.

When she was pregnant and in the early years of her daughter's life, Caroline was working for a large bank and felt she was "bringing it" at work. She was sure of herself.

The security she felt in her career was totally at odds with the yelling, the volatility, the violence inside her home.

There, she was not safe.

Caroline wanted an end to the abuse from her then-partner—the high-pitched screaming, the fits of rage, the objects that came hurling at her—but mostly she wanted him to get better.

She clung to moments of tenderness. Glimmers of vulnerability. Years later, she calls it a period of "high denial and many promises."

"There were moments of such love. I saw them, that's why I stayed. But when the monster came out, you learned where the line was," Caroline says. "I stood up to this guy until his hands were on my throat."

There were also moments that could have—should have—been opportunities to support Caroline, like the connections she had with systems such as child protection services, meant to keep her and her daughter safe.

Seeing her baby girl react to the violence around her shifted something in Caroline.

Maybe it wasn't all under control.

"I thought I was managing it until I saw the reaction from my infant. I thought, 'she's asleep, she doesn't hear it, she doesn't see it.' But when it started happening when she was in the same room, even though she couldn't speak, she would just start to cry in distress," Caroline recalls.

"I could see it so clearly on her face."

WARNING

This story contains details of intimate partner violence that may be upsetting to readers.

REACH OUT

If you are experiencing intimate partner violence and are in immediate danger, call 911. Visit ShelterSafe.ca to locate nearby shelters or find the crisis line in your region. In Ontario, you can call the Assaulted Women's Helpline for free, 24/7 support in many languages: toll-free at 1-866-863-0511, TTY at 1-866-863-7868 or text #SAFE (#7233).

CAROLINE GOT OUT, fleeing after police arrested her former partner for assault.

But many don't.

The numbers are shocking. Almost half of adult women in Canada who have been in a relationship—44 per cent—reported experiencing physical, psychological or sexual violence at some point during their lives, according to a 2018 Statistics Canada analysis. Every few days, another woman is murdered by her intimate partner.

The costs are immense.

Women facing violence have worse health and economic outcomes. Their challenges affect friends, coworkers and workplaces. Children exposed to violence—and almost half of child protection service cases stem from that very issue—face higher rates of anxiety and depression, behavioural problems and continued abusive relationships.

Beyond the devastating human toll, one estimate from Canada's Department of Justice pegged the annual economic cost of dealing with the effects of intimate partner violence at more than $7 billion. That figure hasn't been updated, even for inflation, since it was calculated in 2009.

Rates of intimate partner violence are rising. Between 2014 and 2022, incidents reported to police were up almost 20 per cent in Canada. And that doesn't include the cases that go unreported.

Now a research assistant at Western's Centre for Research & Education on Violence Against Women & Children (CREVAWC), Caroline is well aware of the realities of intimate partner violence in this country. And CREVAWC is using her work to flip the script.

How could such a pervasive problem, literally killing Canadians, remain in the shadows? Why are inquests and national strategies still not driving radical change?

There are no easy answers. But experts have some promising ideas.

The first problem, says Katreena Scott, CREVAWC academic director and Canada Research Chair in Ending Child Abuse and Domestic Violence, is a lack of understanding. Experts are still forced to explain the prevalence of intimate partner violence.

For experts like Scott, who have dedicated their lives to studying and eradicating gender-based violence, this starting point is a source of frustration that reveals a deeper issue: basic knowledge is still lacking.

With nearly one in two women in Canada experiencing violence in a relationship, everyone knows someone facing this battle—even if they don't realize it.

"We advocate constantly for getting this message out, everywhere. It has to be standard knowledge," Scott says.

She encounters all sorts of compassionate citizens, community and political leaders, who just don't realize the scope of the problem.

Even when survivors speak out, they encounter significant barriers, Scott says.

"The need to remain anonymous is just one example of the challenges facing women who have bravely chosen to share their stories. They have to navigate legal obstacles alongside the impact and trauma of intimate partner violence," she says.

Wanting to drive change isn't a substitute for basic knowledge. Among those committed to helping, understanding is still lacking.

Scott's had executives claim intimate partner violence isn't an issue for their employees, or at least not a workplace issue.

Even more worrisome, she speaks to professionals who don't have the necessary expertise to interact with those experiencing violence. That's a major gap—clear moments for intervention falling by the wayside. But it has a straightforward solution.

"For social workers, psychologists, nurses, lawyers, there is, at most, an optional course on family violence they might take. Shouldn't every single one of them be required to have this training?" Scott says.

But there's a lack of effort, funding and social or political will to make it happen.

"We have staunch advocates raising these issues at every table they sit at. But it's still a side issue. People don't seem to realize that gender-based violence is central for policing, mental health, child protection, family law and others," Scott says, noting those sectors have an important role to play when it comes to intervention.

Those systems see the ripple effects of intimate partner violence in their cases every day. Workers on the frontlines can help provide or direct people to support before their problems turn into criminal cases, mental health crises and unsafe environments for kids.

"This really is core work," Scott says.

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Above: Young women light candles at a vigil for 17-year-old Breanna Broadfoot in London, Ont. on July 24, 2024. Broadfoot was fatally stabbed, and her boyfriend then shot by police on July 18, 2024.

MIKE HENSEN / PHOTO REPUBLISHED WITH THE EXPRESS PERMISSION OF LONDON FREE PRESS, A DIVISION OF POSTMEDIA NETWORK INC.

NADINE WATHEN, a Western nursing professor and Canada Research Chair in Mobilizing Knowledge on Gender-Based Violence, understands why the issue is so stubborn.

"There's just so much going on in the world, and this seems like another big, thorny, complex problem that's overwhelming," she says. "It seems too onerous and scary."

She focuses on the deep structural challenges and entrenched systems of misogyny, oppression and racism that allow violence to take root and flourish.

It's one big, interconnected problem, Wathen says.

"There is so much complexity. The system is so gendered, so patriarchal and keeps women subservient and expendable. We're so embedded in this way of thinking about gender and exonerating men that it seems too daunting to break out of that framework," she says.

"It's much easier to say, 'He was a nice guy, he just had some mental health problems.' Blame her a little bit, exonerate him a little bit."

In 2023, London, Ont. city council declared intimate partner violence an epidemic. Ninety-four Ontario communities followed suit, and the province is now considering similar action.

A moment of recognition. But now it's left to advocates and leaders like Scott and Wathen to remind politicians they're actually late—extremely late—to the game. This kind of violence long ago reached crisis levels.

That history is at the very core of CREVAWC's work.

The centre was founded in 1992, three years after a shooter who claimed he was "fighting feminism" murdered 14 women and injured another 14 in an engineering class at École Polytechnique, the deadliest shooting in the country's history until recently.

An expert panel released a report on the Montreal massacre with recommendations to address violence against women, including the need for more community and research collaborations.

CREVAWC answered the call, the result of a partnership between Western, Fanshawe College and the London Coordinating Committee to End Women Abuse. It has been part of Western's Faculty of Education since 2001.

More than 30 years later, the landscape looks eerily similar.

Despite compelling reports, inquests, even the creation of death review committees, movement is slow.

Scott is part of the Domestic Violence Death Review Committee in Ontario, an expert panel analyzing each homicide where gender-based violence may have played a role. And it appears to play an outsized role.

At the time of printing, two of the six homicides in London, Ont. so far in 2024 have been connected to intimate partner violence.

A 62-year-old woman reached out to organizations that help victims of abuse in the hours before her death. Her boyfriend is now facing second-degree murder charges. Less than a month later, a 17-year-old girl was fatally stabbed, and her boyfriend then shot by police.

Mass tragedies also continue to strike a national chord, forcing attention.

But for every case that seems to galvanize the country into action, there are expert recommendations that continue to be ignored in the aftermath.

In 2020, Canada's deadliest mass shooting renewed demands for change after a man kicked off a 13-hour killing spree across Nova Scotia by assaulting his intimate partner and setting their cottage on fire. He took the lives of 22 people, one of whom was pregnant, and injured three more in a fear-filled night that left deep scars across the province.

The Nova Scotia Mass Casualty Commission, the public inquiry body formed in the wake of the devastation to investigate and issue recommendations to keep Canadians safe, produced a seven-volume final report.

It describes the connections between gender-based violence, family violence and mass casualties as irrefutable.

"Our perceptions of where the real danger lies are misconceived, and we ignore the hard truth of the 'everydayness'—the commonness and seeming normalcy—of violence between intimate partners and within families and the ways in which this violence spills out to affect other people, too," the Commission wrote in its final report, called *Turning the Tide Together*.

Scott was particularly struck by the report highlighting all previous recommendations from similar inquiries, driving home just how few have ever been implemented.

Still, there is hope, she says. More and more, people are talking about the issue.

And that's an important strategy to build momentum.

IT'S CRITICAL for everyone to understand warning signs and what to do, experts say. Sometimes it's casual conversations, where victims have a sense of comfort or safety, that encourage people to reach out for help.

Scott sees those moments as key.

Building up the knowledge needed to extend a hand in tough times could help turn the tide before police or child protection services are ever involved.

CREVAWC offers online training with practical tips to support those facing violence.

Part of the "Neighbours, Friends and Families" public education campaign, the free course is one way to teach the public about signs of abuse and how to respond. The goal, as CREVAWC describes it, is to "engage the power of everyday relationships to help keep people safe."

Scott calls it "leaning in" to openings for intervention.

It doesn't take an expert to make a difference, she stresses.

"We still worry about these conversations, we're not sure how to have them," Scott says. "How do you lean in and say 'Hey, I'm worried about you.' Or, 'That didn't feel right to me, and I'm sure it didn't for you, either.'"

The system is so gendered, so patriarchal and keeps women subservient and expendable. We're so embedded in this way of thinking about gender and exonerating men.

RESEARCHERS at Western are also building pathways to support women facing violence, like the iHEAL mobile and desktop app. It provides information and interactive activities to help users navigate their situation and address priorities, whether that's safe housing, health, childcare, legal options or building a network.

Developed by a team led by nursing professor Marilyn Ford-Gilboe, the Women's Health Research Chair in Rural Health at Western, the app offers choice and support. It gives women complete control over where and how they seek it.

Everyone from neighbours to social workers to border security guards can share the app as a lifeline, Wathen says.

"People looking at this material may be able to help themselves and their friends. It's a simple, innocuous way to say, 'I'm concerned. Here's something that might help.'"

Wathen prioritizes what's called trauma- and violence-informed approaches—which recognize the connections between trauma, violence, health and behaviour—to help shelters and other services better support survivors.

She believes the best path to progress is tackling broader issues of equity.

Workers in the sector must understand how racism and other forms of oppression are intertwined and can give rise to gender-based violence, she says. Those who are disabled, gender-diverse or using substances are at huge risk.

And stigma can kill. When women facing violence are turned away from shelters or support services because they exhibit uncomfortable behaviours—perhaps they are using drugs or experiencing intense mental health challenges—some are forced to walk straight back into the fire.

They don't always make it out again.

"I realized we're not going to make things better for women until we make it better for all people coming into these services," Wathen says.

CAROLINE'S STORY is full of contact with systems intended to help.

She remembers meeting with child protection workers, an intervention prompted by a police visit to her home. Sitting in a small room with her partner right next to her, the employee asked about their relationship.

Her partner did most of the talking. He said everything was fine. No one inquired further.

Later, after police arrested him, Caroline left her home and the relationship. Neighbours in their small rural city had called 911 before, when the violence was too loud to ignore. But this time, he was cuffed and held overnight in custody.

It became a pivotal moment.

Caroline moved to Toronto, Ont. with her daughter.

She didn't see her former partner again for nearly a year, until she testified at his trial, shaking so badly she couldn't drink from the courtroom-supplied cup of water.

Caroline would eventually face him in not one, but two criminal trials, plus a bitter custody battle.

She won full custody of her daughter, but the criminal charges were dismissed in one case and dropped in the other, after her former partner agreed to a peace bond—a protection order that required him to stay away from Caroline and places she would frequent, among other stipulations.

She still remembers the fear and shame she felt after leaving the relationship, and again after reporting to police. Nearly a year after she returned to Toronto, she walked into a station to tell her story.

It led to a second arrest and set of charges, but it was far from easy for Caroline.

"I looked at the officer and said 'I'm going to give my statement once. If you don't record me, I'm probably going to recant it tomorrow,'" she recalls.

"It took two-and-a-half hours to give my statement. I was mortified, devastated. I went home and threw up. They arrested him the next day."

Caroline was processing a complex and conflicting bundle of emotions as a survivor who wanted to do the right thing for her daughter, herself and the person with whom she had fallen in love and built a life.

For a long time, she hadn't even told her family what was happening at home.

After getting out, Caroline told a trusted colleague and friend about her situation. He would book a meeting room so she could cry and rage after receiving calls from her family lawyer. Often, those calls brought allegations from her ex-partner about her parenting, as she fought for custody.

Years later, workplace support for those experiencing intimate partner violence or abuse is now the focus of Caroline's graduate work and her research at CREVAWC. She's contributing to projects that help workplaces become places of safety from gender-based and sexual violence—safe havens for employees who are dealing with violence at home.

The support she received from her friend at her previous job was a lifeline. Despite his complete lack of experience with intimate partner violence, he saw the opportunity to help, connecting Caroline to community support.

Her doctor, too, seized a moment of intervention.

Caroline was at an appointment for her daughter, but mentioned she was navigating the justice system after experiencing intimate partner violence. It led to a therapy referral from the doctor, allowing Caroline to access multiple sessions covered by Ontario health insurance.

She's grateful her doctor spotted the opportunity.

"That therapy helped me get better," she says.

GIVING PROFESSIONALS like doctors, lawyers and social workers the tools to take advantage of those moments for intervention is key, experts agree.

But moving the needle on intimate partner violence, addressing the epidemic at its root, means starting young with early education. The sector calls this primary prevention.

The Western-developed Fourth R program, already used in more than 5,000 schools across North America, is a perfect example. The healthy relationships program—and its name—is based on the principle that relationship skills are just as vital as proficiency in reading, writing or math.

The Fourth R covers everything from what a healthy relationship looks like to warning signs and how to support peers in abusive situations. Primary prevention is crucial to drive change, Wathen says.

Learning must start early—think age three or four. It's also necessary when young people start to form romantic relationships, Wathen says.

But tackling gender-based violence also means digging deeper.

"Education is necessary, but not sufficient," Wathen says.

The work goes beyond relationships, like building emotional intelligence and cultivating coping skills.

"We don't give little boys much of a chance to be their full selves. We sanction them from feeling their full set of emotions. Feminized terms are the worst things you can call a boy—you're called a girl or gay—and then boys learn the only appropriate response to big feelings is to react with anger or fly into a rage," Wathen says.

Changes and repair are needed across so many elements of daily life, from parenting approaches to the culture in schools and sports, she adds.

Kaitlynn Mendes, a Western sociologist and Canada Research Chair in Inequality and Gender, researches sexual violence and the ways it can be facilitated by digital technologies. She works with youth and parents to lay bare the troubling realities and enhance their knowledge.

Take smartphones. Mendes warns parents against using tracking technology to keep tabs on their kids.

"It sets a precedent that it's normal to track important people in your life. When young people get older, they won't think it's a problem their partner is tracking them," she says. "One of the biggest things we're seeing is around surveillance. Partners are using tech to stalk. This is a really, really big thing," Mendes says.

Even a few years ago, women's shelters weren't addressing that challenge head-on. Now, their safety plans include digital security, such as checking for spyware or enabled location data on a cellphone, she says.

And yet despite the harsh truth of digital harms, Mendes says she is spotting encouraging signals. Schools are addressing violence prevention, including education on how to safely navigate technology. Parents are adopting the idea of consent at younger ages, whether that's photo release forms for after-school sports or giving children permission not to hug family members.

"Getting rid of tech isn't the answer—there are so many benefits—but thinking more intentionally and carefully about how we're using tech is really important," Mendes says.

Boys learn the only appropriate response to big feelings is to react with anger or fly into a rage.

CAROLINE IS COGNIZANT of the difficult childhoods and circumstances—including abuse—that can set the foundation for future violence.

"Nobody is all monster, nobody is all angel. These people have very good parts and moments," she says.

"This guy didn't become an abusive, bad guy by himself, just walking down the street. It's all cycles of violence."

CREVAWC designs and runs programs for men who have perpetrated violence, a point of connection that's essential to changing abusive relationships, Scott says.

That intervention is about accountability.

"In a group of guys who are abusive, it's easier for them to call each other out, more than they can look at themselves," Scott says.

Change isn't instant. But she's seen it happen.

Running a court-ordered program for those charged with domestic violence, Scott once saw the realization "click" for a participant after comments from another man in his group—more than a dozen weeks after they had started attending sessions.

It's about leaning into these forms of education—even multiple times, when progress seems slow—to use the power of repetition and catch people at the right moment, Scott says.

Some men see the light when they hear stories of other relationships.

"It's so much about 'I don't want to be that guy,'" Scott says.

Caroline still has hope that change is possible, despite all she's endured.

"He learned it. So, I also like to think he could unlearn it," she says of her former partner. "We all learn bad habits; we can still grow. People stop smoking. Maybe people can stop hitting, too."

Caroline still thinks about a woman with whom she locked eyes when she was navigating her darkest days. Picking up her daughter from daycare, she noticed one of the workers wearing sunglasses inside. When Caroline asked what happened, the woman replied she had fallen down the stairs.

"I just knew it was domestic violence. I grabbed her hand and said, 'You take care.' When our eyes met, I saw that she knew that I knew. We held each other's gaze in that moment," Caroline says, recalling shared anguish and grief.

She still thinks about that moment.

"I wonder if she got out, if she is OK now."

Caroline says the memory reminds her of the Maya Angelou quote: Do the best you can until you know better. Then, when you know better, do better.

She knows more now, thanks to her own experiences and the research it led her to pursue. Caroline and the CREVAWC team are equipping others with that same knowledge, so they too can fill the gaps.

It'll take widespread action to turn the tide, but they believe it's possible.

Their message is clear: It's time to do better. ●

Valerie Oosterveld

Interview by Patchen Barss
Photo by Jacklyn Atlas

Space Justice

Outer space is getting busy. The United States and the former Soviet Union used to be the key players in exploring the infinite skies above Earth. Now, nation after nation is getting in on the action. And with mining, tourism, exploration, communications and warfare all on track to leave Earth's atmosphere, space law has become one of the most topical, groundbreaking areas for legal scholars.

Valerie Oosterveld is a Western law professor with a background in international criminal justice. She is also a faculty member in the university's Institute for Earth and Space Exploration, where she specializes in outer space law. She finds herself in a fascinating and consequential field of research.

The International Criminal Court and the International Space Station are very far apart, literally and figuratively. How did you come to have legal expertise relevant to both?

In law school, I already knew I wanted to work in the field of international law. After graduate school, I had the opportunity to become a lawyer at Global Affairs Canada, working on the creation of the International Criminal Court. In 2005, I became a faculty member at the law school here at Western. In that role, I taught a course called Public International Law, which covers outer space law, the law of the sea and the law of land, among other topics.

Each year since, I've taught a module on outer space law as part of this course. Every single time I taught it I thought, "This is fascinating." When Western created the Institute for Earth and Space Exploration, the director asked who from the Faculty of Law would like to be a part of it. I put up my hand.

That choice allowed me to collaborate with people at the Institute and teach a course entirely dedicated to outer space law. It has been a lot of fun. My students and I not only study the nuts and bolts of outer space law, but we do things like speak to Canadian astronauts and screen the students' favourite space movies to discuss the legal issues they raise.

What's a science fiction premise that raises interesting legal issues?

I get asked quite a bit about what would happen if aliens came to Earth. On Earth, there are clear rules about when countries can use force against other countries, which is only legal in certain circumstances, such as self-defense. How does that apply when the adversary is not another state but aliens? It's very likely self-defense would apply to Earthlings fighting back against aliens who are destroying the planet. Then we get into really interesting questions like what happens to captured aliens? What rights would they have?

Space law bridges science and science fiction. How much of what you're dealing with has to do with outer space as we interact with it now, and how much with speculative scenarios?

Space technology is advancing rapidly, often outpacing legal frameworks. The dynamic between evolving science and law, in areas like space mining, tourism and satellites, is fascinating.

The rapid development of space resource extraction from the Moon, Mars or asteroids is sparking ongoing discussions in the space mining industry. There is a United Nations committee discussing the existing legal framework, which needs to be developed in more detail to address questions like, should space mining happen? If so, how much? Where? By whom? What is the liability? What kind of coordination needs to happen?

Spacefaring nations and soon-to-be-spacefaring nations that want to benefit from space resource extraction need certainty on those questions in the near future.

With respect to satellite law, there are quite a few questions about the environmental impact of SpaceX, OneWeb and others launching thousands of mega-constellation satellites, which re-enter the Earth's atmosphere after five years and burn. Some say we're in a massive scientific experiment with the Earth's atmosphere, and we don't know what the outcome will be.

Satellite law has fallen to a specialized international organization called the International Telecommunication Union. It has been successful in regulating and standardizing who is authorized to launch satellites and where satellites are placed in orbit so they don't crash into each other. However, there's a disconnect between that and the consideration of the environmental and health impacts of permitting so many satellites.

In 2023, Virgin Galactic took the first ticketed tourists to the edge of space. There's currently no clear coordination between existing airspace law on Earth and laws governing outer space. If you have many space tourist launches, what kind of coordination do we need between these two areas of law?

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Above: Boeing's Starliner crew ship approaches the International Space Station, May

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Right: NASA spacewalker Thomas Marshburn attached to the Canadarm2 robotic arm, Dec. 2, 2021.

To an outsider, this world of mining and space tourism has a "wild west" vibe. How much do the old frontier and this new frontier have in common?

I don't think it's the wild west. We have the Outer Space Treaty, which provides a framework for everything that takes place in space. It says activities in space must be authorized and continually supervised by the country responsible. It sets out liability. It says countries using outer space must do so in accordance with international law, which includes laws on the use of force and waging war. We need more detailed guidance, but that doesn't mean "anything goes."

How ready are we for what's coming?

The challenge is in ensuring we have the details that guide nations and private entities in their activities in space. Let's take the example of how criminal law might be applied to space settlements. The International Space Station (ISS) offers some precedent. It's governed by an intergovernmental agreement and each partner country retains jurisdiction over their citizens. They can prosecute their own astronauts who commit a crime on board the ISS. That country can also defer prosecution to the country of the victim, or the country of the module in which the crime took place. Say a Japanese astronaut commits a violent act against a Russian cosmonaut in an American flight module. Japan would have primary jurisdiction to prosecute the crime, but it could cede that jurisdiction to Russia or the United States.

None of this has ever been undertaken in practice because there hasn't been a crime committed on the ISS. But the very fact we have this framework means we could apply it to Mars or the Moon, if there are human settlements there.

Would that framework also cover, say, an international race to extract resources from asteroids?

Yes. Everyone agrees that wherever humans are operating, human law must follow them to guide and constrain their behaviour. What if we're sending robots to do space mining? What laws apply then? The answer is the same laws, as humans are responsible for those robots.

The Outer Space Treaty says two important things about the exploration and exploitation of outer space. First, it shall be carried out for the benefit and in the interests of all countries, which means the benefits of space exploration must extend even to states without the capacity for a space program.

The current treaty doesn't say how that sharing should take place. Spacefaring nations

are not leaning in the direction of financial sharing, but scientific sharing or something else instead.

Second, the treaty says there can be no territorial claims in space. No state can acquire property rights to celestial bodies. That has raised the question, "How can people use space resources without claiming property rights?" They're discussing exactly this in the United Nations Committee on the Peaceful Uses of Outer Space. Every state agrees you can use space resources for scientific study. A number of nations have already brought back space rocks, and no other nations have objected.

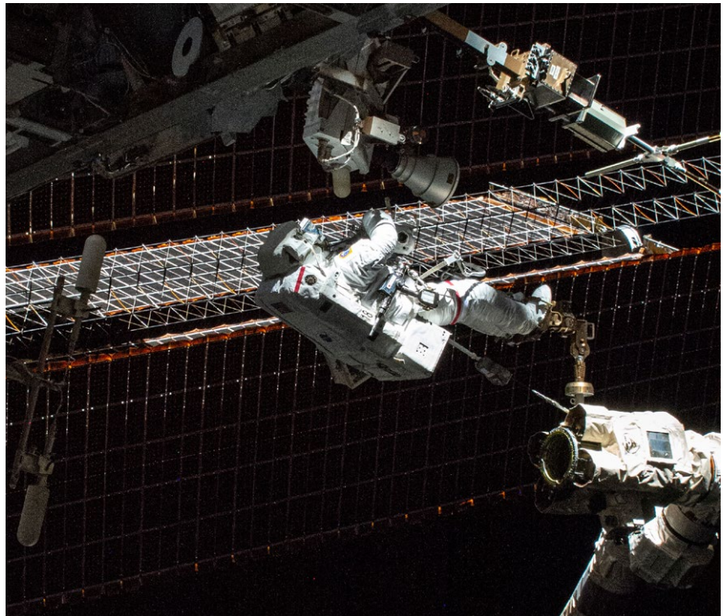
How would that work on an industrial scale?

We haven't answered the question for much larger extractions. Is there a size limit? What if the extraction is for commercial profit instead of scientific study? What are the rights to the resources extracted? The U.S. has a very clear position that as soon as minerals or other resources are removed from their original site, property rights apply. That position is being debated.

Some non-spacefaring countries are worried if we don't adopt detailed law soon, they will come too late to reap any benefits. That's a fair concern.

How hard is it to adapt existing Earth laws to space?

I'll give an example. For some time, we've known humans need to avoid creating more and more space debris, particularly in low-Earth orbit. It's very dangerous, as it can hit spacecraft and satellites with impact speeds up to 15 kilometres per second. As debris levels rise, collisions could create even more debris, potentially making future launches from Earth extremely hazardous. How does environmental law developed for use on Earth apply to the debris field? The precautionary principle is already being applied, as spacefaring countries work to reduce the creation of new space debris to try to avoid creating future problems. But it's not clear yet how other environmental principles originally created for Earth, like sustainable development, apply in space.



PHOTOS (HERE AND OVERLEAF): NASA

You have a high-profile background in human rights and applying feminist principles to the law. Is it a motivating force for you to ensure those values are reflected in space law?

Absolutely. Feminist analysis of international law requires me to think about what's missing. What points of view have been overlooked? I apply a feminist analysis when considering the prosecution of those who commit genocide, war crimes and crimes against humanity. In international criminal law, that means ensuring victims are heard, including victims of sexual and gender-based violence, who have been overlooked for decades and centuries.

In space law, I still ask whose voices are not being heard. We have, for example, questions of Indigenous rights. Are Indigenous Peoples being consulted on the disappearance of dark and quiet skies due to bright satellite constellations? Are they being consulted on how their beliefs about the sanctity of the Moon are being impacted by plans to mine the Moon?

In the time you've been working in space law, how has it changed and what do you see coming next?

When I first started teaching space law, a key issue was space debris. It's still a concern today, given the growing number of satellites and large debris fields created by anti-satellite weapons tests by China, Russia and others. In recent years, though, it has become more urgent to ensure international space law provides adequate guidance to address the mega-constellations of satellites, space tourism flights and plans by countries and private companies to mine space resources on the Moon, Mars and asteroids. The field is evolving rapidly—it's great for keeping my mind flexible.

What is it like to work in such a groundbreaking field of study?

I love it. I've had the chance to work with people like Dr. Adam Sirek, a physician and Schulich School of Medicine & Dentistry professor who specializes in aerospace medicine. We have discussions about how to treat medical conditions in space, and how the law applies to that. I have other conversations about space security. I have super interesting interdisciplinary discussions with colleagues from science, philosophy, medicine and business—you name it. ●

Interview has been edited for length and clarity.

After 25 years, Western's New Horizons bands are still a huge draw for amateur musicians

Story by Paul Fraumeni
Photo by Nicole Osborne

In Tune

On a sultry June evening, Western's campus is quiet. The convocation crowds have departed. The ever-present geese have gone to wherever it is they sleep. The only activity comes from Mother Nature, as she unleashes a thunderstorm.

Inside the Don Wright Faculty of Music buildings, it's a different story.

In three spaces, music is being made. No surprise there. The difference tonight is that the musicians are not there to earn a degree.

In room 227, about 50—brass, woodwinds, percussion—are warming up. Conductor Mark Enns holds up his baton and asks them to play scales. It's a big night for this group—they're going to run through the entire set list for their upcoming European tour.

Downstairs in the Paul Davenport Theatre, conductor Eric Heidenheim is with another group, working on an instrumental version of the Sinatra classic, "Come Fly With Me." Heidenheim asks them to stop and repeat a few bars, one of a number of such requests as they take the song apart.

Across the hall, about 20 jazz and blues players are playing the Glenn Miller Band chestnut, "Chattanooga Choo-Choo." Conductor Andy Chelchowski wants them to end the song with a real resolve. He and the band engage in a lively back-and-forth the musicians all seem to enjoy.

This is the Western University chapter of the New Horizons music program in action. The musicians are all amateurs, meaning none of them gets paid for playing as a profession. Some came to the program knowing how to play their instruments. Some came as absolute beginners, not even knowing how to read music.

But the conductors—all professional musicians and teachers—work the bands through the music as if they're rehearsing for Broadway.

New Horizons was founded in 1991 by Roy Ernst, a music professor at the University of Rochester's Eastman School of Music. His initial goal was to give retired adults an opportunity "to play music at a level that will bring a sense of accomplishment and the ability to perform in a group," as he wrote on the program website. He wanted it to be for pure enjoyment—no marks, no competitive festivals, no jockeying for lead parts in a band.

Ernst's idea caught fire. Today, about 200 New Horizons chapters serve more than 10,000 musicians in Canada, the United States, Ireland and Australia.

The Western chapter—the first in Canada and thought to be the largest in the country—got started in 1998, when Don Stephenson, a Faculty of Music staff member, heard about New Horizons at a music convention in Los Angeles.

He talked about it with colleagues at Western and they decided to give the program a try. The first rehearsal was held on Jan. 9, 1999.

"We thought we'd get about 20 people," says Dean Emeritus Betty Anne Younker. "But 54 showed up. It was really heartwarming. Today, there are about 250 musicians. The impact has been phenomenal."

The musicians play in a variety of ensembles, such as concert bands and jazz and blues combos. Bands are also offered for different levels of expertise. A number of associated groups have spun off the core bands. New Horizons bands play in and around London, Ont., from shows at long-term care homes to the Covent Garden Market holiday concert.

The European tour band got started in 2005 and is open to anyone participating in the New Horizons program. The tours happen every two years and focus on different regions of Europe. This year's shows were all in France and Belgium.

Talk with the musicians and the reasons for New Horizons' popularity quickly become clear—it's about friendship and creative challenge.

Judy Hamilton, 71, played alto sax in high school and missed playing as an adult. She likes the social aspect of New Horizons and how players support each other. And she's become a better musician.

"I've learned about my instrument in a way I didn't in high school. I've become more educated about the quality of the sound and I have this opportunity to play with musicians who've been playing for years."

Jim Wells, 67, grew up playing trumpet in Salvation Army bands. He fell away from playing during his career years but when his wife, Nancy, joined New Horizons to play flute, he dusted off the trumpet and gave the band a try. He's been a member for 10 years.

"I got to the first rehearsal and saw them playing and taking it so seriously, and I thought, 'I'm going to have to start practicing.' It gives me a challenge and that motivates me to do my best and not let the others down. It feels good."

Sean Feica is, at 38, one of the younger members of the program. A drummer and percussionist, he works professionally as an audio engineer.

"I love what music does for people in bringing them together. I'm busy with my day job and I do most of that from home. So, I don't get out a lot. New Horizons is great for making friends. I even met my girlfriend through the program."

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Above: Margaret Wilkinson (Advanced Band I) playing the oboe, June 20, 2024.

But what's in it for the Faculty of Music, whose job it is to graduate people who can become professionals? Dean Michael Kim says hosting the program makes perfect sense.

"We're one of the most outwardfacing faculties at Western and connecting with the community is important to us. So New Horizons is a logical part of that mission. The popularity of the program shows how important music is to the community and for lifelong learning. And it's a win-win, because we get our students involved in New Horizons and that gives them a chance to hone their skills as teachers and mentors."

New Horizons is also a big draw for the conductors, who go to great lengths to strike a balance between the joy of playing and also producing bands that perform well.

"It's a fun activity and as a conductor you want them to feel safe," says Mary Gillard, a retired London, Ont. high school music teacher who has been conducting since 2001. "You want it to be challenging for them, but also fun and safe. Being in a band creates community. Many of our musicians are older adults. At the breaks, they'll get together and talk about their lives. They're looking for a connection."

Conductor Mark Enns agrees that being in the band is, yes, about the music—and something even deeper.

"A real bond develops," says Enns, also a retired teacher. "That community gets people through things. They have life stories they're working through and some of it is hard stuff. The music and playing together gives them an up. And they wouldn't have this outlet without the program and the group nature of it."

But Enns emphasizes these amateurs aren't kidding around when it comes to playing.

"I'm so proud of the progress they make. It's remarkable. I've seen beginners, say the sax players, get together separate from the band to practice. And I remember a student who was working on a difficult passage. I asked, 'Is there anything I can help you with?' And she said, 'No, thanks. I'm going to make this happen.' I love that. They all have so much fortitude." ●

Nuclear

Could we learn to stop worrying and love nuclear energy?

DARRYL LAHTEENMAA

Story by Jeff Renaud

The acclaimed animated sitcom *The Simpsons*, winner of 37 Emmys and two Peabody Awards, has predicted everything from smartwatches to faulty voting machines over the past 35 years. And yet, despite serving as pop culture's most proficient prognosticator, creator Matt Groening may have made a historical misstep for the hit TV show. He had patriarch Homer Simpson employed as a safety inspector at Springfield Nuclear Power Plant instead of an oil refinery since the U.S. was—and remains—far more reliant on gasoline than isotopes.

Or maybe he didn't. *The Simpsons* captured the zeitgeist of the average American viewer while presenting a satirical snapshot of life in America. And big oil just doesn't convey the sense and sensibility of *The Simpsons* quite like the Cold War doom and gloom of nuclear energy.

"Why does Homer work at a nuclear power plant? Wouldn't it be more appropriate for him to work at an oil refinery, and, honestly, more in character for Mr. Burns to be an oil magnate?" says Robert MacDougall, a Western history professor who specializes in the history of science and technology in the United States. "It speaks to the show launching in the 1980s, and Groening being a baby boomer born in the 1950s with an anti-nuclear mindset. Barrels of glowing green radioactive waste were such a symbol of pollution and a decade after the Three Mile Island accident, we were still asking ourselves, what are we doing with nuclear energy?"

At Western, Hamid Abdolvand and Samantha Gateman are working to answer that very question.

Abdolvand, Canada Research Chair in Advanced Materials for Low-Emission Energies, and Gateman, the Nuclear Waste Management Organization (NWMO) Industrial Research Chair, are developing new technologies for safe production of nuclear energy and secure storage of spent fuel, respectively, with a focus on small modular reactors (SMRs). Currently only operating in China and Russia, SMRs are smaller and theoretically safer than traditional nuclear power reactors but still generate about one-third the power capacity.

SMR nuclear projects are growing more popular in countries looking to generate clean energy, with Canada, the U.S., the U.K., Poland and South Korea all building SMR nuclear projects. The Ontario government is constructing four SMRs at the Darlington Nuclear Station in Bowmanville, which are expected to come online between 2034 and 2036. These new SMRs will produce 1,200 megawatts of electricity, equivalent to powering 1.2 million Ontario homes.

Gateman understands why some people may be hesitant to embrace nuclear energy and even launch "not in my backyard" campaigns in communities being considered for future builds, but she believes the world is hurting—and safe, clean nuclear energy can help it heal.

"I don't know how much the general public actually knows about nuclear energy that they haven't learned from television and movies," says Gateman, a chemistry professor and expert in electrochemistry and corrosion science. "About 60 per cent of electricity in Ontario already comes from nuclear reactors, which is close to 15 per cent of the electricity for all of Canada. Nuclear energy is here to stay, and we need to ensure the safe disposal of the fuel once it is used."

GOTHAM STUDIOS

I don't know how much the general public actually knows about nuclear energy that they haven't learned from television and movies.

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Above: Samantha Gateman (also pictured overleaf) prepares for testing on a scanning electron microscope at Surface Science Western.

To make storage safer, Gateman and her collaborators, Surface Science Western director Mark Biesinger, chemistry professor Jamie Noel and researchers from Queen's University, are exploring how different spent nuclear fuels impact the physical containers being designed by the NWMO.

"Corrosion is a natural process, and materials will always interact with their environment and degrade over time. Unfortunately, we aren't very good at hypothesizing how long materials will last," says Gateman. "Instead of it just being a natural life cycle, we need to look at how long these storage containers are actually going to last and provide systematic methods to ensure we have confidence in those predicted lifespans, thereby safeguarding the environment and people around them."

Timing is everything, and Gateman and her collaborators are working to solve a major problem before it actually becomes one.

"We have a unique opportunity because we don't have to wait for the used fuel to be an issue before we begin this research. Canada is on the brink of having SMRs generating some of its energy and the timing of our project helps us understand what we should do with the used fuel from those SMRs before the used fuel even exists," says Gateman.

These technological advancements and efforts to make nuclear energy safer are critical for reducing the world's reliance on fossil fuels, by far the largest contributor to climate change. So, despite nearly 75 years of bombastic headlines (fueled further by last summer's blockbuster movie *Oppenheimer* about the father of the atomic bomb) Gateman knows the work must go on.

"When it comes to disseminating our research findings, we may face stigma based on truth and lies about nuclear energy, but we can't let that deter us," she says. "And that's because our research is so important. It's rewarding to know we're ensuring the safety of clean energy around the world."

Yet, it's no surprise that not everyone in the world agrees, with some countries and governments opposing nuclear energy.

"We still need to convince people that nuclear energy is a possible option," says Abdolvand, a Western engineering professor who specializes in deformation and failure of metals and alloys, like steel. "It depends on so many things, like education, media, history, demographics and the country itself."

It's a tricky problem. If you don't have electricity, your hospitals and schools don't have power. But if that power is causing irreparable harm to the environment, wildlife and the entirety of humankind, what's the point? Generating energy is critical to survival. And making sure that energy is clean is equally important. And yet, despite these hard facts, Abdolvand, like Gateman, understands the trepidation.

"People often leap from nuclear energy to nuclear bombs, and these are two very different things. Yes, there have been accidents over the past 50 years, terrible disasters, but they are not common," says Abdolvand. "After the Three Mile Island and Chernobyl disasters, poor communication with the public led to a negative perception of nuclear energy. After a few years, people moved on, and we started building nuclear reactors again and then Fukushima happened. When you look at the number of nuclear builds over time, you can

actually see peaks and valleys with acceptance, and they coincide precisely with these disasters."

Starting with his students, Abdolvand wants to help people understand nuclear is a cleaner alternative to fossil fuels. And he says that can only be done by making it even safer, and doing everything possible to ensure those rare but tragic events never happen again.

And that's exactly what he is doing. Along with his co-investigator Robert Klassen, a Western mechanical and materials engineering professor, Abdolvand is studying tri-structural-isotropic (TRISO) fuel particles. Used traditionally in the core of high-temperature, gas-cooled nuclear reactors, TRISO fuel particles are made of uranium, carbon and oxygen fuel kernels. (Abdolvand and Klassen use a surrogate TRISO without the radioactive element for their research.)

People often leap from nuclear energy to nuclear bombs, and these are two very different things.

The kernels are encapsulated by different layers of carbon- and ceramic-based materials that prevent the release of radioactive fission products. Even after a reactor shuts down, the decay heat from the radioactive fission products can melt reactor cores, which is what occurred at Fukushima when a tsunami critically damaged water pump generators needed for cooling.

"TRISO fuels, the way they are designed for SMRs, are inherently safe. At least, this is the expectation," says Abdolvand. "But the question is, how safe? This is what we want to see and test."

MacDougall teaches a popular course called *History for Time Travelers*, which reconstructs the major moments of human existence using the most modern techniques and technologies and the latest, most-up-to-date research available. He argues the post-Second World War pitch for nuclear energy may have missed the mark. MacDougall specifically cites one of the first important cultural history books about the Atomic Age, Paul Boyer's *By The Bomb's Early Light*, which explored the impact of the atomic bomb on American culture, politics and society.

"Boyer did an excellent job recording the anxieties of the early Atomic Age, the fears of Americans in the 1940s and 1950s," says MacDougall. "But he was writing in the 1980s, and you could tell he didn't think Americans were frightened enough of nuclear energy. For him, the problem was: how did Americans come to accept nuclear weapons?"

Looking back, MacDougall thinks fear of nuclear weapons, or of spectacular nuclear disasters, helped push the U.S. away from nuclear energy, derailing an energy source that may have been just what the doctor ordered. Even if that doctor was named Strangelove.

"I look at the 1980s, when we arguably made a wrong turn away from nuclear power and I think, we may have made a big mistake," says MacDougall. "We had a celebrated scholar like Paul Boyer trying to understand how people were so blasé about weapons that could blow up the world. But now the world is in danger, arguably much more danger, from the slow disaster of fossil fuels. So, maybe it is time to stop worrying and love nuclear energy." ●

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Left: Hamid Abdolvand in the scanning electron microscope lab, Spencer Engineering Building.

STEVEN ANDERSON

Stories from our community

Illustrations by Luke Pauw

It was move-in day at Essex Hall on Sept. 4, 2000. I had no idea that by the end of that week, I would have created some of the strongest friendships of my life with the ladies on my floor, 3 South.

Though our paths have since diverged, the early pandemic saw us yearning for connection. We stumbled on an advent calendar inspired by our favourite TV show Friends but were sorely disappointed by the gifts inside. That's when inspiration struck and in 2021, we decided to create our own.

We split up the days amongst us and mail the gifts to one another. Some of the most popular items are chocolate and self-care items, but my favourites by far are the ones that incorporate inside jokes from our university days. No spoilers are allowed in our group chat until everyone has opened their gifts, adding to the excitement.

The calendar has become legendary on my Instagram, with family and friends saying how much they look forward to seeing my daily video posts. It's a highlight of my holiday season and a testament to the enduring bond of our university friendships, 24 years later.

Cynthia Millar
BHSc'03, BScN'07, current Master of Science in Nursing student

After a grueling 21-hour journey on just four hours of sleep, my sister and I made our way to the pickup spot for our much-anticipated Thai cooking class in Chiang Mai. As we waited outside a shop, a massive van pulled up. The driver stepped out and opened the door, revealing a gentleman already inside. We climbed in, and I greeted him with a smile and a wave.

As we picked up more passengers, the gentleman and I struck up a conversation about our adventures in Thailand. His name was Nathan, and he was living the dream, working remotely while exploring the world. When I mentioned I worked at Western, his eyes lit up immediately. "Oh, I know Western!" he exclaimed, sharing that he was an alum—purple and proud through and through.

We spent the rest of the cooking class together, touring the farm where the class was held and capturing the perfect photos. By the end of the class, we had forged a new friendship and now we stay connected on Instagram to keep sharing our adventures.

Cadie De Kelver
Social marketing specialist, Western

Send your Western Moment to magazine@uwo.ca.
We'll be in touch if it's being considered for publication.

A life's calling found in human rights advocacy

Interview by Alice Taylor
Illustration by Melinda Josie

In her decades-long career as a lawyer with the United Nations, Diane Goodman, BA'79, has seen the best and worst of humanity. She's been on the frontlines around the world, defending refugee rights and advocating for women and children. Alice Taylor spoke with Goodman about her journey from Western to Bay Street to some of this century's most significant humanitarian crises—and how she forged a path that ignited her passion and purpose.

You've had such a full life, with lots of twists and turns. Walk me through your journey from Western to law school to a Bay Street law firm and to the UN.

Actually, there's an additional step in that journey. I'd been working for a corporate law firm for about three years when a student who was interested in corporate commercial law asked me what I loved about my job. And I didn't have a single thing to say. Like nothing. So, I asked for a leave of absence from the firm, and travelled to the Cook Islands and Australia. Eventually I ended up in Norway and was inspired by their approach to women's and children's rights. It made me realize I wanted to do something very different with my life.

The rights of women and children—was that an existing interest, or a brand-new chapter for you?

Children's rights had been an interest of mine that was reignited when I saw the advances Norway was making in this area. So, I quit the firm and went to work at the Institute of Women's Rights at the Law Faculty of the University of Oslo, where I conducted research on children's rights. When my work wrapped up, I headed to Cambodia, as a volunteer for the UN peacekeeping mission, which was running the elections in Cambodia. It was an amazing experience. I lived in a small village along the Mekong and helped to organize elections at the district level.

Eventually, I joined UNHCR (United Nations High Commissioner for Refugees) in Kenya, one of the few international agencies at the time interested in hiring lawyers. The agency helps to protect and support refugees, internally displaced persons and stateless persons by providing emergency shelter, food and water and ensuring their basic human rights. They also help refugees find long-term solutions, whether that's returning home, integrating locally or resettling in a new country. I had the privilege to work for UNHCR in its humanitarian response to the genocide in Rwanda, the civil war in Sudan and the refugee and migrant emergency in Europe, among others.

Avoid comparing yourself to others who seem like they have it all figured out. Instead, focus on what excites you and stay open and curious about the possibilities ahead.

What are some common misconceptions about refugees?

Refugees fleeing from violence or oppression are often wrongly characterized as just looking for a better life and seen as a huge burden on society—when in fact the opposite is true. For example, in the European emergency, the narrative about Syrian refugees was very negative, really one-sided. Lots of coverage of boatloads of people coming into refugee camps, and nothing about the situation in Syria or about the dangerous crossing. The heartbreaking photo of Alan Kurdi, the two-year-old Syrian refugee boy whose body was found on shore in 2015, changed everything. It resonated with people on a personal level. Everyone thought, he could be my child. The rhetoric changed overnight. Donations flooded in and there was generally more compassion and interest in what refugees were experiencing and what they were fleeing from.

It's unfortunate it took something so tragic to make people pay attention.

I fully agree. That tragedy should never have happened. But there are positive stories too. Yusra Mardini, a swimmer from Damascus, and her sister Sarah fled Syria when their house was destroyed in the civil war. First, they went to Lebanon, then Turkey and then to Greece by boat. Several hours into crossing the Aegean, their boat broke down and was at risk of sinking, so Yusra, Sarah and two others pushed it. There was a lot of media coverage and Netflix made a film about them called *The Swimmers*. Yusra went to Germany to train as a swimmer and competed for the Refugee Olympic team. She's now a UNHCR Goodwill Ambassador.

For refugees who find solutions far away from their homes, what can be done to help them integrate into their new communities?

I was UNHCR's Deputy Representative in Nepal during the largest resettlement operation in the world at that time. We ran a program to support Bhutanese refugees resettle and begin new lives in Canada, the U.S. and a few other countries. They were very nervous about countries like Canada, because it's so cold and so different. We thought the best way to help alleviate these fears was to show them what life would be like in their new homes. So, I worked with a fabulous Nepali photographer, Kashish Das Shrestha, to stage a huge exhibition in the refugee camps featuring life-size photographs of refugees who had already resettled in New York City. The photos showed them buying the same cooking spices, practicing their religious and cultural activities—and thriving despite the cold! And on this side of the process, I highly recommend watching the film *Peace by Chocolate* about the Hadhads, a Syrian family that resettled in Antigonish, Nova Scotia. It shows their incredible determination and resilience in starting a new life and the important role Canadians can play in helping refugees feel welcome and supported in their new home.

Are there other examples of resilience that stand out to you?

I saw resilience everywhere, but especially during my time in Greece in 2015, during the height of the Syrian refugee influx. Authorities throughout Europe were caught completely unprepared. They had no reception facilities, so refugees arriving after making the treacherous journey across the Mediterranean were housed in warehouses with no running water, no electricity, no beds or individual dwellings—some of the worst conditions I had ever seen. While I was there, I spent time with a little girl, who wasn't more than three or four. She was stuck in this horrendous place but was still laughing and having fun. And I think that was largely because she was with her family. That family connection is key. If children are lucky enough to be with their family, they're much more likely to be okay.

Circling back to your decision to leave corporate law, what advice would you offer to students or recent grads who have invested significant time, money and personal identity into one career path, only to realize it's not the right fit?

There's so much pressure on young people today to have everything figured out—to not only know what they want to do but have a clear plan for how and when to get there. My advice is that you don't have to have everything figured out and to really trust yourself and your instincts. Be open to seeing where the bends in the road can take you. There were jobs I didn't get that upset me at the time but turned out to be blessings in disguise. Not getting them made way for something better. It's tough in the moment but try not to worry if you're not hitting every mark. And avoid comparing yourself to others who seem like they have it all figured out. Instead, focus on what excites you and stay open and curious about the possibilities ahead. ●

Interview has been edited for length and clarity.
Visit magazine.westernu.ca for more with Diane Goodman.

I first caught the travel bug in high school when I toured Europe with my school district. Instead of waiting for friends to commit, I went alone and met friends along the way. This past December I travelled to Antarctica, completing my goal of visiting all seven continents.

Nicole Strandholm, MLIS'19

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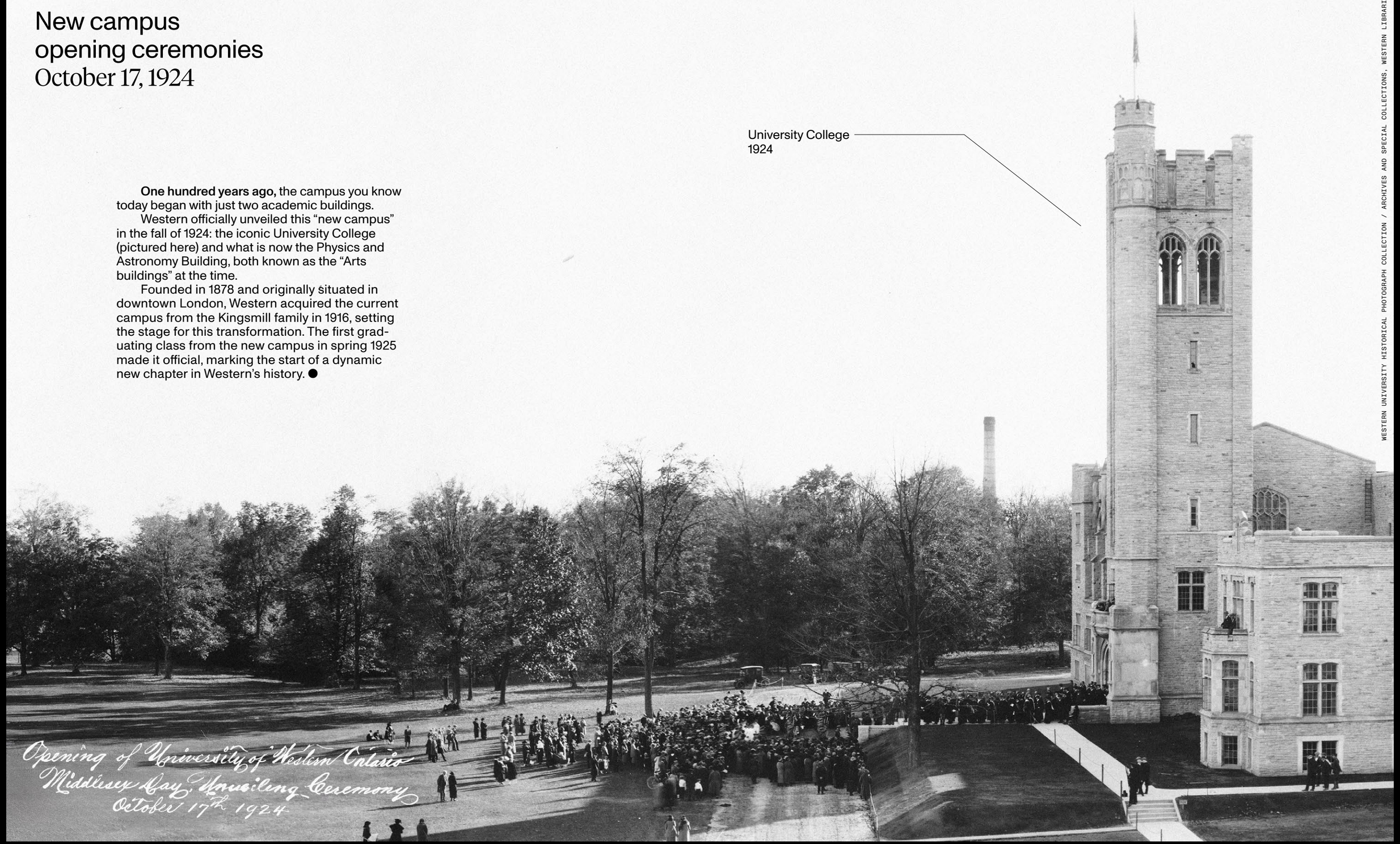
New campus opening ceremonies
October 17, 1924

One hundred years ago, the campus you know today began with just two academic buildings.

Western officially unveiled this “new campus” in the fall of 1924: the iconic University College (pictured here) and what is now the Physics and Astronomy Building, both known as the “Arts buildings” at the time.

Founded in 1878 and originally situated in downtown London, Western acquired the current campus from the Kingsmill family in 1916, setting the stage for this transformation. The first graduating class from the new campus in spring 1925 made it official, marking the start of a dynamic new chapter in Western’s history. ●

University College
1924



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Western
Alumni
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We have to face a hard truth: intimate partner violence is incredibly common. But too often, we ignore it. That has to stop.

Katreena Scott

Canada Research Chair in Ending Child Abuse & Domestic Violence and Academic Director of Western's Centre for Research & Education on Violence Against Women & Children

From Enough, starting on page 26 of this issue

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Send correspondence to
Western Alumni Magazine
Westminster Hall, Suite 360
Western University
London, Ontario
Canada N6A 3K7

Forward change of address to
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call +1 519-661-4176 or
(toll-free) 1-800-420-7519.