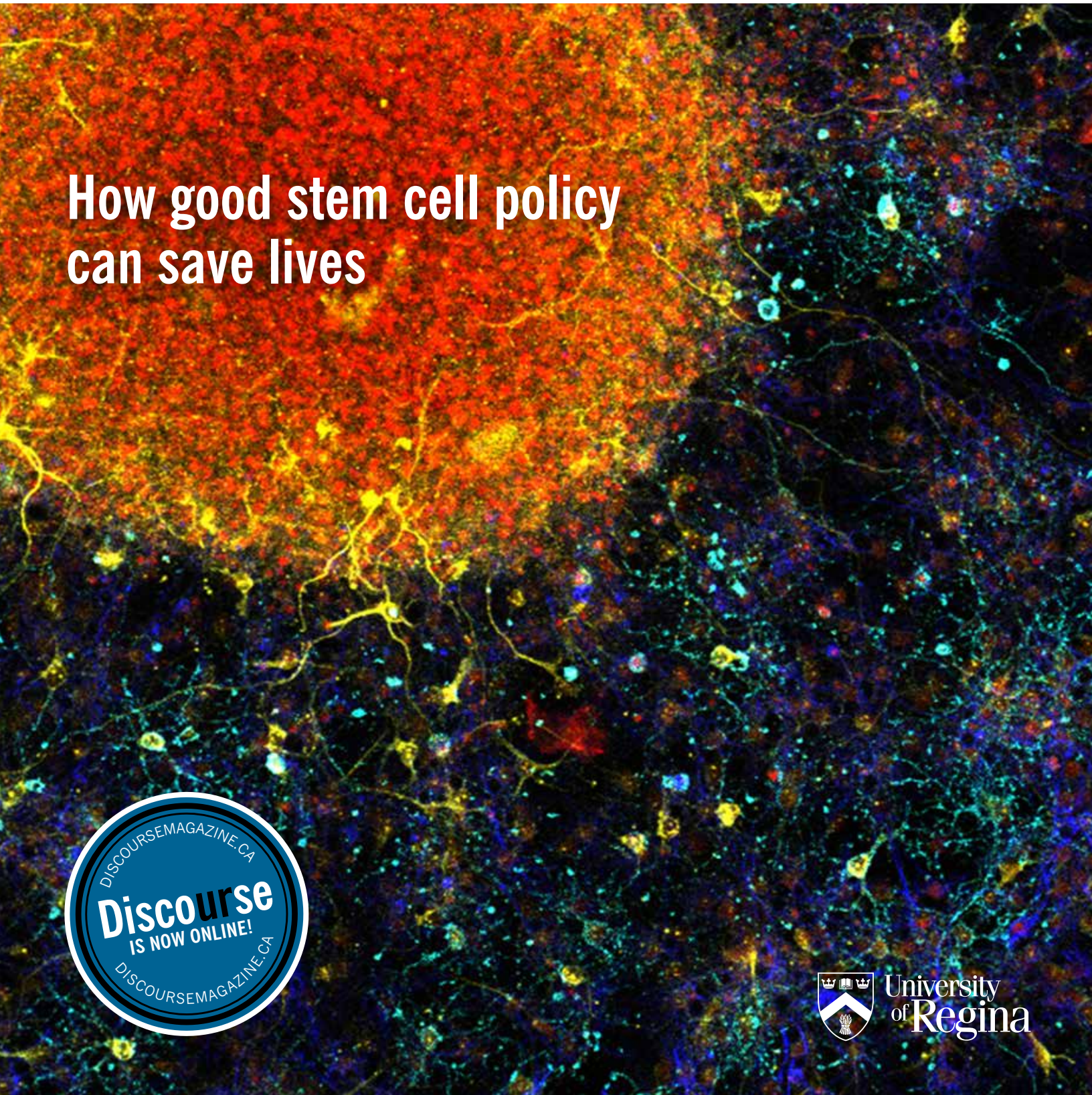
UNIVERSITY OF REGINA RESEARCH MAGAZINE SPRING / SUMMER 2020

Discourse



How good stem cell policy can save lives

University of Regina

Tsuga heterophylla / Western hemlock

Betula neoalaskana / Alaska paper birch

Tsuga canadensis / Eastern hemlock

Juglans nigra / Black walnut

This past winter, Risa Horowitz, University of Regina associate professor in the Faculty of Media, Art, and Performance, had five paintings from her "Trees of Canada" project included in an exhibition called *A New Light: Canadian Women Artists* at the Canadian Embassy in Washington D.C.. The exhibition, featuring works by 27 renowned Canadian women artists, will be given permanent homes in various locations within the Embassy.

Horowitz's works are on long-term loan from Scotiabank, which purchased 13 "Trees of Canada" paintings in 2019. In total, she made 150 paintings of trees, representing indigenous and naturalized trees in Canada, according to the National Forestry Inventory.

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Discourse

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(cover) "Stars I See" by Maryam Faiz from the Stem Cell Network's 2014 *Cells I See* art contest.

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Vice-President(Research)Message

This is certainly the time for ingenuity to take centre stage – and I'm proud to say that University of Regina researchers are responding with nimble, solid, and purpose-driven work.

As I write this in late March, our world has been turned upside by the spread of COVID-19. For many of us, our personal and work lives have been fundamentally altered – in just a few short weeks. It's difficult to imagine that not so long ago, many of us had never thought about, or even heard of, social or physical distancing, let alone the grave consequences of not doing so.

While I cannot begin to predict what the world might look like when you open this publication in early May, I do hope that some semblance of normalcy has returned to our lives and to our work. I am also hopeful that people the world over are recovered or recovering from any physical or mental health issues they have faced in relation to the pandemic.

What I do know is that COVID-19 has forced us to do things differently at the University of Regina, and while this can be difficult, it has also driven us to move in new and exciting directions that will transform some of the ways we work from this moment forward.

As a University, we are now teaching, learning, and working remotely. Our Online Therapy Unit increased capacity to allow more people to access their online mental wellness programs in light of COVID-19. We are also in the midst of creating exciting online programming with our researchers so that community members can access these much-needed supports while at home.

Since mid-March, for the safety of our faculty, staff, and students, we have suspended most University of Regina fieldwork and closed many of our research labs. However, our research has not ground to a halt. In this time of immense change, our scholars are forging ahead, embracing the challenges that these new and different ways of working have presented.

Research is fundamentally about exploration, overcoming obstacles, and working beyond comfort zones. As a research community, the University of Regina is invested in creating new knowledge and developing innovative ways of responding to what is going on around us. This is certainly the time for ingenuity to take centre stage – and I'm proud to say that University of Regina researchers are responding with nimble, solid, and purpose-driven work.

Some of our researchers have been working feverishly for weeks on COVID-19-related projects, such as delving into the impact pandemics have on our mental health, the serious implications misinformation about COVID-19 can have, and how to avoid spreading potentially fatal fake news. Others are moving ahead with their pre-COVID-19 research programs. Some continue to work remotely with their collaborators an ocean away. Still others are developing new research programs that they can undertake in this brave new world.

Researchers thrive on inventive thinking, and while it can be scary to move forward into the unknown – as this situation certainly is – it is also invigorating. I applaud the calculated risks our researchers are taking, the fruits of which we will see emerge because of their leadership and dedication.

As our researchers continue to think outside the box and to face ever-changing challenges head-on for the benefit of our society and our economy, I know that our collective ability to transform new ideas into real solutions is, and will remain, critical in determining how we move forward in the coming days, months, and years.

For now, as researchers at the University of Regina respond to the extraordinary challenge of working differently to help curb the spread of COVID-19, this is our new normal. And, while it has a far-reaching impact on the University's research enterprise, it offers us a timely opportunity to share with you a taste of some of the world-leading research undertaken here at the University of Regina.

I encourage you to read these stories that feature our researchers and their innovative work that is making a difference here in Saskatchewan and around the world.

Be safe and stay healthy.

KATHLEEN MCNUTT
Interim Vice-President (Research)

StudentFocus

Reconciliation and the nursing curriculum

In Canada, many Indigenous people face discrimination and harmful stereotypes throughout their lives. Newcomers to Canada are often confronted with many of these misrepresentations.

This is true for Delasi Essien, who came to Canada from Ghana 14 years ago.

"When I first arrived, and for years after, I heard negative stereotypes being perpetuated by media, people in my community, and even on my bus rides," says the University of Regina PhD nursing student.

It wasn't until years later, when she became a nursing instructor at the Saskatchewan Indian Institute of Technologies (SIIT), that she finally heard a different story.

"My orientation at SIIT focused on teaching about Indigenous peoples and their history. It's where I learned about treaties and colonization. It was the first time I learned about history from a different lens," Essien says. "We were also colonized in Ghana, so I had a deeper understanding. But the consequences are worse in Canada, and I couldn't reconcile how people here didn't know, or didn't want to know, the truth."

Essien spent a lot of time speaking with and learning from Indigenous people, and their stories made an impression.

"When I started teaching at SIIT, the reality of Canada's colonial history, and the negative impacts that history has on Indigenous nursing students, became very evident to me," says Essien. "I've now seen how some of the systemic barriers Indigenous nursing students face lead many to leave the nursing program. I want that to change."

While doing her master's at the University of Saskatchewan, Essien studied how the nursing program could improve retention rates of Indigenous students, including starting to incorporate oral traditions and storytelling, and providing mentorship, housing, and childcare support systems.

Now, as part of her PhD, Essien is uncovering the colonial practices embedded within nursing education, and finding ways to deconstruct them.

Delasi Essien, University of Regina PhD nursing student, is uncovering colonial practices embedded within nursing education and finding ways to deconstruct them.

"Indigenous knowledge is part of the path toward health and well-being for Indigenous people and so must be part of the nursing curriculum," says Essien. "As a Canadian citizen, I'm guided by a desire to respectfully contribute to the discussion about the role of non-Indigenous Canadians in dismantling the legacy of colonialism and pushing the agenda of reconciliation."

Even so, she struggles with her role as a non-Indigenous person of colour researching the impact of colonialism on Indigenous nursing students.

"Newcomers are complicit in the ongoing legacy of colonialism. I'm committed to finding ways to help redress this through my work."

Essien knows it's challenging to reconcile current nursing practices and values—which have been described by some as inherently rooted in colonialism—with the ideals of Indigenization.

"Even the term 'Indigenization' is difficult to define. My research includes teasing out what it means within the nursing academy while working to obliterate obstacles that Indigenous nursing students face within the program."

Delasi Essien's research is supported by the Indigenous Peoples' Health Research Centre (IPHRC) and the Saskatchewan Centre for Patient-Oriented Research (SCPOR) Research Awards Program.

Weeds, bees, and mould

In Canada, agriculture is a multi-billion dollar industry, making research and innovation in this sector imperative for farmers, the economy, the environment, and for human and animal health.

To help ensure success in this ever-changing field, University of Regina researchers are actively engaged in a range of projects that positively impact the agriculture sector.

At the heart of this research are University of Regina graduate students working to find natural solutions to pressing farming problems.

IN THE WEEDS

"Canada thistle is a persistent weed that competes with crops for nutrients, water, and sunlight," says biology master's student Alex Cameron, who is working on using bacteria as a potential herbicide for this perennial weed.

Canada thistle is a challenge because it reproduces through sections of root, so while farmers and gardeners can often till or mow other kinds of weeds out of their crops, in the case of Canada thistle, this actually spreads the problem.

"This is a big issue for organic farmers—which is my target audience—because they can't use most chemicals on their fields. But using bacteria does fit the bill for organic weed control," says Cameron, who is working on this project with his advisor, biologist John Stavrinides, associate professor in the Faculty of Science.

Organic farmers have a few options for destroying the weed. They can shade it so it won't grow. They can also use insects.

"Farmers can bring in seed-head weevils, but, in Saskatchewan, weevils don't survive from year to year, and reapplying them to the fields every year is expensive, not to mention that they don't necessarily stay in the field they're put in – which ultimately helps other people's thistle problem," says Cameron.

Applying the bacteria-based spray Cameron has developed would be a cheaper and, hopefully, more effective option.

Cameron says he's seen positive results using a plant pathogen that prevents chloroplast development in Canada thistle. "This stops the plant from being able to convert sunlight into useable energy, either killing the weed or stunting its growth."

Canada thistle is large and grows quickly, which can knock back crop yields in a hurry, so even stunting the growth of the weed allows crops like flax, canola, wheat, and barley to survive and take over the fields.

Cameron says the end goal of the project is to have an organic spray available to the public.

THE BUZZ ABOUT BEES

"Fruit orchards, vegetables, and legumes require pollinators. While honey bees are important managed pollinators, they might not be the best option available – especially if their colonies aren't doing well. Wild bees, native to Saskatchewan, are a perfect and affordable option," says Kirsten Palmier, a PhD student in biology being co-supervised by biologist Andrew Cameron, associate professor in the Faculty of Science, and Cory Sheffield, a research scientist and curator of invertebrate zoology at the Royal Saskatchewan Museum.

"Saskatchewan is home to 26 species of bumble bees, which pollinate in less desirable climates than honey bees. Their life cycle lasts an entire growing season, plus they offer their pollination services for free, so farmers don't have to pay

Canada thistle leaves with (left) and without (right) the bacteria-based spray Alex Cameron developed.

Ryan Oram, Royal Saskatchewan Museum

to bring in other pollinators, such as honey bees," says Palmier, who focuses on *Bombus occidentalis* (the western bumble bee) and *Bombus terricola* (the yellow-banded bumble bee), two at-risk species in Canada.

The problem is that several bumble bee species are declining. Researchers agree that it's a combination of five different stressors acting upon the bees at once: climate change, pesticides, habitat destruction, competition for resources, and pathogens.

"It's imperative that we figure out why our bees are disappearing. They positively impact entire ecosystems and they're important to farmers," says Palmier, who has chosen to study how pathogens are impacting the bees.

"I'm specifically looking at eukaryotic pathogens, which are tiny organisms that aren't bacteria or viruses," explains Palmier. "My preliminary research shows a potential new fungal pathogen closely related to yeast in at-risk bee species."

Palmier has discovered this by investigating the bees' microbiome (the unique microorganisms – i.e. bacteria and fungi – that live in the bees).

"When humans have an unbalanced microbiome it's difficult for us to fight off pathogens, so I'm working from the assumption that the same is true for bees."

To find out, Palmier is extracting DNA from their guts, testing them for pathogens, and studying portions of the gut so she can make comparisons and inferences, using DNA sequencing techniques, about bees' bacterial and fungal communities.

"Only once we figure out what is harming the bees can we work to ensure their survival. This research is a step in that direction."

Nikki Burnett

THE ROOT OF THE PROBLEM

As the world's largest lentil and pea producer and exporter, Saskatchewan takes any threat to these two pulses very seriously.

That's why *Aphanomyces*, a water mould that causes root rot in lentils and peas, spreading throughout the province is causing serious concern.

"*Aphanomyces*, which kills both peas and lentils at their roots, is difficult to get rid of because it can live in soil for up to 10 years," says biology master's student Nikki Burnett, whose research centres on trying to find ways to make peas and lentils resistant to the mould.

"The soil's microbiome—which is all the bacteria and the fungus that grow around the roots—may prove to be beneficial and stop the infection," says Burnett, whose supervisor is professor Christopher Yost from the University's Department of Biology.

Burnett explains that several years ago testing was done on several different potato and rice fields, and some farmers noticed that some soils that tested positive for the diseases still contained healthy plants.

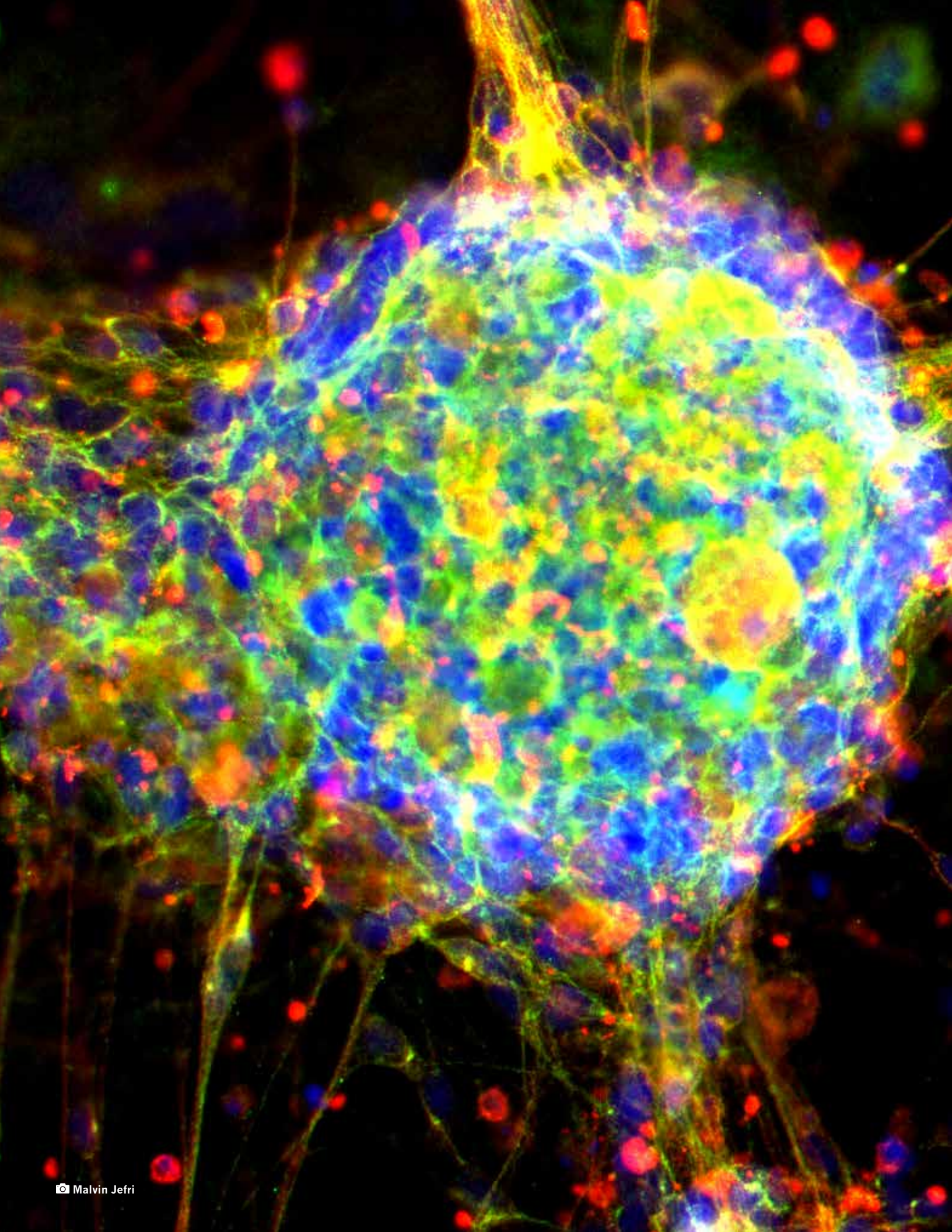
"This means that the soil with healthy plants and pathogens present likely had a beneficial microbiome that stopped the disease. I'm now trying to determine if there are also disease-repressive qualities in the soil of peas and lentils that can stop *Aphanomyces*."

Burnett says because there aren't currently any chemical controls that work to kill the mould, figuring out the naturally occurring contents in the soil that might be protecting the pea and lentil plants will go far in helping farmers and the environment. D

These research projects are funded by Saskatchewan's Agricultural Development Fund.

Above: A western bumble bee

Bottom: A pea plant infected with *Aphanomyces* (left). The bleached leaves and darker honey brown roots are symptoms of infection. A healthy pea plant that was not infected (right).



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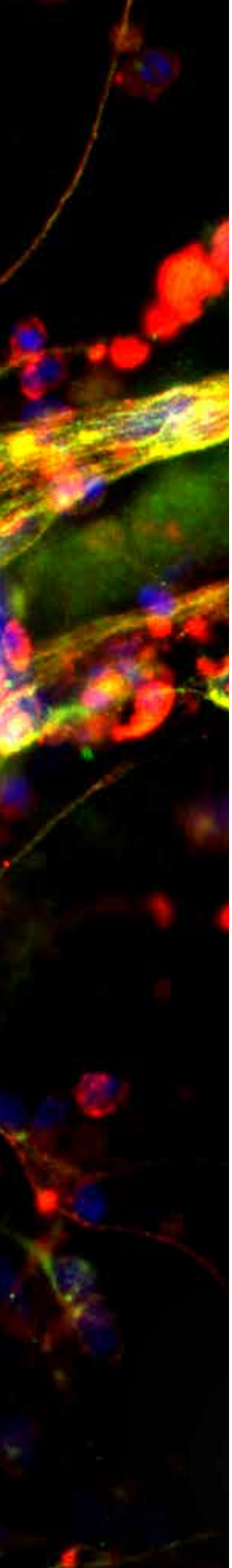


Feature

Hope or Hoax? The controversial promise of stem cell treatment

BY LYNETTE PIPER

Just a few months ago, anyone Googling the phrase *stem cell transplant* would have been taken to private clinic sites around the world offering so-called "cures" for conditions ranging from multiple sclerosis to spinal cord injuries to aging. Seductive ads promised to isolate stem cells from one's own bone marrow or blood, or extract these stem cells from donated umbilical cords or human embryos, and reinject them into the body to fight disease or promote healing, for up to $15,000 USD per treatment. Today, Google has placed active controls on those ads, and one Canadian public policy researcher who studies the legal and policy issues of emerging medicine couldn't be happier.

"Many of the sites that promote stem cell-based interventions deal with procedures that haven't been proven to be safe or effective, yet they create an unrealistic expectation of readiness of the science, offering false hope to patients and their families," says Amy Zarzeczny, a University of Alberta-trained lawyer, graduate of the London School of Economics, and associate professor at the University of Regina's Johnson Shoyama Graduate School of Public Policy.

POLICY CHALLENGES

Much of Zarzeczny's research focuses on addressing policy challenges associated with emerging biotechnology, unproven and experimental medical interventions, and medical tourism. She says there's a necessary balance between encouraging new technology and ensuring advancements are supported by rigorous and responsible science.

"There are private, for-profit clinics operating around the world that are selling stem cell-based treatments for an array of issues," says Zarzeczny, who routinely collaborates with international lawyers, political scientists, bio-ethicists, clinicians, and front-line physicians. "But when these treatments aren't supported by years of rigorous research and clinical trials that show they are safe and effective, it's incredibly concerning."

"There are reports of patients suffering serious harm following unproven stem-cell treatments," she adds. "The financial cost of these treatments can also be a burden, leaving some patients to turn to crowd-funding to help them raise the necessary funds."

"J.A.R.V.I.S. in Culture" from the Stem Cell Networks' 2019 *Cells I See* art contest.

Amy Zarzeczny is an associate professor at the University of Regina's Johnson Shoyama Graduate School of Public Policy.

"There are private, for-profit clinics operating around the world that are selling stem cell-based treatments for an array of issues, but when these treatments aren't supported by years of rigorous research and clinical trials that show they are safe and effective, it's incredibly concerning."

Zarzeczny says medical tourism isn't new, nor is people's interest in pursuing medical treatments that fall outside the standard of care, but social media, and the internet in general, have made these options more accessible.

"While there are potential benefits to these developments, there are also challenges."

Uncertainty regarding the quality of information is a key issue.

"There are products and services advertised with claims that are false or misleading, especially about the safety and likely effectiveness of the treatment. Sifting fact from fiction is not easy in a world where hype and half-truths dominate many headlines, and where people already have difficulty discerning what is and is not fake news."

Zarzeczny says these direct-to-consumer markets for stem cells can be dangerous, and raise a number of concerns.

THE PROMISE OF STEM CELLS

Simply put, stem cells are unique human cells with the ability to self-renew and differentiate into numerous different types of cells in our bodies. The ability of a stem cell to divide and create new stem cells is akin to a single-celled zygote, created from a sperm and egg, which divides and doubles rapidly (one cell becomes two, then four, then eight, and so on). That zygote ultimately grows into a human being. Stem cells similarly have the ability to divide and differentiate to become specialized cells in our body, which gives them the ability to renew damaged tissues.

Current therapies already make use of this regeneration potential. In bone marrow transplants, a patient's existing white blood cells and bone marrow are destroyed using chemotherapy and radiation, then a sample of bone marrow containing new stem cells from a healthy, matched donor is injected into the patient. The transplanted stem cells populate the recipient's bone marrow and begin producing new, healthy blood cells.

Other exciting therapies are currently in early-stage research or fully funded clinical trials. Transplanted stem cells are being injected into damaged body parts and

directed to grow and repair those tissues. This active field of biomedical research is looking at using stem cells to treat everything from spinal cord injuries to multiple sclerosis. But the science is complex. For a stem cell therapy to be successful, the appropriate type of stem cell must be chosen, and the stem cells must be matched to the recipient so that they aren't destroyed by the immune system. There needs to be a system for effective delivery of the stem cells to the desired location in the body, and there needs to be a system to "switch on" and control the differentiation of stem cells to ensure they develop into the desired tissue type, and not into other forms such as tumours.

STEM CELL TRANSPLANT

Canada just happens to be a world leader in stem cell research. It has taken decades of work and untold hundreds of millions of dollars being put into research and clinical trials to come to the point where hope is on the horizon. And yet, there is a growing proliferation of companies that are promising similar or further advancements, or even miracle cures, with limited to no evidence to back up their claims. This absolutely appals Jennifer Molson from Ottawa, who was one of the first patients in Canada to undergo a stem cell transplant at the Ottawa Hospital Research Institute (OHRI) in 2002 for her early aggressive multiple sclerosis – a rare form of MS affecting only three per cent of the population.

"I got sick very quickly in my early 20s and couldn't even shower or go to the bathroom by myself," she recalls. "Luckily, I was in the right place at the right time and became one of 24 patients to undergo the first clinical trial for a stem cell transplant. The procedure was extensive, time consuming, and extremely risky, but at that point I was willing to risk death if it meant I might get better."

In May of 2002, Molson was given chemo to wipe out her immune system. Her white blood cells and stem cells were then immobilized and essentially "cleaned up" by removing traces of MS—in essence, she grew a whole new immune system—before these cells were reinjected into her body. Two months later, she had her transplant. "A machine cycled my blood for seven hours through a port in my chest. I then threw up for an entire year. My immune system was compromised and I was like a newborn baby, having to be revaccinated for polio and childhood illnesses," Molson explains. "I was told there was a chance I would die, and one of the patients in our trial did die. It was scary. Even today, I have to have regular checkups and have to take regular medical precautions, but it's safe to say that I have no more serious MS symptoms."

Molson says MS treatments have advanced significantly today, and that not everyone is a candidate for the type of stem cell transplant she received. "Why use a nuclear bomb to treat an illness when less invasive treatments exist?" Molson is so knowledgeable about such transplants that she is now a patient advocate and spokesperson for the Stem Cell Network of Canada, the national not-for-profit that supports stem cell and regenerative medicine research and training at OHRI.

"Why use a nuclear bomb to treat an illness when less invasive treatments exist?"

While Molson empathizes with others who are sick and tired of being saddled with crippling illness, she says resorting to companies promising miracle cures is not the answer. "They're hope-mongering, plain and simple," she says. "There's no way you can cram what I went through in two years—and what I'm still going through today, 18 years later—and accomplish the same thing in a week-long procedure. It's impossible. You can't skip all of the important steps and expect the same result. Yet companies are promising just that. Which is why the work that Amy Zarzeczny and others are doing to help change legal loopholes is so important."

STEM CELL RESEARCH

Dr. Michael Rudnicki, who heads up the Stem Cell Network as its scientific director and is the CEO at OHRI, agrees. He lauds the incredible work that Zarzeczny and her team of collaborators are doing across Canada. "These foreign clinics are exploiting hope, and are in violation of the law. They're putting ads in the paper offering quick-fix cures in big cities across the border like Buffalo, taking your $15,000 USD, and bussing you down to their clinics, reinjecting your blood, and promising that your Parkinson's or MS will be cured, with no clinical trials, no medical results, and no follow-up. People are remortgaging their homes and going bankrupt chasing an elusive dream."

Jennifer Molson is one of the first patients in Canada to undergo a stem cell transplant at the Ottawa Hospital Research Institute.


The Ottawa Hospital

Dr. Michael Rudnicki heads up the Stem Cell Network as its scientific director and is the CEO at the Ottawa Hospital Research Institute.

Rudnicki says, at best, what is being injected back into the blood is causing the immune system to react, resulting in a temporary relief of pain. "But you are not regenerating tissue with injected stem cells – not in a week-long medical tourism getaway. Cures like stem cell transplants require years of research, hard data, clinical trials, and expert medical follow-up often lasting years following a procedure."

POLICY PROTECTS PATIENTS

Zarzeczny is passionate, persuasive, and relentless in her desire to bring about change. She and her peers across Canada are making strides in protecting the sick and vulnerable by helping to inform and strengthen policy responses to this complex and often controversial arena.

Back in her College Avenue Campus office in Regina, Zarzeczny gets off the phone with an Edmonton colleague and makes a note to review his latest report. "I'm pretty fortunate to be here at the Public Policy school. It's an interdisciplinary faculty with a strong focus on policy and public administration, which means many opportunities to liaise with decision makers at local, provincial, and national levels. I also have a wonderful group of collaborators across the country, and internationally."

Recently, Zarzeczny published a study with scholars from Australia and Scotland looking at people's information needs when it comes to stem cell research and treatment options.

"We know a better job needs to be done in educating the public so they get the entire story. We can't have people making life-altering decisions based on some internet hype. That's why this work is so important – because the science is evolving quickly and has real potential to improve treatment options for many people. But, as with anything, people need to know the risks."

Zarzeczny says deepening our understanding through this type of policy research will help ensure that people interested in pursuing stem cell-based interventions have access to supports and to the accurate information they need to inform their decisions.

"Stem cell research is an exciting field, and we want to support the people doing innovative and responsible research. We can do that by developing and enforcing policy that minimizes risks to patients," she says.

That starts with providing people with the facts about stem cell treatment options and calling out those internet ads for the false hope they are offering, and the harm they may be causing.

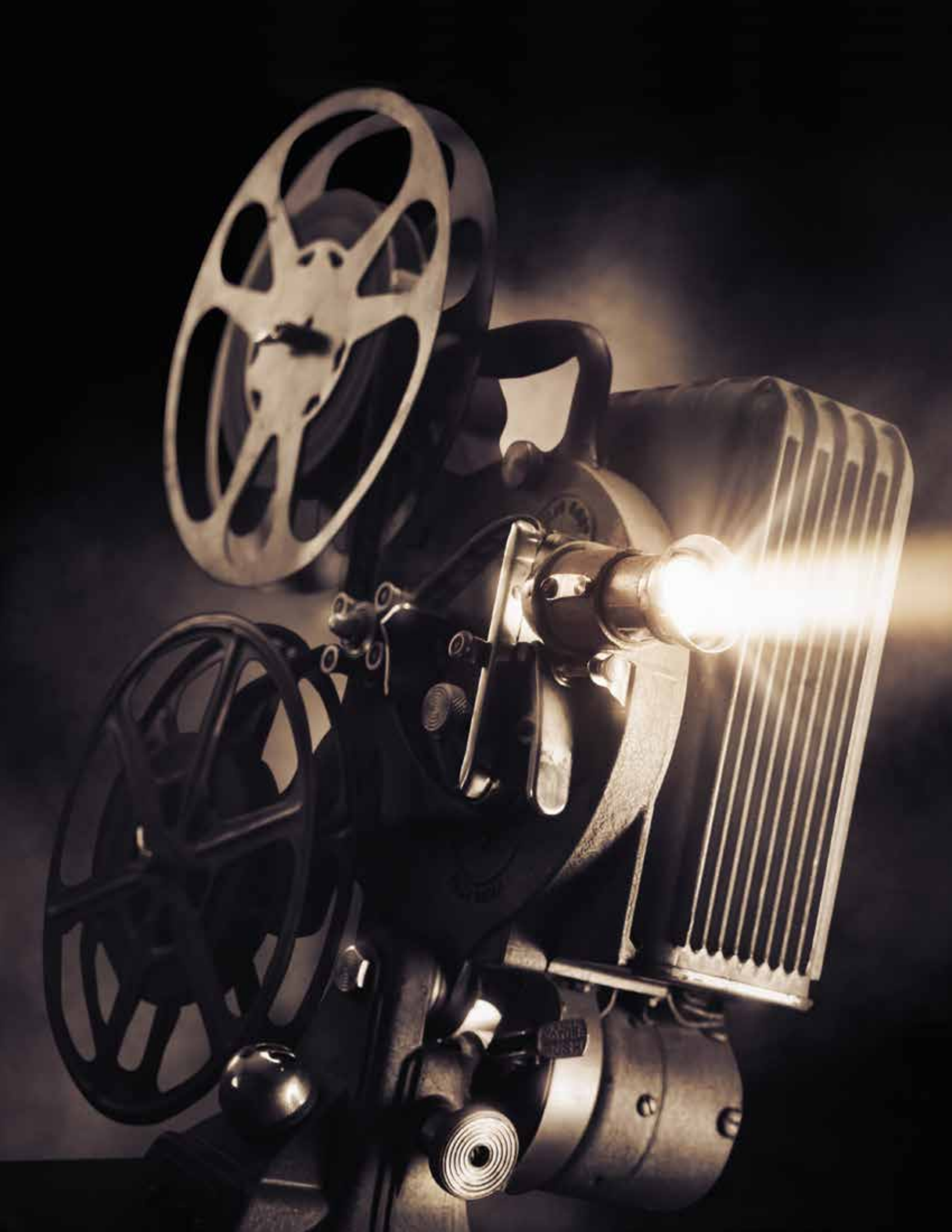
"Not everything you read on the internet is true," she says. "People need to tread cautiously and have an open and honest discussion with their physician – not Dr. Google. I understand the desperation of some people to get well, but sometimes the physical, emotional, and financial costs of pursuing these so-called miracle cures can be considerable." D

Profile

It may be ancient history, but a rare dinosaur skin is offering insights into animal evolution.

University of Regina physicist **Mauricio Barbi** helped discover patches of actual dinosaur skin from a 72-million-year-old hadrosaur. His groundbreaking analysis compared the dino skin to that of a modern crocodile revealing cellular similarities between the two that shed new light on evolution. D

It's happening here.



[Feature]

LOOK: How filmmaking can help fight mental illness and stigma

BY BRAD BELLEGARDE AND KRISTA BALIKO

What started as an idea being casually bounced around between board members of the Regina International Film Festival and Awards (RIFFA) has grown into something much loftier than first imagined.

"RIFFA board members John Thimothy and Nesita Watsemwa came to me about four years ago to see if I was interested in creating a mental health film initiative," says Trevor Grant, a University of Regina School of Journalism faculty member and graduate studies coordinator. "I immediately latched onto the idea and it wouldn't let me go until I saw it through."

Thanks to Grant's dedication and tenacit y, LOOK: A Mental Health/Film Initiative is now a reality.

For Grant, who has spent most of his life making documentaries and television programs, and who now teaches in the journalism school, an initiative like LOOK was long overdue.

"Its core purpose is to bring together individuals who have substantive mental health illnesses," says Grant, who is the initiative's educational and co-creative director. "It's also about self-expression, about revealing to society why marginalized voices matter, and how those voices can provoke an audience to reconsider their own stereotypes."

It's something Grant is passionate about, since he knows all too well what it means to struggle with good mental health, as those struggles were one of the big reasons he left high school before finishing grade 12.

"If there had been a LOOK program available to me, a place to go and be creative, and be with people with similar issues in life, then maybe I could have headed down a different, more positive road," says Grant.

A PERFECT MATCH

Grant's love of filmmaking has helped him immensely. That's why he's volunteered so much of his time to kickstart the LOOK initiative, and to keep it free for participants.

It's also what drove RIFFA to reach out to the Saskatchewan Health Authority and the Canadian Mental Health Association's Saskatchewan Division when looking for collaborators.

It was a perfect match.

In order to be considered for the program, participants have to be between 17 and 30 years old, and they must be referred by professionals who work in mental health.

Grant says he has also received significant support from the University's journalism faculty, who were pivotal in ensuring LOOK became a reality.

Left: Grant directing a TV series at the Gusto TV studio in Ottawa.

Right: Layton Burton, School of Journalism lab instructor and long-time filmmaker, is LOOK's co-creative director.


Steph Brown


Heidi Atter

"We were looking for a space to do this, so I asked my colleagues if we could use the school's TV studio, and all of the faculty said 'yes, absolutely,'" says Grant. This partnership gives the LOOK participants access to the journalism school's state-of-the-art studio.

The equipment the participants use—the cameras, lights, mics, and the Adobe subscriptions for editing—were paid for by LOOK as a result of a fundraiser and a few private donations.

Even with a location and equipment secured, Grant knew he needed more help to make the program a success.

"I very quickly reached out to my long-time filmmaker friend and fellow J-School instructor Layton Burton."

Burton, who is the School of Journalism's lab instructor, jumped at the opportunity to be a part of the initiative. He is now LOOK's co-creative director.

"People in my family have had mental health issues, so I was immediately drawn to the idea. And, once Trevor and I get involved in something, we don't wait for someone else to do it – we work to make it happen," says Burton.

Burton says he feels great about all the work that's gone into getting LOOK off the ground, especially when he sees "the smiles on the young people's faces when they are working on their films. Seeing the results of their hard work is more payment than I will ever need."

Which is fitting, considering LOOK is a completely volunteer-based program.

"We've had overwhelming support from professional journalists, filmmakers, cinematographers, and other industry professionals who volunteer their time to help mentor, support, and inspire our LOOK participants. Our goal is to build confidence in each student who walks through that door," says Grant.

IN CLASS

LOOK held its first class in January 2019 with seven young people involved in the 20-week-long program. The second session has already begun and enrolment has doubled.

The class runs every Saturday and is designed much like Grant and Burton's TV documentary courses in their journalism program.

"We cover a wide range of storytelling modes, from documentary and short-film production, to filmmaking theory, to hands-on experience with lights, cameras, and editing software," explains Grant. "Participants then have time to create their own short films or documentaries."

The topics the first class delved into ranged from creative expression with puppetry to a personal exploration of bi-polar and depressive disorder to an old-fashioned love story.

One major difference between the journalism class and the LOOK program, however, is how Burton and Grant engage with the materials and the participants.

"Our approach revolves around having an understanding of mental health issues," says Burton.

Due to the involvement of the Saskatchewan Health Authority and the Canadian Mental Health Association, confidentiality plays a central role. But one student, who graduated from last year's LOOK program, didn't hesitate to speak about her experience.

"I was really nervous at the beginning," says Kayla Mak Harrison. "But they gave me the support I needed, they understood me as a person, and they helped me to see how the camera could become another part of me and help me to tell my story."

Harrison, who identifies as Inuit and Chinese, says she found it challenging to open up and get comfortable in the

“Our goal is to build confidence in each student who walks through that door.”

new environment when she first arrived at the School of Journalism's studio. And, she admits, prior to the LOOK program, her only experience with a camera was taking photos – not video. But, with support from Grant and Burton, after only a few classes, her uncertainty turned to enthusiasm.

“I’ve never made a film. I’ve never made anything like that at all. So, for my first time, I was just, like, let’s see how this goes, and wherever it goes, it goes,” she says.

Harrison admits that producing the film took a lot of time and a lot of work, but says it was worth it. “Going to the Regina International Film Festival and Awards and having my film screened – all of those experiences really broadened my horizons.”

Grant says that from the beginning, the idea for LOOK was to have a film screening of the participants’ work at RIFFA. No one really knew how that would play out – whether participants would want to attend the event and screen their work due to the social stigmas attached to having poor mental health.


Dugald McLaren

Trevor Grant, LOOK’s educational and co-creative director and School of Journalism faculty member, 300 feet above Cape Town, South Africa while directing and filming a TV documentary.

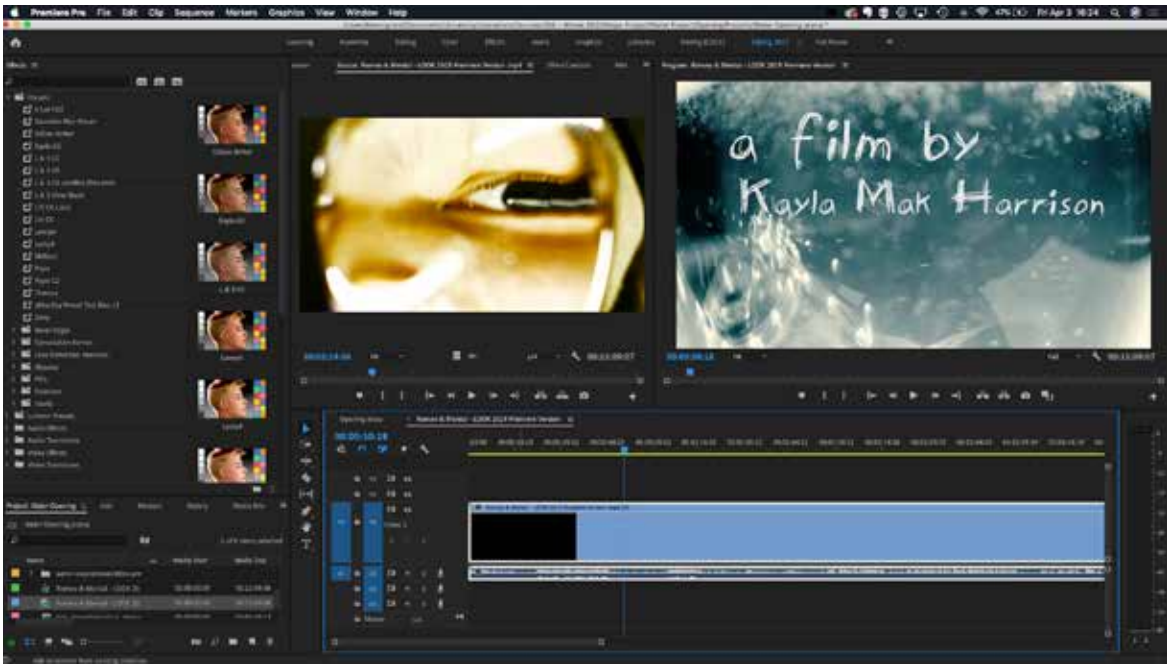
“I made the film thinking that people were going to judge it, judge me, and not understand where I was coming from,” says Harrison.

Though many participants chose to remain anonymous, Harrison stepped into the spotlight on RIFFA’s opening night.

Her film, *Romeo and Mental*, tells the story of two people living with major depression and bi-polar disorder. She based one of the characters on herself. But, because of the stigma associated with mental health disorders, Harrison says it was difficult to find people to take on that role.


Heidi Atter

A photo of Kayla Mak Harrison taken while she was filming scenes of *Romeo and Mental*.



Kayla Mak Harrison's film during the editing process. LOOK participants are taught how to use Adobe Premiere Pro, professional video editing software.

"I was really nervous at the beginning," says Kayla Mak Harrison. "But they gave me the support I needed, they understood me as a person, and they helped me to see how the camera could become another part of me and help me to tell my story."

"I tried to find people to play the female role in my film, but it ended up taking too much time," says Harrison. "And anybody who considered it wanted to be blacked out like a shadow to keep them anonymous."

Since Harrison didn't want to silhouette her character, she took on the challenge of not only making the film, but also starring in it.

The risk paid off.

"Playing my own role helped me to better understand myself." But, she says, it wasn't an easy decision for her to make.

"I was afraid that people were going to see me in a different light," says Harrison. "I was unsure if the audience was going to understand the part of my life I was trying to capture on film."

That wasn't the case.

"After it screened, a lot of people came up to me and said, 'WOW!' It really opened them up to better understand what a person with major depression and bi-polar disorder feels, and to understand what happens to them," says Harrison.

CHALLENGING PERCEPTIONS

Dianne Allen, a social worker with the Saskatchewan Health Authority, was an advocate of the LOOK program from day one. Working in mental health, Allen understands the complexity of telling these kinds of stories.

"These young filmmakers wonder if people who know they have lived experiences of mental health issues will someday hold it against them – whether they are looking for jobs or for some other reason."

Allen says it becomes even more complicated for a few of the young people participating in LOOK because some of them live with some form of psychosis, which, she explains, is "a fancy word for having trouble with reality."

"Psychotic disorders, such as schizophrenia, schizoaffective, and bipolar, typically develop in the late teens or early 20s when young people attend university, begin working, start their careers. Mental illness disrupts this developmental process and timeline, which leaves young adults with mental illness on the sidelines and left out. The LOOK project was designed for this age group, providing them a much-needed opportunity," says Allen.

For Allen, the LOOK films and documentaries challenge people's perceptions of mental health issues, while the participants are provided with some much-needed confidence.

"The fact that they were even able to participate in this program shows their strength. The participants had something valuable to say, and they received positive feedback from Trevor – who made it so fun and supportive from day one," says Allen. "These young people who were super shy, who hardly talked to people, started to connect with others. And to watch it happen was wonderful."

Allen was in attendance at the initiative's premiere screening and reminisces about one participant's experience at the gala.

"She was standing on stage and said, 'I have found my voice.' Here she was, amongst professional filmmakers, answering the public's questions, and we were just like, 'Oh my gosh.' That young person, who has had a difficult past, who had no voice, was standing up there with her head held high."

Allen notes that building confidence is an important part of the recovery journey for individuals living with mental health issues – and that building and rebuilding confidence and building and rebuilding social networks are always difficult.

"Seeing what LOOK has done for some of these young people in the span of six months, in what usually takes years to achieve, is profound," says Allen, who has recently taken on the volunteer role of director of community relations within the LOOK initiative.

Now in its second year, LOOK is fully enrolled with 14 first-time participants, as well as some returning students who are enrolled in an advanced production course – a class Grant created simply because some of last year's students wanted to continue with the program.

"They wanted to learn more and to go further, so we just had to make it happen," says Grant.

While there is volunteer and in-kind support from the University of Regina's School of Journalism, in order to successfully continue, Grant says LOOK needs more help. The most immediate need is laptop computers to give the participants an opportunity to edit their work on their own time.

"Seeing what LOOK has done for some of these young people in the span of six months, in what usually takes years to achieve, is profound."

"Mental illness is a severe problem. For youth, it's imperative that we begin to deal with it early – and realize it can take a long time to make a change. That's why we need people to give to this initiative," says Grant, who believes that LOOK is making a big difference in the lives of those who are a part of it.

"Filmmaking is a powerful tool for creating connections and getting conversations started around complex issues related to mental health. Through filmmaking, we have the opportunity to fight stigma and to create better outcomes for young people." D

For more information about LOOK: A Mental Health/Film Initiative, please visit the Regina International Film Festival Awards website at www.riffa.ca, then click on the RIFFA Academy/LOOK tab at the top of the page.

Dianne Allen is a social worker with the Saskatchewan Health Authority and the director of community relations within the LOOK program.

[BytheBook]

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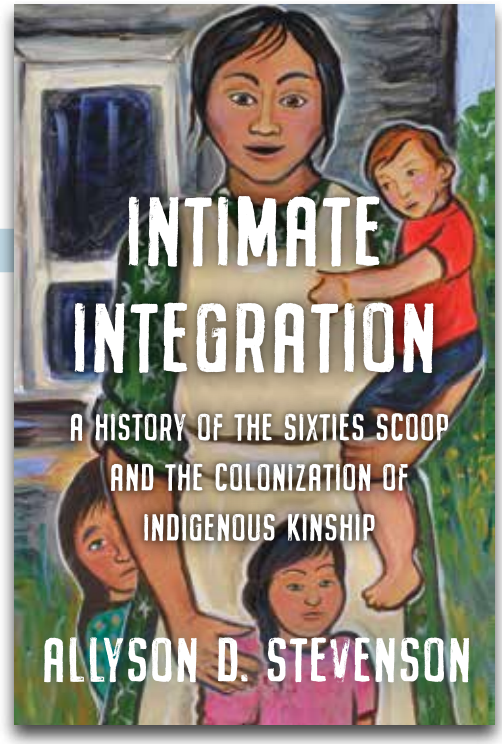

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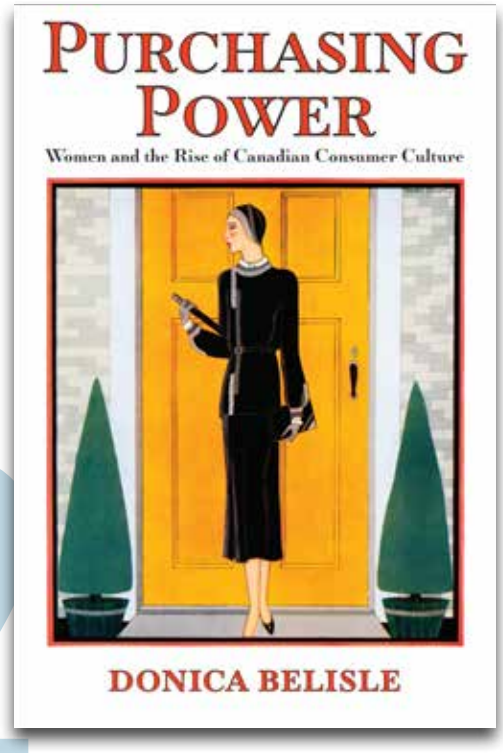

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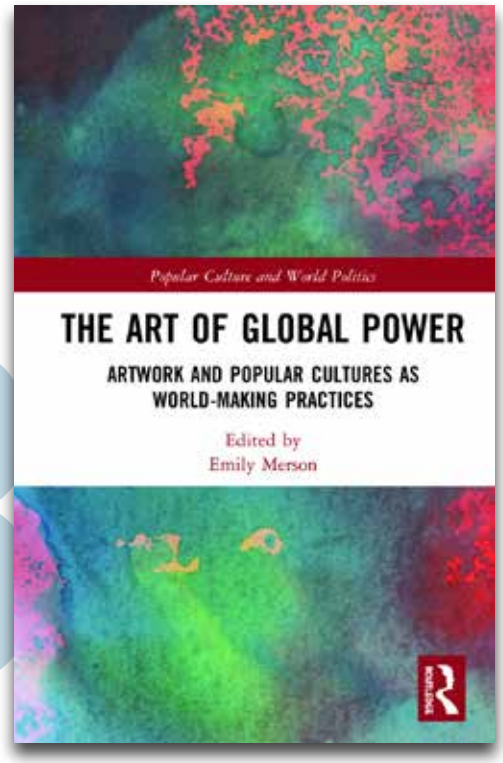

1. In *Intimate Integration: A History of the Sixties Scoop and the Colonization of Indigenous Kinship* (University of Toronto Press, 2020), **Allyson Stevenson** documents the rise and fall of North American transracial adoption projects, including the Adopt Indian and Métis program and the Indian Adoption project. Stevenson, a U of R Canada Research Chair in Indigenous Peoples and Global Social Justice, illustrates how removing Indigenous children from Indigenous families and communities contributed to the "Sixties Scoop," and sheds light on the complex reasons behind social inequalities that persist in child welfare today.

2. In *Purchasing Power: Women and the Rise of Canadian Consumer Culture* (University of Toronto Press, 2020), U of R historian **Donica Belisle** uncovers the meanings that Canadians have attached to consumer goods. Focusing on women in the early 20th century, Belisle explains that due to exclusion from politics and employment, many women turned consumption into personal and social opportunities. Yet consumption was also a tool of exclusion. Many privileged women disparaged racialized and lower income women's consumer habits, constructing notions of taste that defined who belonged—and who did not—in modern Canada.

3. In *The Art of Global Power: Artwork and Popular Cultures as World-Making Practices* (Routledge, 2020), editor **Emily Merson**, assistant professor in the U of R's Department of Politics and International Studies, emphasizes the transformative power of artwork and popular cultures in challenging the status quo and calling attention to unjust power imbalances. Merson gathers contributors who draw on their experiences across arts, activist, and academic communities to examine how the global politics of colonialism, capitalism, and patriarchy are expressed, and may be transformed, through popular cultures and artistic labour.

Allyson Stevenson's book *Intimate Integration* contributes to the history of settler colonialism in Canada and untangles the complex reasons behind persistent social inequalities in child welfare.

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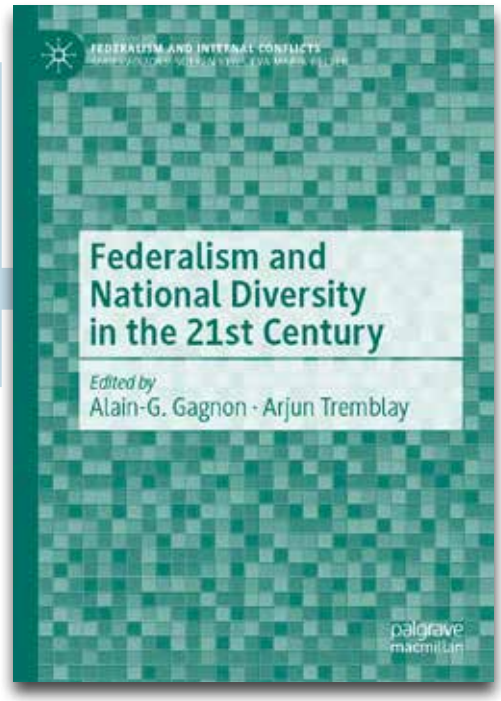

4. Edited by **Arjun Tremblay**, assistant professor in the U of R's Faculty of Arts, *Federalism and National Diversity in the 21st Century* (Palgrave Macmillan, 2020) explores the obstacles to and opportunities for a sustainable and representative multinational federalism. This collection includes essays from international scholars who tackle questions about multinational federalism, such as what the main roadblocks to multinational federalism adoption are and if those obstacles can be overcome, while also seeking out roadmaps to successful and diverse multiethnic and multinational federal democracies for the twenty-first century.

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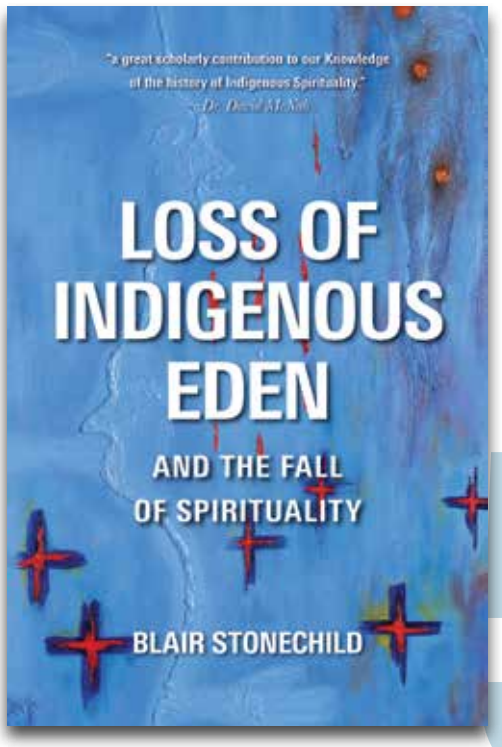

5. Blair Stonechild's *Loss of Indigenous Eden and the Fall of Spirituality* (University of Regina Press, 2020) explores Indigenous spiritual teachings passed down by Elders and examines their relevance today. Stonechild, professor of Indigenous Studies at First Nations University of Canada, demonstrates how global human dominance and economic and technological development have resulted in all-consuming and destructive appetites that damage relationships with the natural world, leading to a troubling loss of respect for spirituality. He also argues that international reconciliation with Indigenous peoples and their cultures is necessary for humanity's survival.

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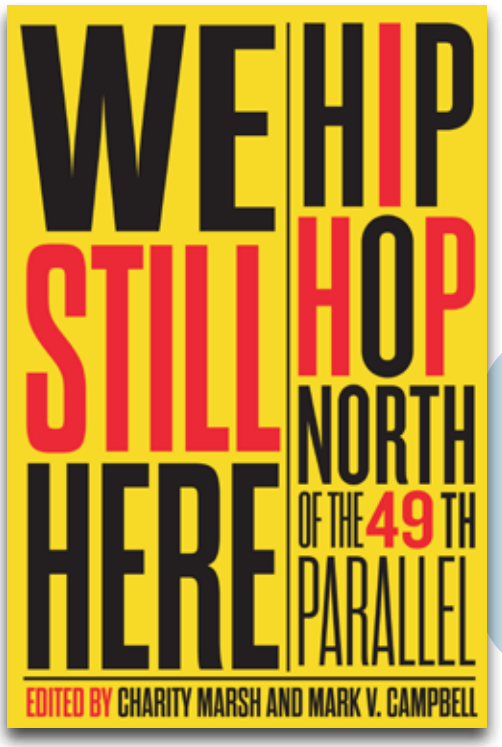


6. Co-edited by U of R creative technologies professor **Charity Marsh**, *We Still Here: Hip Hop North of the 49th Parallel* (McGill-Queen's University Press, 2020) aims to trace the edges of hip-hop culture in Canada and make sense of the rich and diverse ways people engage with it. Focusing on Indigenous and Black Diasporic perspectives, contributors to the collection explore issues around gender, identity, power, and diaspora. By amplifying rarely heard voices within hip-hop cultures in Canada, contributors argue for hip-hop culture's power to disrupt national formations.

Collaborate

Samantha Lawler, an astronomy assistant professor at the University of Regina, is testing the Planet 9 theory.

PLANET 9 BY K.D. SAWATZKY

The possibility of a Planet 9 existing in the outer reaches of our solar system has been making headlines ever since a paper theorizing this was published in 2016 by Caltech researchers Mike Brown and Konstantin Batygin.

With all the hype, Samantha Lawler, an astronomy assistant professor at the University of Regina, felt compelled to test the Planet 9 theory.

"The idea that there's another planet farther out in our solar system is fascinating. I mean, I'm biased because I'm an astronomer, but I think it's something that is fundamentally interesting to humans. It's something we're all curious about," says Lawler, who was an undergrad at Caltech when Brown discovered Eris, the first Kuiper Belt object (KBO) larger than Pluto. The Kuiper Belt is a region of the solar system that exists beyond the eight major planets. Brown's discovery led to the vote by the International Astronomical Union that ultimately removed Pluto's planetary status.

Lawler is part of the Canadian-led Outer Solar System Origins Survey (OSSOS), an astronomical observation program that involves 40 scientists from eight different countries who are working to map out the distant solar system.

Lawler decided to use the celestial maps produced by OSSOS in combination with computational orbit simulations to test the Planet 9 theory.

OSSOS analyzes images captured by the Canada-France-Hawaii Telescope, a world-class, 3.6-metre optical/infrared telescope that sits on the summit of a dormant volcano on the big island of Hawaii.

From 2013 to 2018, more than 800 KBOs were observed by the telescope. All the data collected has been made available to the public.

For her part, Lawler tracked the orbits of the KBOs using computer modelling. She also ran orbital simulations to observe how the objects arrived at their particular orbits.

To test the Planet 9 theory, she and co-investigators examined the orbits of six KBOs that were at the heart of Brown and Batygin's 2016 paper. That paper proposes the KBOs' orbits are aligned, and that it is this phenomenon that requires the existence of a large, distant planet that is 10 times the size of Earth – Planet 9.

"If Planet 9 is real, then my simulations show that a lot of the distant orbits of the KBOs should be tilted," says Lawler. "Using the OSSOS survey, astronomers basically

“It’s really hard to prove something wrong. From our data, we can’t say that Planet 9 doesn’t exist, but we can say that there’s no evidence in favour of it.”

said that they couldn’t confirm if that was the case because the orbits were too far away,” says Lawler.

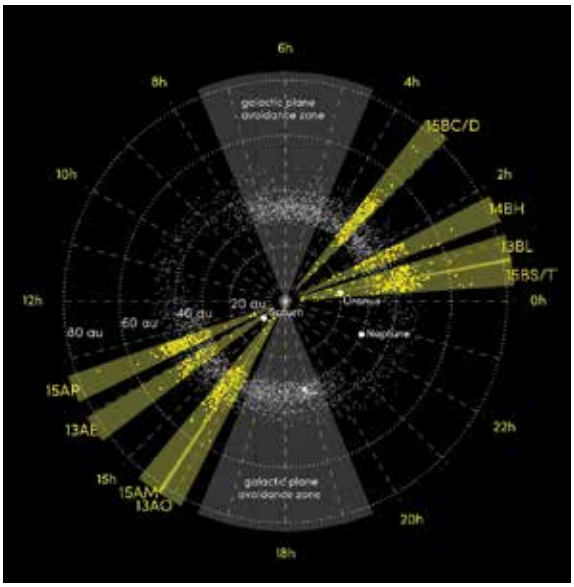
As lead author, Lawler published these results in *The Astronomical Journal* in 2017. In her paper, she states that the KBO orbital simulations did not show the alignment that would provide evidence of Planet 9. She suggests that the alignment observed by Batygin and Brown is due to observational biases, such as searching only certain places in the sky at certain times of year, also noting that some types of orbits are easier to detect. Lawler says that not all parts of the solar system were searched for KBOs, which is something she accounted for in her own analysis of the OSSOS data.

“It’s really hard to prove something wrong,” says Lawler. “From our data, we can’t say that Planet 9 doesn’t exist, but we can say that there’s no evidence in favour of it.”

Rosemary Pike, an astronomer with the Minor Planet Center at the Harvard-Smithsonian Center for Astrophysics, was also on the OSSOS team. She worked with Lawler on her Planet 9 simulations while working at Academia Sinica in Taiwan.

“It’s really awesome to work in a group. We’re able to pool resources from different places to do a much bigger project than any of us could have done separately,” says Pike.

Pike and Lawler, in collaboration with other scientists from the Smithsonian Center for Astrophysics and Academia Sinica in Taiwan, will run a survey searching for more KBOs using the Canada-France-Hawaii Telescope this year. Their goal is to combine their results with the OSSOS survey, possibly shedding even more light on Planet 9 statistics.



Regions of sky (yellow slices) where the Outer Solar System Origins Survey discovered Kuiper Belt Objects (yellow dots) relative to the geometry of the outer solar system.

Specializing in surface characterization, Pike will be able to use her access to the Magellan telescope in Chile and the Gemini observatory in Hawaii to examine the surfaces of the objects that Lawler will help to classify. Lawler will do this using the supercomputer facilities of the Canadian Advanced Network for Astronomical Research.

“You’re at a disadvantage if you don’t build collaborations,” says Pike. “People bring different skills to each project, they bring access to different telescope resources, and there’s just too much out there for everyone to be perfect at everything.”

The international Gemini Observatory/ NSF’s National Optical-Infrared Astronomy Research Laboratory/ AURA/M. J. Pollard

Astronomer Rosemary Pike at the Gemini Observatory on Maunakea in Hawaii. The Gemini telescope dome is behind Pike, and the Canada-France-Hawaii Telescope is the smaller dome to the lower left.

The SWAT BOX is a data collection sensor that can be mounted on agricultural equipment. The data is then used for generating the SWAT maps.

PRECISION AGRICULTURE'S BRIGHT FUTURE

Agriculture is big business in Canada, feeding a combined $300 million dollars a day into the national economy. And with 40 per cent of Canada's agricultural land located in Saskatchewan, the health and viability of that sector are crucial to our economy and our environment.

A team of University of Regina researchers, led by University of Regina assistant professor of engineering Abdul Bais, is currently working on a project that will help farmers reduce their environmental impact while maximizing their economic returns.

"Our project will enhance farmers' ability to selectively apply herbicides to weeds in more efficient ways," says Bais. "That will reduce both crop and environmental damage."

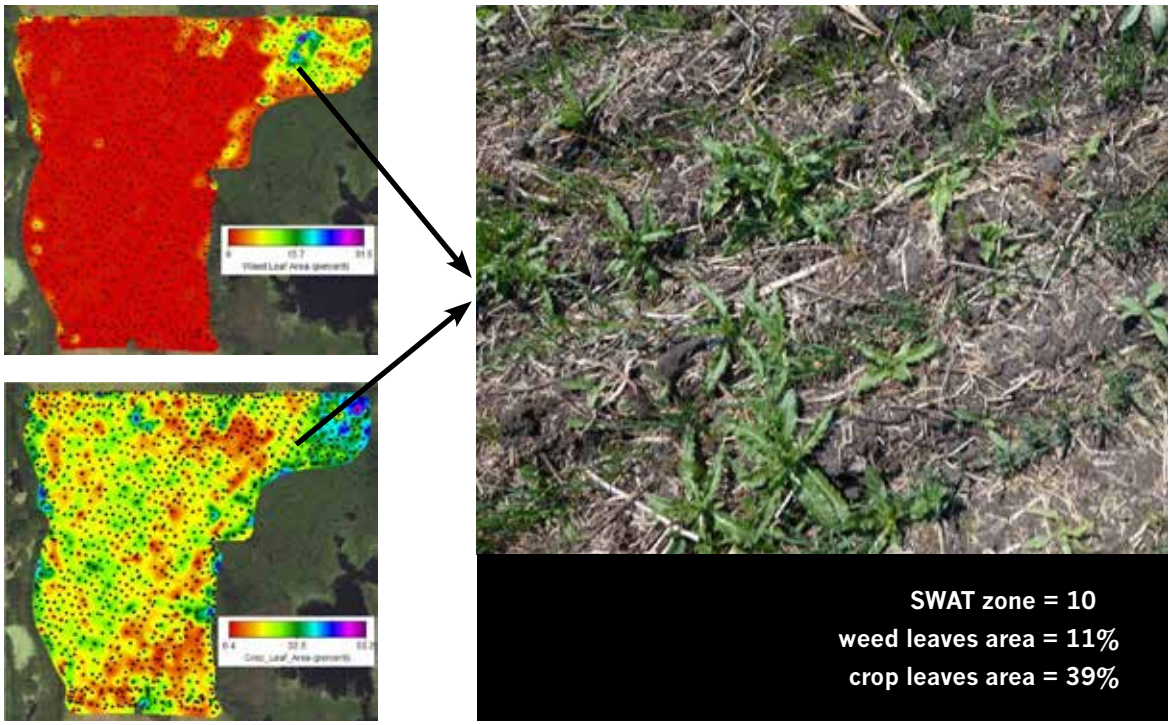
Traditionally, farmers manually scout to determine crop and weed growth. For those engaged in large-scale farming, the process is expensive, time-consuming, and causes extensive damage to both crops and the environment because the approach is to apply chemicals, such as herbicides, all over their fields, regardless of where the weeds are growing.

"Herbicides should only be applied precisely on the places where there are weeds," says Bais, whose work as an electronics engineer has led him to this work in precision agriculture. "This requires accurately mapping the weeds in the fields."

Using a computer vision-based automatic process, the researchers acquire high-resolution field imagery that enables them to determine which areas of the field have what types of weed.

Cory Willness, president of CropPro Consulting, in Naicam, SK.

"Our project will enhance farmers' ability to selectively apply herbicides to weeds in more efficient ways. That will reduce both crop and environmental damage."



Muhammad Hamza Asad, a PhD candidate in the University of Regina's Faculty of Engineering and Applied Science, processed high-resolution ground imagery and Soil, Water and Topography (SWAT) maps of farmland at CropPro Consulting.

"Then we can calculate the percentage of both weeds and crops in a given area and determine the exact quantity of herbicides to apply," explains Bais.

Muhammad Hamza Asad, a PhD candidate in the University of Regina's Faculty of Engineering and Applied Science, adds, "after processing the high-resolution ground imagery and Soil, Water and Topography (SWAT) maps of the farmland, we identify the homogeneous weed management zones so we know where to apply the herbicide."

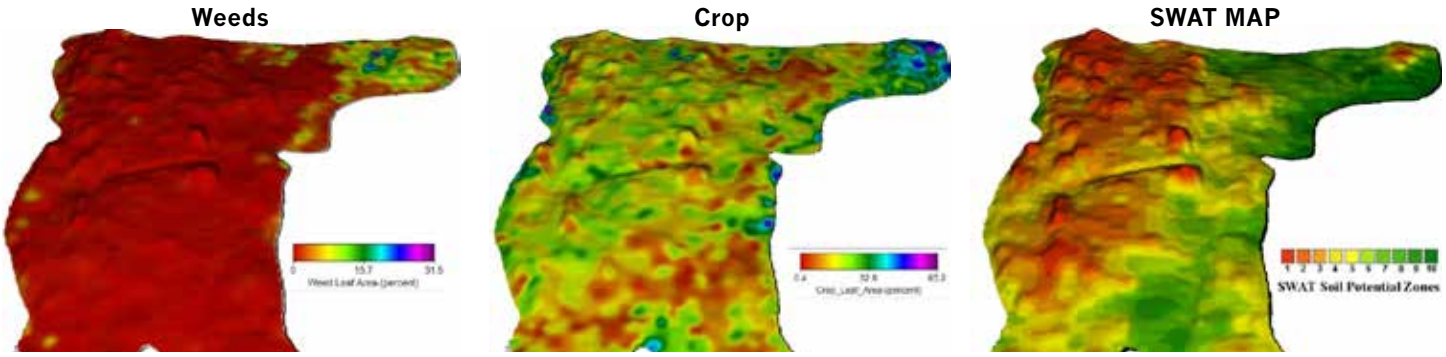
Asad, who has a lead role in this research, began a pilot project using these precision agricultural techniques last year. At that time, he worked on only six fields. The results produced such a high level of accuracy in crop/weed density estimation and weed classification that he decided he could go bigger.

Working with CropPro Consulting, a Saskatchewan leader in the agricultural sector, the team is now advancing the technology to use on more than a million acres of agricultural farmland in the Prairies.

"Within the next couple of years, this technology will be fully ready to expand and apply on a larger scale to our agricultural operations in Canada and internationally," says Cory Willness, president of CropPro Consulting.

"We are proud of this innovation coming out of the University of Regina. Canadian tech companies, equipment manufacturers, farmers, environmentalists, and the billion-dollar pesticide industry will benefit from the ability to apply variable-rate inputs that this type of precision agriculture allows." D

Example of how a SWAT map is related to weed and crop density maps.



Funding

University Advancement and Communications

Gordon Asmundson was awarded $400,000 in funding as part of the Canadian Institutes of Health Research's Canadian 2019 Novel Coronavirus (COVID-19) Rapid Research Funding Opportunity.

1. As of April 21, the World Health Organization reported that there were 2,402,250 confirmed cases of the novel coronaviurs worldwide. At that time, they also confirmed 163,097 deaths. And the numbers continue to climb.

COVID-19 is a stark example of how, during pandemics, psychological factors play a significant role in the spread and containment of infection (e.g., adhering to social distancing guidelines) and in societally disruptive behaviour (e.g., infection-related discrimination, excessive fear and worry, overuse of healthcare resources).

"This means that psychological factors have important public health significance," says **Gordon Asmundson**, a University of Regina professor in the Department of Psychology. Asmundson was awarded a $399,700 federal grant for his study, *COVID-19: The Role of Psychological Factors in the Spreading of Disease, Discrimination, and Distress.*

The funding was part of the Canadian Institutes of Health Research's Canadian 2019 Novel Coronavirus (COVID-19) Rapid Research Funding Opportunity.

"This funding is critical to better understanding the common psychological responses to COVID-19 and the new reality it has imposed on our daily lives. Importantly, it will help Canadians and others be better prepared if and when we are faced with a future coronavirus outbreak," says Asmundson.

Asmundson, who is also a registered doctoral psychologist, a Royal Society of Canada Fellow, and editor-in-chief of the *Journal of Anxiety Disorders and Clinical Psychology Review*, is a researcher with a focus on health anxiety. Dr. Steven Taylor, from the Department of Psychiatry at the University of British Columbia and author of *The Psychology of Pandemics*, is the co-principal investigator of this project.

The focus of this federally funded project is a series of three studies, with the end goal of developing a rapid assessment system, delivered through an online platform, which can be used to assess, for any pandemic or major epidemic, infection-related excessive behaviours, anxiety and xenophobia, and risk factors for these problems.

Asmundson and his collaborators will use results from nationally representative data—collected in Canada and the United States—to conduct three studies with a specific focus on COVID-19.

The goal of Study One is to develop and validate ways to measure COVID-19-related anxiety and xenophobia, as well as related behaviours, such as adherence to hygiene and social distancing recommendations.

"Study Two will use the measures developed in Study One to identify factors that predict COVID-19-related anxieties and fears, which will then inform the development of preventative and intervention strategies for these fears and anxieties," says Asmundson.

Based on those findings, Asmundson says that for Study Three his team will design and evaluate an online public health assessment and information platform.

"The platform will aim to help people develop ways of coping to aid in their ability to maintain mental and physical health, while also helping reduce the spread of infectious outbreaks," explains Asmundson.

The platform will then be expanded to monitor the psychological impact of public health emergencies, identify people in need of psychological services, and implement interventions for reducing infection-related xenophobia and excessive anxiety.

"Since things are moving fast, and since we have multiple time points for data collection, our results will come in stages," says Asmundson, who adds that his small team is working around the clock on the project.

The researchers began collecting data on Friday, March 20, and Asmundson says the inflow of data is unprecedented in such a short time.

"We collected data until April 1, which resulted in 6,868 complete responses from Canada and the United States."

Asmundson says they are now analyzing data from the first wave of respondents and expect initial findings soon.

"On May 1, we will contact those respondents again to assess any changes in their responses, and will do so again two months after that."

The team has also launched a website, coronaphobia.org, which they will update as the study continues.

University of Regina researchers receive $3 million to improve the lives of older adults living with dementia in small cities and rural communities in Saskatchewan.

Research team Bonnie Jeffery, Tom McIntosh, and Nuelle Novik received $3 million in federal funding for their dementia-focused research project.

2

2. A University research team led by **Bonnie Jeffery**, a professor in the Faculty of Social Work at the University of Regina's Prince Albert Campus, received a $3 million grant from Employment and Social Development Canada's New Horizons for Seniors Program. The money will fund a five-year research project to improve the lives of older adults living with dementia in small cities and rural communities in Saskatchewan.

Nuelle Novik, associate professor in the Faculty of Social Work, and **Tom McIntosh**, professor in the Department of Politics and International Studies, are part of the research team.

Entitled *Interventions to Enhance Social Inclusion of Older Adults with Dementia in Saskatchewan*, the project is being conducted through the Saskatchewan Population Health and Evaluation Research Unit (SPHERU). SPHERU is a research centre based at both the University of Regina and the University of Saskatchewan that has established itself as a leader in cutting-edge population health research looking at the *what* and the *why* of health inequities – and how to address these inequities.

"Services and interventions for older adults with dementia tend to be concentrated in larger urban centres, and those who live in smaller and rural communities have much fewer supports," says Jeffery. "Saskatchewan, with its widespread rural population, is an ideal place to explore what interventions can best enhance the quality of life for those people with dementia who live in those smaller communities and rural areas."

Jeffery adds that limited finances, education, public transportation, and geographic distance can compound the unique barriers older adults face as they attempt to access dementia care in small cities or rural communities.

"Approximately one third of Saskatchewan's one million residents live in rural communities, and more than 19,000 people are affected by dementia, with an estimated 60 per cent living in their own homes," Jeffery says.

With a focus on supporting greater social inclusion, the research team will collaborate with the Alzheimer Society of Saskatchewan and other provincial organizations to examine individual, community, and organizational supports and initiatives aimed at improving the lives of people with dementia, as well as their care partners.

"The lack of dementia knowledge and awareness perpetuates stigma and stereotypes of people living with dementia and their care partners," says Joanne Bracken, chief executive officer of the Alzheimer Society of Saskatchewan. "We know from research that after finding a cure, eliminating stigma is the next biggest concern for people with dementia. We believe this project has the potential to address this issue in a meaningful way."

Jeffery says the team will focus on improving public awareness of the stigma and social isolation experienced by people with dementia, while also working to improve social inclusion.

The researchers will also look at increasing and improving the availability and appropriateness of family and community supports for people living with dementia and their care partners.

3. In Canada, deaths by suicide among Indigenous people are three times higher than for non-Indigenous people. Across the country, many First Nations communities have been forced to declare states of emergency as deaths by suicide in these communities reach crisis levels. And while depression and anxiety are two of the most common mental health conditions in Canada, Indigenous people suffer from these debilitating conditions in greater numbers and severity.

While non-Indigenous Canadians can struggle to access timely and effective mental health treatment, there's an even greater gap in availability and access to treatment designed specifically for Indigenous people. Indigenous youth, in particular, are lacking treatment options that are culturally sensitive and appropriate.

Thanks to a federal grant, a promising new program will help to address the scarcity of services.

Shadi Beshai, associate professor of psychology, recently received a Canadian Institutes of Health Research (CIHR) Project Grant worth $165,000 for his research project, *Adapting a Mindfulness-Based Intervention for Depression and Anxiety Symptoms for Use with Indigenous University Students.*

"Indigenous people in Canada still experience major mental health disparities and lack of

Shadi Beshai recently received a Canadian Institutes of Health Research Project Grant. 3

appropriate, culturally sensitive treatment options," says Beshai. "There is extra urgency to develop mental health interventions that are geared toward Indigenous youth, as this group faces several unique societal challenges, including increased systemic discrimination, lack of Indigenous-focused cultural education, and higher drop-out rates from post-secondary institutions."

Beshai explains that most current mental health interventions are based on Judeo-Christian principles that aren't neccessarily appropriate for the needs of Indigenous youth.

"This cultural mismatch between the treatment and the patient is often perceived as insensitive or inappropriate, which leads people of different cultures to either never consider using these treatments, or quit soon after they start."

Beshai's research team includes **Brenda Green**, an associate professor of Indigenous Health Studies at First Nations University of Canada and an expert in Indigenous health and Indigenous research methods. Beshai and Green are collaborating with Elder Betty McKenna, who is the Elder in Residence at the Regina Public School Board and who also provides guidance on appropriate research and mental health practices with Indigenous peoples and families. Misty Longman, director of the University of Regina's *ta-tawâw* Student Centre, is another project partner.

Beshai is excited to get started, saying, "This project is a natural continuation of my research in the areas of mindfulness and cross-cultural adaptation of psychological interventions."

Green explains that there will be three main objectives to this project.

"We are developing a flexible, culturally sensitive manual for a mindfulness-based intervention to manage depression and anxiety symptoms among Indigenous university students," says Green. "We will then pilot how effective this intervention is in reducing symptoms of depression and anxiety among them, then we will develop a model for adapting existing interventions to make them sensitive to the needs of Indigenous peoples in Canada."

"I'm hopeful that this work will increase Indigenous youth engagement in effective treatments for depression and anxiety," adds Beshai.

4. Dying with Dignity Canada is a national charity that advocates for improving the quality of dying, protecting end-of-life rights, and helping Canadians avoid unwanted suffering. Recently, Dying with Dignity staff have reported that many of their clients ended their lives earlier than they would have otherwise chosen because of issues with current Canadian Medical Assistance in Dying (MAID) legislation.

Kara Fletcher, assistant professor in the Faculty of Social Work, received funding from Dying with Dignity Canada to discover more about the reasons behind why people made that decision.

Fletcher is leading a team that includes University of Regina Instructor III **Janine Brown**, and researchers from the Universities of Saskatchewan and Calgary.

"We conducted interviews with 13 people, including family members and loved ones of individuals who made the decision to end their life earlier than they would have liked. We also spoke with people who have incurable health conditions and are worried about having to make the decision to end their lives early because of current MAID legislation. We wanted to better understand these stories, what worked during that time, what needs improving upon, and, ultimately, what changes they would like made to MAID legislation."

Fletcher says they have finished data collection and hope to have results from their analysis by the summer.

5. The Saskatchewan Health Research Foundation (SHRF) is a provincial funding agency that funds, supports, and promotes the impact of health research that matters to Saskatchewan. This year, SHRF has contributed to many University of Regina scholars' research programs.

Their Collaborative Innovation Development Grants fund creative, novel, and innovative collaborative research, strengthening future funding applications by providing seed funding for ideas that are supported by a sound rationale

Kara Fletcher
Daniel Hallen 4

The Saskatchewan Health Research Foundation funds University of Regina scholars working to make a difference in health-related research in diverse areas such as multiple sclerosis, infant metabolic disorders, dementia, and cannabis impairment.

Josef Buttigieg in his University of Regina lab. 5

and a feasible plan, but not necessarily preliminary data.

Biology associate professor **Josef Buttigieg** received a $50,000 SHRF grant to target cells that cause multiple sclerosis while leaving the rest of the immune system healthy. In 2019, he also received SHRF's 2019 Impact Award, presented to researchers who are early in their careers but have had significant impact on health research and the health ecosystem.

Testing people for cannabis impairment is difficult. The main objective of biology professors **Nicole Hansmeier** and **Tzu-Chiao Chao's** SHRF-funded project will improve the ability to assess cannabis-related impairment, as well as its effects on people depending on how they consume it – such as orally, inhaled, or via aerosols, etc. This research is also funded by the Saskatchewan Lung Association.

Mohan Babu, associate professor from the Faculty of Science, received a $50,000 SHRF grant to tackle health challenges in Saskatchewan that focus on inherited metabolic disorders in infants.

6. SHRF Sprout Grants cultivate patient-oriented research teams in Saskatchewan and furthers the work of the Saskatchewan Centre for Patient-Oriented Research (SCPOR) to build capacity and collaborations to conduct responsive, equitable, innovative, and patient-oriented research.

Thomas Hadjistavropoulos, Research Chair in Aging and Health and psychology professor at the University of Regina, recently received a $179,996 Sprout Grant, split equally between SHRF and the Saskatchewan Centre for Patient-Oriented Research (SCPOR). Hadjistavropoulos and his team will use this funding to take his #SeePainMoreClearly campaign to the next level by creating new content, expanding what is now restricted to Twitter onto other platforms, such as Facebook and Instagram, and more systematically evaluating the impact of the campaign. The team will also target health professionals and stakeholders in a more focused way. Ultimately, they are aiming for a much greater global reach than they have achieved thus far. Their work is expected to lead to improved quality of life for patients and families, continuing education for health professionals, cost savings through the earlier detection of pain-related problems, and facilitation of policies for improved pain management in long-term care. Finally, using the research findings, the team will propose a comprehensive framework and guidelines for using social media for the delivery of health information.

Thomas Hadjistavropoulos and psychology student Louise Castillo working on the #SeePainMoreClearly campaign. 6

Accolades

1. Gordon Pennycook's research into why people believe and spread fake news, and how to use reason to fight the urge to do both, has been featured in media across the globe – from CBC's radio science show, Quirks and Quarks, to CNN, *The New York Times*, *The Guardian*, and *Business Ghana*. A researcher in the early stages of his career, he's no slouch in the academic writing department either, having amassed 60 peer-reviewed journal articles, including many that have appeared in top journals, such as *PNAS*, *Science*, and the *Journal of Experimental Psychology: General*. An assistant professor of behavioural science in the University of Regina's Hill/Levene Schools of Business and an associate member of the Department of Psychology, Pennycook has recently edited a book, *The New Reflectionism in Cognitive Psychology: Why Reason Matters*, and has authored five book chapters in the past four years. He is also a member of the editorial board for the international journal *Thinking & Reasoning*. For all this work, and more, Pennycook has received the Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) Vincent Di Lollo Early Career Award. Pennycook says the honour means a lot to him. "I've been going to the Canadian Society for Brain, Behaviour and Cognitive Science conference since I started grad school, ten years ago this summer. I'm particularly proud that my work is being recognized by cognitive scientists despite being interdisciplinary." The CSBBCS is a not-for-profit organization that advances Canadian research in experimental psychology and behavioural neuroscience. The Early Career Award recognizes the exceptional quality and importance of the contributions of a new researcher's knowledge in brain, behaviour, and cognitive science in Canada. The recipient of this major national award must be within 10 years of receiving their PhD.

2. Try explaining complex research in no more than 280 characters, with a video that's less than 140 seconds. University of Regina biology PhD candidate **Nicole Lerminiaux** knows how – and it earned her a win in the #IAmInnovation Twitter contest held by the Canada Foundation for Innovation (CFI). Her prize was a free trip to Ottawa to attend a science communications workshop, as well as a special event to discuss her research with MPs, senators, and senior government officials. To enter, student and post-doc researchers nationwide were asked to tweet an image or video demonstrating their work in state-of-the-art facilities and with cutting-edge equipment funded by the CFI. The goal of the contest was to showcase the work of young researchers in CFI-funded labs across Canada. Lerminiaux's work, and her winning CFI tweet and video, focus on discovering how our natural environment influences antibiotic resistance in bacteria.

3. This January, **Heather Hadjistavropoulos**, executive director of the University's Online Therapy Unit, announced a new online therapy project called Public Safety Personnel Internet-delivered Cognitive Behaviour Therapy (PSPNET). The program, led by Hadjistavropoulos, will provide free, confidential, and bilingual access to treatment for public safety personnel who self-report problems with anxiety, depression, or post-traumatic stress injuries; are 18 or older; are comfortable using the internet; are willing to provide a local medical contact in case of emergencies; and live in Saskatchewan. Being piloted in Saskatchewan now, PSPNET will be available in Québec later this year and will expand across the country in the future. The online program will benefit public safety personnel who reside in remote and rural areas, have concerns around privacy, and/or have limited time for appointments. For more information about PSPNET, please visit www.pspnet.ca.

THE NEED IS GREAT

COVID-19
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