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## VACCINATION EDUCATION

In this edition of *On Campus News*, the director of the Vaccine and Infectious Disease Organization (VIDO) at the University of Saskatchewan (USask) speaks to the importance of having the majority of the population vaccinated against COVID-19 as quickly as possible to create herd immunity, particularly in light of the rise of new variants of concern. As the World Health Organization prepares for World Immunization Week (April 24-30), Dr. Volker Gerdtz (DVM, PhD) also offers an update on VIDO's own COVID-19 vaccine, as it begins clinical trials in Phase 2 testing.

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*On Campus News* aims to provide a forum for the sharing of timely news, information and feature stories about people and events of interest to the USask community.

We acknowledge we are on Treaty 6 Territory and the Homeland of the Métis. We pay our respect to the First Nation and Métis ancestors of this place and reaffirm our relationship with one another.

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# WeCAHN final piece of Canada's regional animal health surveillance network

KATIE BRICKMAN-YOUNG

A new initiative in Western Canada is the final piece in a national framework of regional animal health surveillance programs.

The Western Canadian Animal Health Network (WeCAHN) was

established in late 2019, with assistance from University of Saskatchewan (USask)-based facilities and researchers. Its mission is to provide regional leadership in animal health and welfare surveillance to

veterinarians, livestock producers, animal owners and policy makers about ongoing and emerging animal health concerns in the western provinces.

There are similar networks in Ontario, Quebec and Atlantic Canada, along with the national Canadian Animal Health Surveillance System (CAHSS). These networks work in collaboration to provide regional surveillance in animal health.

“We are the last regional piece in the puzzle. There are regional differences in what the most pressing animal health concerns are. It’s important to have those communicated, and sometimes it’s useful even to contrast them nationally,” said Dr. Barbara Wilhelm (DVM, PhD), WeCAHN co-ordinator.

WeCAHN is an alliance between British Columbia, Alberta,

Saskatchewan and Manitoba. Government partners in Saskatchewan and Prairie Diagnostic Services (PDS), the provincial veterinary diagnostic laboratory based at USask, were active participants in developing the western network.

“In the provincial growth plan that the government set [for itself], a cross-provincial animal health network was listed as one of the province’s goals. So, our province is very committed and active and leading this effort,” said Dr. Yanyun Huang (PhD), chief executive officer of PDS—based in the Western College of Veterinary Medicine (WCVM) at USask—and an adjunct professor in WCVM.

“PDS is generously supporting this initiative and has been instrumental in bringing the stakeholders together,” added Wilhelm.

So far, WeCAHN has three established networks—beef, poultry and dairy—as well as resources for swine and smallholder producers. Provincial representatives provide guidance and oversight as the network’s steering committee.



Dr. Yanyun Huang (PhD), CEO of PDS, in the WCVM at USask.

CHRISTINA WEESE

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## IN CASE YOU MISSED IT

A lot happens at the USask during the weeks when *On Campus News* isn’t published. Here are a few of the top stories from [news.usask.ca](http://news.usask.ca):

### USASK-USSU MOU

The Office of the President at the University of Saskatchewan (USask) and the University of Saskatchewan Students’ Union (USSU) have signed a Memorandum of Understanding (MOU) to challenge oppressive and systemic racism at all levels across USask campuses. USask and the USSU committed to formalize, expand and enhance their relationship, and work together in a co-ordinated way to dismantle institutional structures, policies and processes that contribute to inequalities faced by marginalized groups. The MOU was announced during USask’s 4th Annual *māmowi āsohētētān* Internal Truth and Reconciliation Forum, held on March 26.

### COVID-19 tracing

USask researchers are joining forces with scientists across the nation to undertake surveillance, sequencing, tracing and research-driven action on the COVID-19 virus variants that have been identified in Canada. Announced March 26 by the federal government, the COVID Variant Rapid-Response Network will undertake surveillance, sequencing, tracing and research focused on mitigating the harmful impact of COVID-19 variants. Dr. Nazeem Muhajarine (PhD) and Dr. Cory Neudorf (PhD) from the USask College of Medicine, along with Dr. Michelle Johnson-Jennings (PhD) of the USask College of Arts and Science, will help lead the initiative.

### Endowed Chair

A rising star in conservation science has been hired as the Ducks Unlimited Canada (DUC) Endowed Chair in Wetland and Waterfowl Conservation at the University of Saskatchewan (USask). Mitch Weegman, an avian ecologist, will teach and mentor USask students while delivering research that addresses some of the most pressing environmental issues of our time. Weegman will begin his role July 1 in the College of Arts and Science Department of Biology. The first of its kind in Canada, the new endowed chair is the result of a partnership between DUC and USask. Weegman will train future scientists, conservationists and wildlife managers.

### Building Bridges

USask’s Building Bridges program connecting Indigenous and international students has won an international award. A partnership between the Aboriginal Students’ Centre and the International Student and Study Abroad Centre, the program earned an Innovative Practice Award by the Indigenous Student Affairs Network, given annually for creating and implementing an original or highly effective Indigenous student affairs program in North American universities. Building Bridges was established at USask in 2013. Over the past seven years, 10 students have helped run the program, which has engaged more than 1,600 students, staff, faculty, and community members.

FOR MORE UP-TO-THE-MINUTE NEWS, VISIT: [news.usask.ca](http://news.usask.ca) @usask

DIRECTOR OF VIDO AT USASK:



# Education key to vaccine acceleration

✍ JAMES SHEWAGA

As someone who has dedicated his professional life to fighting life-threatening diseases, Dr. Volker Gerdts (DVM, PhD) knows the biggest impediment to getting back to normal are those who are hesitant or refuse to be vaccinated against COVID-19.

With new coronavirus variants threatening to spark a third wave, the director of the Vaccine and Infectious Disease Organization (VIDO) at the University of Saskatchewan (USask) said it is imperative that the majority of the population is vaccinated as quickly as possible, as vaccine availability ramps up around the province and across the country.

“If we want to get this disease under control, we need to get as many people as possible vaccinated to create herd immunity,” said Gerdts, noting that researchers believe that achieving herd immunity will require more than 70 per cent of the population to have been vaccinated or recovered from COVID-19. “The ones who really benefit from that are those who are most vulnerable to the disease, particularly older people. But as data now suggests, it also includes some younger children, and the immune-compromised. So the short answer is, the more people we can vaccinate, the better.”

The irony is not lost on Gerdts that the vaccine-hesitant and anti-vaxxer/anti-masker segments of society may be their own worst enemies in their desire to end pandemic public safety measures.

“To be honest, I think (the anti-vaxxers) have lost a lot of their credibility,” said Gerdts. “To me, the frustrating part is not the anti-

vaxxers, it’s the anti-COVID people who ignore that this is happening and say this is all fake news. They choose not to wear a mask and not to get vaccinated and simply ignore the fact that we are in the middle of a pandemic.”

“But I think the bigger issue out there is vaccine hesitancy,” he added. “The important message is that these vaccines are being approved in Canada exactly as all other vaccines have been before. They have to go past the same regulatory hurdles, they have to demonstrate safety in animals and in humans. It’s important that people understand that we are not cutting corners or taking any shortcuts.”

From eradicating smallpox and polio to managing measles, the World Health Organization (WHO) notes that vaccine development is crucial in dealing with deadly diseases. As the WHO prepares for World Immunization Week (April 24-30), the message appears to have hit home with provincial residents surveyed by the Saskatchewan Population Health and Evaluation Research Unit (SPHERU) at USask. In a recent SPHERU Social Contours and COVID-19 study, 80.3 per cent of respondents indicated that they would take the vaccine.

“The clinical studies have confirmed that all of the approved vaccines are safe,” said Gerdts. “While it is understandable that some people may be slightly concerned about potential side-effects, we should not forget that getting the disease can cause serious long-term damage or death, so you don’t want to take that chance. The recommendation is that when it is

your turn, take the vaccine.”

Gerdts also noted the rise in new COVID-19 variants of concern is adding to the urgency to get vaccinated, and for the approved vaccines to continue to be tested for their effectiveness in fighting the new variants.

“It is very important to ensure the vaccine protects against these variants, too,” he said. “So here at VIDO, for example, we are in the process of updating our vaccine and adapting it to the new variants, changing our vaccine slightly so that it will match those variants.”

“We now have four of the new variants at VIDO, two South African and two U.K. variants, and we are now in animal models to demonstrate that our vaccine works against these new variants. We will then take blood samples from humans involved in our studies and verify that they have neutralizing antibodies, to confirm that they neutralize — or protect — against these variants.”

VIDO’s own COVID-19 vaccine, developed at USask, is currently in testing in Halifax and close to beginning Phase 2.

“These studies are about the safety of the vaccine and should be completed by the end of April, and then we roll into Phase 2, which continues to look at safety as well as how well the vaccine induces an immune response in humans,” said Gerdts, who noted that VIDO is exploring opportunities to run some of the clinical trials at USask as well in the future. “Beginning in the fall, we hope to start a Phase 3 study to take the vaccine to tens of thousands of volunteers and see



Dr. Volker Gerdts (DVM, PhD), director of the Vaccine and Infectious Disease Organization (VIDO) at USask.

DAVID STOBBE

how well it works.”

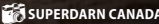
With new provincial and federal funding, VIDO’s vaccine manufacturing facility is scheduled to be completed on campus by the fall, and projected to begin production in 2022. It will be the next step in the advancement of VIDO and USask as a major national hub for vaccine research and development.

“Researchers from across the university are working with our

scientists here together, so there is lots of collaborative work being completed,” said Gerdts. “VIDO, in my mind, has really become one of Canada’s go-to places for COVID-19 research. Over the last 12 months, we have worked with more than 80 companies, and 40 of them Canadian companies. Many of the Canadian vaccines currently in development and going forward, that work was done here at VIDO.”

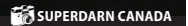
# Here comes the sun

The aurora northern lights light up the sky over the Saskatoon SuperDARN radar site.

 SUPERDARN CANADA



The Saskatoon SuperDARN radar site, framed by a picturesque Prairie sky.

 SUPERDARN CANADA

## ISAS and SuperDARN scientists tracks Solar Cycle 25 at USask

 JAMES SHEWAGA

From brilliant northern lights to knocking out the lights with power surge blackouts, solar flares and powerful plasma ejections from the sun can have dramatic and even damaging effects on Earth.

For the past 65 years, researchers in the University of Saskatchewan's (USask) Institute of Space and Atmospheric Studies (ISAS) have kept an eye on the sky to study solar activity and the sun's effect on the planet's atmosphere. As the sun increases activity through to the year 2025 during the 11-year Solar Cycle 25, USask scientists will be monitoring space weather and looking for indications of geomagnetic storms that could play havoc with satellite transmissions and power grids on Earth.

"The biggest signal for us that something is going on is the aurora (northern lights)," said Dr. Dan Billett (PhD), a post-doctoral researcher with the USask-led Super Dual Auroral Radar Network (SuperDARN) Canada. "Saskatchewan is a pretty good place—especially in the northern parts—to see aurora. Large auroral displays are a good indication to us, and to the naked eye, that high-energy particles originating from the sun

hit Earth not long ago. As the sun ramps up to the maximum of this solar cycle, we are going to see more aurora and there could be a greater risk of (damaging) events."

An example of extreme solar story activity occurred in 1989 when a geomagnetic storm generated by the sun resulted in a major power blackout in Quebec and the north-eastern United States on March 13. On August 16 that year, another solar storm disrupted communications and crashed computers, forcing the Toronto Stock Exchange to shut down trading.

"That is a really good example of what these things can do, and not just to a satellite, but actually affect your home, as happened in 1989 with the electrical blackout in Quebec," said Billett. "That was caused by a very large coronal mass ejection (CME), which is when the sun emits high-energy particles. In 1989 in Quebec, it tripped all the circuits on the ground and caused a blackout of electrical power for about nine hours."

In 1994, solar storms knocked out two \$100-million Canadian ANIK satellites on the same day, disrupting television signals,

telephone connections and computer transmissions across the country. Thousands of satellites currently in orbit upwards of 10,000 kilometres above Earth are particularly at risk, according to Billett.

"It happens to satellites frequently," said Billett. "They are more exposed up in space, in the upper atmosphere. The main effect is radio blackouts when these solar flares from the sun hit the atmosphere, essentially changing the composition of the atmosphere by ionizing and changing the neutral particles to charged particles. And that can affect satellite transmissions, orbits and altitude and we can lose contact with satellites for hours, or in some cases, permanently."

A recent scare came in 2012 when a massive solar storm similar in size to the damaging 1859 Carrington Event—the largest geomagnetic storm on record—was caused by an unusually large CME that hurtled towards Earth's orbit, narrowly missing the planet by nine days, in a close call by space standards. Researchers note that a solar storm of that magnitude could cause billions of dollars in damage to power grids and communication

systems worldwide.

Powerful solar activity can also create dangerous conditions for astronauts in orbit, particularly when conducting space walks outside the spacecraft. Billett said space weather conditions are considered for timing those excursions.

"Absolutely, it's a huge consideration," he said. "Spacecraft carrying people are designed with titanium to protect you from harmful radiation, but there is a huge risk as they go outside the spacecraft. They try to time it for when it is going to be quiet in terms of solar activity, but solar flares can be very unpredictable and they propagate throughout the solar system extremely quickly, so it is always a risk."


Billett is part of a team of USask scientists in ISAS and SuperDARN Canada—featuring five radar systems across the country—working with colleagues around the world to study solar storms and atmospheric anomalies to gauge threats to power grids and communication systems, and provide advance warning of damaging disturbances. Led by director Dr. Kathryn McWilliams (PhD) of USask's Department of Physics and



USask's Dr. Daniel Billett (PhD).

Engineering Physics, SuperDARN recently received federal funding to continue research through to 2023.

"SuperDARN has been going since the early '90s, so we have a lot of data extending over two full solar cycles, but it is really tricky trying to predict something is going to happen," said Billett. "The best thing we can do with SuperDARN, in terms of forecasting, is to look for CME or solar flares and a few days later when it hits the Earth, see what happens in the SuperDARN data. We can then use that data to predict what will happen in the future when a similar CME hits."

"Space weather forecasting is a big field that is very hard to get right. But with enough data, you can see patterns and know that a CME of a certain size causes a certain effect and we can try to predict what's going to happen in the future. And that's what we are continually trying to improve." 

# ALUMNI SPOTLIGHT

Every month in *On Campus News*, we highlight exceptional graduates of the University of Saskatchewan (USask) in our Alumni Spotlight series. In this issue, we profile the McKercher family, featuring three generations of USask students, following in the footsteps of professor emeritus Robert (Bob) McKercher (BA'54, BSA'54, MS'56).

USask alumni Bob McKercher (front) and son Grant McKercher at the University of Saskatchewan.

KIRK HALL

JOHN GRAINGER

## USask a family affair for McKercher family

JOHN GRAINGER

Like many students heading to the University of Saskatchewan (USask) campus, professor emeritus Robert (Bob) McKercher (BA'54, BSA'54, MS'56) came from farming roots.

He may not have realized back then that the roots he was setting down would lead to a long academic career in soil research at USask as well as cultivating family ties with the institution for the next two generations of McKerchers.

His son Grant received his MBA from the Edwards School of Business in 2015 and his daughter, Morag, received her Bachelor of Arts from the College of Arts and Science in 1991. Now, his two granddaughters are enrolled at USask. Ella is a third-year physics student, while Phoebe is finishing her first year at the Edwards School of Business.

However, the long line of McKerchers attending university may not have happened had he decided to stay where he was raised, on a farm near Rosetown, in west-central Saskatchewan. His

father died when McKercher was just a boy, leaving his mother with three sons to raise and a farm to run. One of those boys would have to take the reins and run the farm at some point. It was going to have to be one of his brothers as McKercher had other plans.

In 1949, McKercher, who recently turned 90, found his way to the College of Arts and Science, and at the end of his first year, discovered agriculture. "I moved into agriculture and then I got interested in soil science." Upon graduation, he took a job with the college while continuing on with his academic life to earn his master's degree.

"Then, after eight years as a lab instructor, soil test guy and everything else, I went to Aberdeen," he said.

In those days, the Macaulay Institute in Aberdeen, Scotland was world-renowned for its research in soil science, so McKercher went to Scotland to do his PhD.

Not only did McKercher return

to a job at USask with his PhD; he also returned with his bride, Norma. The newly married couple built a house not far from the university campus and raised their two children.

In addition to McKercher's teaching and research career, he also stepped into administrative roles over the years, including the assistant dean (academic) of agriculture and then the associate dean of graduate studies and research.

He also played an integral role in the planning and construction of the new Agriculture Building which opened in 1991. McKercher, along with fellow alumnus Ted Turner, wrote a book, *The Sodbusters Vision: An Agriculture Building*

“It’s a privilege to be appointed to committees where diverse views and backgrounds are foundational to good process and governance.

— Grant McKercher

for the University of Saskatchewan *From the Ground Up*, which details the steps of the ag building from planning and fundraising through to completion.

Grant's ties to the university continue to this day as he is an active member of the USask Senate where he sits on two committees—the honorary degrees committee and the senate executive committee.

“Senate and the senate committees are a great way to volunteer time and participate in important decision making. It's a privilege to be appointed to committees where diverse views and backgrounds are foundational to good process and governance.”

Having spent so many years

around the campus, visiting his father at work and in his own professional life as an architect, Grant sees his work as another way to remain close to the institution.

“The university is a complex organization and there is always something going on. I find it really enriching to be involved with the U of S, in addition to my work and personal life.”

Along with his senate work, Grant has also given guest lectures at Edwards as well as at the University of Calgary.

“It's particularly exciting to take career experience and fold that into points of interest for students in the MBA program,” said Grant. “I do feel like I'm giving back to the U of S through volunteering in these ways, and it is very rewarding. I guess it's a gift of time on my part, but I also get a lot out of it, too. I just really enjoy it.”

John Grainger is a communications officer in University Relations.



The avatar of Dr. Paula MacDowell (PhD), instructing education students in the AltspaceVR virtual platform.

# Education professor enhances virtual campus

MEAGAN HINTHER

For Dr. Paula MacDowell (PhD), choosing her favourite avatar identity and meeting students in a virtual campus is often just part of a typical day teaching online courses.

An assistant professor in the University of Saskatchewan (USask) College of Education, MacDowell joined the Department of Curriculum Studies' Educational Technology and Design (ETAD) program in 2019. Her passion and purpose lie in empowering youth through education and technology, and designing learning experiences for pro-social and pro-environmental change.

She studies immersive learning

design to understand how spatial environments like virtual reality (VR) and augmented reality (AR) can enhance student learning experiences. While VR replaces a user's reality completely with a digital environment, AR overlays digital content onto the world (think apps like *Pokémon Go*). Extended reality (XR), another common term, encompasses all immersive technologies.

"Immersive technologies have the power to put learners in places that they will never forget," said MacDowell. "Students learn by being part of the story and they retain this information as a memory

as opposed to simply reading information from a textbook."

MacDowell uses XR in her courses and research programs to empower students as knowledge creators and inspired communicators, while also providing educators with the tools to develop engaging and culturally responsive learning experiences.

This past summer, she taught an ETAD graduate course entirely through VR—possibly the first course ever to do so at USask. When her research plans were cancelled due to the pandemic, MacDowell pivoted to offer a leading-edge course elective in immersive tech-



Dr. Paula MacDowell (PhD), assistant professor in USask's College of Education.

nologies and world-building for K-12 education.

"The students in the class were teachers, teacher candidates and instructional designers, and few had experience with world building," said MacDowell. "If a student didn't have a headset, I lent them one. We met as avatars in three virtual platforms: AltspaceVR, VirBELA, and EngageVR, which each host live events and other VR worlds."

"Because of COVID, I was able to be a little more experimental and it ended up being really successful," she added.

Students in the XR course created a wide variety of immersive environments that met learning goals outlined in the Saskatchewan K-12 curriculum. One virtual world designed by the students focused on learning about the Boreal Forest and Indigenous Knowledges. The immersive experience takes users through Northern Saskatchewan trails and incorporates interpretive videos of Myrtle O'Brien, a traditional Cree herbalist, crafter and educator. Along the way, she provides teachings related to Indigenous plants, traditions and language.

For ETAD master's student Janelle Lavoie, VR technology allows learning to come to life in a powerful way.

"Dr. MacDowell empowered us to really take creative risks," said Lavoie. "Through collaboration and

persistence, we were able to tackle the design challenges of VR and create a meaningful and engaging learning environment."

MacDowell explains how virtual field trips are not meant to be better than the real experience, but those real-world field trips aren't always available and can be expensive.

"With XR tools there are so many opportunities for immersive storytelling, for authentic student assignments, and active learning experiences that may not otherwise be possible," MacDowell said.

She challenges students to create AR in her courses, as it does not require special technology beyond a computer or phone and most have access to it with a reliable internet connection, making it more inclusive for K-12 environments.

"Educators have a responsibility for designing equitable and inclusive learning spaces. Instructors who want to break away from sitting in front of webcams for online classes can integrate virtual-social environments like FrameVR or Mozilla Hubs. Students can access these customizable 3D spaces simply using their Internet browser," MacDowell said.

She explained how these low-barrier, multi-user immersive spaces support learners to collaborate and creatively express their ideas. Teachers can set up virtual break-out rooms that stimulate playful interaction and intellectual engagement. Spatialized audio allows students to have small group conversations, which increases the sense of embodied cognition, presence and connection that many feel are lacking in online interactions.

"There really is a sense of teamwork and of community that can happen in immersive experiences," said MacDowell. "There becomes this collective where everyone is responsible for learning and responsible for each other. It's really exciting to observe as an educator." ■

Meagan Hinker is the manager of communications and external relations in the College of Education.

# Pandemic impacting rural nurses' mental health

 KYLIE KELSO

“Whoever wishes to foresee the future must consult the past.”

The words of Niccolò Machiavelli 500 years ago still ring true today.

The Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 had a severe impact on health-care providers' mental health, and the same is expected from the current COVID-19 pandemic.

University of Saskatchewan (USask) College of Nursing Assistant Professor and Director of the Nurse Practitioner program Dr. Mary Ellen Labrecque (PhD) and PhD candidate Michelle Pavloff (Research Chair, Rural Health, Saskatchewan Polytechnic) have been conducting research to evaluate the impact of COVID-19 on the mental health of nurses practicing in rural and remote communities in the province.

“Rural and remote health-care settings typically have limited resources and staffing shortages,” said Labrecque. “Adding a global pandemic to the already strained system is of particular concern, as it may lead to a decrease in the ability of nurses to care for their patients and increased burnout.”

Between April and August 2020, Labrecque and Pavloff and their research team facilitated virtual discussion groups with registered nurses practicing throughout rural and remote Saskatchewan. Labrecque said they hoped to achieve two main goals through the group discussions.

“The purpose of these sessions was to not only learn about the impact the pandemic is having on the nurses' mental health, but to also determine what they felt they needed



Dr. Mary Ellen Labrecque (PhD), on the left, and PhD candidate Michelle Pavloff in USask's Clinical Learning Resource Centre.

 COLLEGE OF NURSING

**“The overall goal of this project is to increase the sharing of COVID-19 information among nurses across Canada and provide frontline nurses with more knowledge about available resources and strategies available to help them.**

— Dr. Mary Ellen Labrecque (PhD)

in order to increase their knowledge in regards to dealing with COVID-19,” said Labrecque.

The concerns arising from the group discussions were what Labrecque and Pavloff anticipated. Participants were overwhelmed

with their workload, as co-workers had to take time off to self-isolate. Nurses were also worried about providing care when they lacked properly fitting personal protective equipment (PPE), and there was an overwhelming consensus that the

new policies being created were not developed with rural areas in mind.

“Nurses are burning out, particularly in rural and remote centres,” said Pavloff. “Although they realize everyone is learning as they go during a pandemic, the participating nurses agreed the overall lack of consistency has added to their anxiety. Some felt as though they received too much information and they didn't know where to start and others were frustrated with the lack of information and training they were receiving.”

According to the researchers, the most important piece of information gathered from the discussion groups was that participants felt overwhelmed and worried about COVID-19 infection prevention and

control. When the research team discovered this, they knew there had to be a way to help—a way to put their research into action. The result? Virtually facilitated simulation.


“We use simulation in our nursing programs to create scenarios where students can safely practice a procedure before performing it on a patient at the bedside, so why wouldn't we also use simulation to train these rural and remote nurses in the areas they identified as lacking training in?” said Pavloff.

Using an online platform, Labrecque and her research team connected nurses and their emergency department teams in rural and remote facilities with virtual simulation facilitators. The simulation scenarios gave the team practice caring for a patient who tested positive for COVID-19. The simulation also gave nurses the opportunity to practice exploring their role in care and assisting physicians with intubating a patient, the proper use of COVID-required PPE, and proper infection control protocol. The simulation event was supported by facilitators from across Western Canada and the United States.

The virtual simulated training was well received by everyone. One participant was quoted saying, “The free opportunity for the virtual learning was AMAZING!!!! Thank you so much for that. It is greatly appreciated.”

Labrecque and Pavloff anticipate the information the team gathered from the group discussions will help nurses beyond Saskatchewan.

“The overall goal of this project is to increase the sharing of COVID-19 information among nurses across Canada and provide frontline nurses with more knowledge about available resources and strategies available to help them,” Labrecque said.

The project was funded by a Research Connections: COVID-19 Rapid Response Grant, through the Saskatchewan Health Research Foundation. 

Kylie Kelso is the communications officer in USask's College of Nursing.

# 2021 USask Images OF RESEARCH

 RESEARCH, PROFILE AND IMPACT

University of Saskatchewan faculty, staff, students and alumni submitted their best photos of research for consideration in an array of categories for the seventh annual Images of Research Competition this year. The winning images and the runners-up are posted on-line at: [research.usask.ca](http://research.usask.ca). Here are this year's winners:



## GRAND PRIZE:

### STEW-PENDOUS VIEWS!

**Mark Lepitzki, master's student in geological sciences**

I've completed field work in all reaches from 6,800m in the Andes to the outback of Australia. The camp in this image was used by me and my best friends collecting geophysical data in Northern Ontario last fall. The camp was affectionately named 'Camp Stew' due to a grocery flight not bringing the entire order. We vowed to live off an 'infinity stew' for the remainder of the project. We saw the seasons turn from fall to winter with many beautiful aurora displays and this will forever be my favorite field experience. Pickle Lake, Ontario will always be among my favorite places.

*Funders: Dias Geophysical*



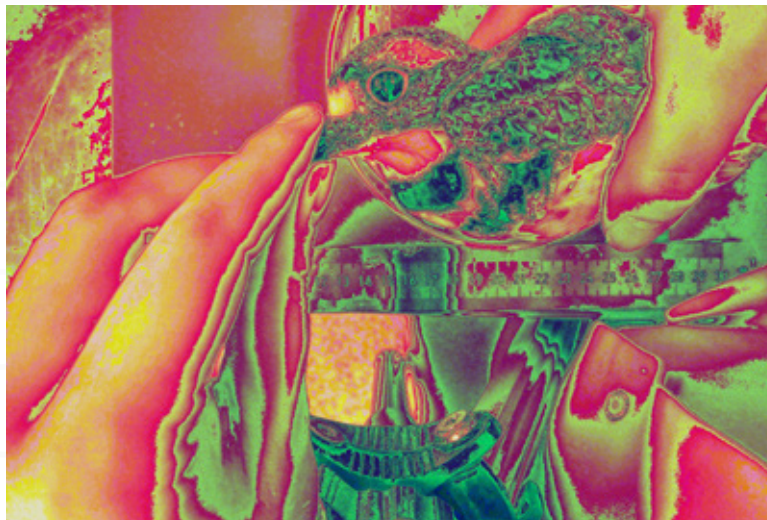
## VIEWER'S CHOICE:

### MAKING WAVES

**Summer Selinger, undergraduate student in toxicology**

This photo depicts a severe wavy tail malformation in a tadpole (species: *Xenopus laevis*) that was exposed to lead in the water during the first three weeks of life. Developmental abnormalities like this can have devastating effects on the survival of amphibians as they can affect swimming ability, a behaviour vital to actions such as prey hunting, predator avoidance, and travelling. This tadpole is part of a study at the USask Toxicology Centre that aims to identify how exposure to chemicals can cause subtle molecular changes early on in development that may contribute to obvious effects observed here. Being able to identify these changes may allow us to predict the potential for a chemical to cause adverse effects before damage occurs.

*Funders: Genome Canada, Genome Quebec, Genome Prairie, Environment and Sustainability Canada, University of Saskatchewan, McGill University.*



## MORE THAN MEETS THE EYE:

### JUDGE A BIRD BY ITS COVER

**Alana Krug-MacLeod, alumna, environmental biology**

Many birds "read" honest signals, including skin and feather colour, to select desirable mates. I examined yearling killdeer to test whether their "cover"—specifically eye ring and breast band colour—indicates quality and reflects known pre-hatch temperature and contaminant stressors. Human vision cannot separate and quantify aspects of colour, so I used ImageJ software to do so. This computer-altered image, with magenta-peach eye ring and navy-green breast bands, represents extracted brightness values for the birds being photographed. Quantified differences in brightness, hue, and saturation levels for individual killdeer were linked to quality measures and to pre-hatch environmental stress. If, as results suggest, visual cues can help birds reproduce successfully and biologists identify environmental threats, judging birds by their cover protects populations.

*Funder: NSERC-USRA*



# 2021 USask Images OF RESEARCH

## ARTS IN FOCUS:

### PRECIOUS FRESHWATER

**Dr. Louise Arnal (PhD), post-doctoral fellow, Centre for Hydrology, Global Institute for Water Security**

Freshwater, not unlike other resources we use daily, is limited. Its availability is threatened by anthropogenic activity and climate change. I created this lino print to illustrate the important role we, humans, have in caring for and protecting this finite resource. The watercolour in the centre of the piece represents the Paskapoo aquifer, an important source of freshwater in Alberta. This piece was created as part of a science and art collaboration with groundwater scientists and will be featured in the Virtual Water Gallery launching in April 2021.

*Funder: Global Water Futures, part of the Virtual Water Gallery pilot project.*



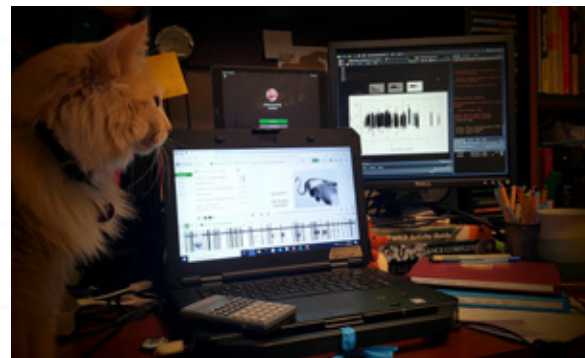
## FROM THE FIELD:

### THE BIG PUSH

**Ben Fox, master's student in civil, geological and environmental engineering**

Large-scale plate load testing at the University of Saskatchewan's Livestock and Forage Centre of Excellence (LFCE) was sponsored by Tensar and done to assess the performance of geogrid in aggregate layers over soft sensitive clay. The system was designed to push loads as high as 108 tonnes (238,000 pounds, or 30 elephants) onto preconstructed testing pads using a large piston assembly and a moveable 19 tonne steel platform. Stabilizing aggregate with geogrid is a relatively novel topic and can be used in roads, temporary crane pads, and railway ballasts. It is particularly applicable in the Canadian Prairies where coarse high quality base course is not readily available.

*Funder: Tensar International Corp.*



## COMMUNITY IMPACT:

### IN A FLAP ABOUT CLIMATE CHANGE

**Alana Krug-MacLeod, alumna, environmental biology**

These Adélie penguins photogenically “posing” on an Antarctic ice flow are examples of charismatic megafauna. They are enduring partners in my ecological research because of their popular appeal and because they are bellwethers (observable indicators) of the health of the Antarctic region. Antarctica influences every community on Earth—human and non-human—by regulating sea levels, ocean salinity and temperature, carbon dioxide, and marine food webs. Conversely, because the world's atmosphere and oceans all interconnect, human actions elsewhere impact penguins in Antarctica. My research explains why even if most of us never venture there, our fates are intertwined. Human-caused, climate-induced changes in Antarctic ice extent that decrease penguins' access to nutrients and breeding success warn Antarctica cannot absorb more shock to protect us!

## RESEARCH IN ACTION:

### ACADEMIA IN UNPRECEDENTED TIMES

**Andrea Wishart, doctoral student in biology**

One year since campus shut down. I mourn those lost to COVID and its ripple effects. I mourn my grandfather (I spent the year telling you how much I miss you). I extend unconditional love to those who haven't found themselves well under the weight of this world. I mourn the lost moments making memories. But I celebrate frontline workers, our flexibility, vaccines. I am thankful for the technology with which I connect with my family, my students as a sessional lecturer, and my fellow graduate students as a PhD researcher. I find solace in luke-warm coffee and the company of my home officemates; even if it means our conversational meows lead to longer editing sessions. I miss you all.

*Funder: NSERC, Mitacs, Northern Research Training Program, American Society of Mammalogists, Sigma Xi, University of Saskatchewan Teacher Scholar Doctoral Program, Department of Biology.*



## BEST DESCRIPTION:

### AMARILLO SKY

**Darcelle Sorsdahl, senior research technician in Department of Plant Science**

From the morning dew at the break of dawn to the serenity of the evening Amarillo sky, another hard day's work is done for research. The crackle of the golden wheat ripening under the blazing sun, the smell of the freshly threshed grain, and the fields of stubble we leave behind let us know the growing season is near the end, once again. This photo was taken after harvesting a field of bread wheat that was developed to improve disease and insect-resistant varieties. Harvesting thousands of research plots each year brings us one step closer to a new registered variety. From dawn till dusk, we harvest each plot with the vision of a better tomorrow.



**Dr. Madison Klarkowski (PhD) is a computer science researcher in USask's College of Arts and Science.**

# Examining esports excellence

*Fortnite* is one of the new generation of online video games popular with competitive esports players.

JAMES SHEWAGA

CHRIS MORIN

The global esports phenomenon is growing at an accelerated pace, boasting audiences in the hundreds of millions of spectators. A University of Saskatchewan (USask) computer scientist aims to find out what causes the players of these games to succeed or fail.

Short for electronic sports, esports is the growing world of competitive video gaming. While it's a massive industry, it's also a fledgling industry. With game titles such as *League of Legends* and *Fortnite* attracting millions of players, despite a lot of money being at play, much of the industry is not yet being guided by research.

That's something that USask computer scientist Dr. Madison Klarkowski (PhD) aims to change. A professor in the College of Arts and Science, Klarkowski is studying the skill development and performance of esports athletes—people who play video games at a highly skilled

and professional level—while also looking at the performance from a computer science perspective and how this can translate into skill acquisition.

"Many of the participants in esports are quite young—teenagers or people in their early 20s—and these are the players that are the cream of the crop. We want to see what puts them in the top percentage of players for their particular game," said Klarkowski. "What is it that they do to reach this level and if this can translate into other things like learning a programming language, for example. There's a lot of opportunity for researchers to look into how this relates to other domains."

In a new study—supported by a Natural Sciences and Engineering Research Council of Canada grant—Klarkowski will investigate the factors behind why and how esports athletes both excel and fail. It's established in

sports that there are moments of "clutching" (excelling under pressure) and "choking" (cracking under pressure). These concepts are accepted in esports by those athletes as well, said Klarkowski.

"We have run a study where we got people to recall their experiences with choking and clutching and we are looking at identifying those factors in competitive video games that lead to these moments. And if we can identify those factors, we can look into solutions and we can facilitate and encourage those factors that lead to clutching.

"If you start overthinking and not reacting to things the way you normally would engage with, you can start screwing up and becoming slower," said Klarkowski. "We hope to have recommendations of how to facilitate performance under pressure."

While she is currently examining the performance side

of esports, Klarkowski has a background in the study of using online competitive games for good. Currently there are huge esports communities that emerge around certain personalities in the games and those who gather to watch and discuss a specific live streaming. These communities aren't always connected in real life, and Klarkowski hopes to shine a light on how networks are formed through gaming and the influence that professional players wield over their fanbase.

"We've been looking into online behaviours and toxicity and harassment, and we found that one of the reasons why toxicity is so rampant in online competitive games is that it's become normalized. It's just something that happens.

"And there are personalities within the game that are quite positive and professional and often there are communities that evolve

and emerge around those players that mimic those personalities. We might be able to use esports personalities as ambassadors to help influence these more positive behaviours."

Obtaining her PhD in Human-Computer Interaction from the Queensland University of Technology in Brisbane, Klarkowski has spent much of her academic life in Australia. While she has been excited about the opportunities with working at USask, the move to Canada has not been without challenges, as Klarkowski arrived only months prior to the COVID-19 pandemic.

"I got here in July of 2019 and at this point I've spent more time working from home than I have working on campus," said Klarkowski. "That said, part of the reason I was so excited to move across from the other side of the world is because USask has an amazing international reputation, especially in my field of human-computer interaction. And specifically getting to work in the same lab as several titans of this field."

While she is looking forward to getting back to interacting with students and colleagues in the Thorvaldson Building on campus, due to her area of research in online gaming and esports, Klarkowski is already well-suited to navigating online communities during this time of remote learning.

"It's been helpful to use platforms like Discord," said Klarkowski. "We have game nights where the professors jump in with the students and it's been a lot of fun to be a part of these events." ■



USask assistant professor Dr. Bob Bors (PhD) of the Department of Plant Sciences with a handful of haskap berries.

COLLEGE OF AGRICULTURE AND BIORESOURCES

SARA WILLIAMS

For early settlers coming to the Prairies, there were few hardy fruits that could be grown. Nor were many available in grocery stores and those were highly seasonal.

In 1921, Dr. Cecil F. Patterson (PhD) arrived in Saskatoon to become the first head of the Department of Horticulture at the University of Saskatchewan (USask). One of his main focuses was fruit development, particularly apples, plums and pears.

During the depths of the Depression and Dirty '30s, he self-published *Hardy Fruits with special reference to their culture in Western Canada* in 1936. He envisioned fruit as an essential part of every prairie farm, with small commercial orchards

supplying fruit to urban populations much as U-picks do today.

“If the hardiness of the Siberian crab could be combined effectively with the high quality ... of the well-known standard varieties, that apple would occupy its rightful place in every western home garden,” Patterson wrote.

Between 1922 and 1924, Patterson made more than 30,000 apple crosses, from which he obtained about 10,000 seedlings.

Sadly, most of these winter-killed. But prior to his retirement at USask in 1960, a number of plums, apples and pears were introduced, mostly from crosses made in the 1940s. Of the plums, Patterson Pride, Perfection and Superior are still available. Twenty apples were introduced between 1958 and 1960, but none are found today. His pears fared better. Of the eight pears in his Apostle series released in 1960, the John and Thomas varieties are still available.

Dr. Cecil Stushnoff (PhD), horticulture science department head (1981-1991), encouraged the breeding of cherries and apples. He also obtained funding for the Native Fruit Program, hiring Dr. Richard St-Pierre (PhD) as lead, whose research and extension greatly expanded the Saskatoon berry industry in Canada.

SEE UNPRECEDENTED, PAGE 12

# Unprecedented growth for fruit breeding program

FROM PAGE 11

A phone call in 1983 from Les Kerr, former head of the Prairie Farm Rehabilitation Administration Forest Nursery Station (now the Forestry Farm Park), asked that Stushnoff visit him in hospital. Kerr had crossed Mongolian sour cherries with some northern European varieties of higher quality. Because this was not part of his official job description, it was carried on clandestinely, with seedlings distributed to farmer friends where Kerr could observe them without running afoul of his federal bosses. With his health failing, he wanted to disclose their location to the university to ensure they would not be lost. Kerr also donated his hardy hazelnuts crosses, now being used in further breeding by Dr. Bob Bors (PhD).

After Stushnoff left, research technician Rick Sawatzky remained the only fruit breeder at USask for a decade. He focused on sour cherries, apples and hazelnuts until his retirement in 2019. In 1997, he introduced the Prairie Sun apple; in 1999, Carmine Jewel, the university's first cold-hardy dwarf cherry; the raspberries Red Bounty, Red Mammoth and Steadfast; and the apple varieties Prairie Sensation in 2006 and TreasuRed in 2014.

The university's fruit breeding program experienced unprecedented growth with the arrival of Bors in 1999. He was immediately attracted by the possibility of hardy sour cherries and continued their breeding and selection, releasing an additional five varieties of the Romance series in 2003—Crimson Passion, Cupid, Juliet, Romeo, and Valentine.

In 1997, Sawatzky ordered four edible blue honeysuckle plants—then called sweetberry and now

referred to as haskaps—from Oregon to test in the university's plots. Tasting these for the first time in 2000, Bors was immediately enticed, envisioning their potential as a commercial crop. He began breeding for larger size, better taste and productivity and a wider range of ripening dates. From 2007 to 2016 he introduced Aurora, Boreal Beast, Boreal Beauty, Boreal Blizzard, Borealis, Honey Bee, Tundra, and the Indigo series.

USask now has the largest and best haskap breeding program in the world.

Bors has also been a consummate marketer and an extension agent extraordinaire, writing growers guides and conducting hundreds of workshops and plot tours. Due largely to his work with growers, there are now over 200 commercial fruit producers in Saskatchewan and well over 2000 acres of commercial fruit production. Of these, Saskatoon berries account for about 1100 acres, haskaps (the fastest growing acreage) about 300 acres, sour cherries 250 acres, strawberry and raspberry around 200 acres each, and more than 100 acres of apples, with other fruits making up the rest. The total value of this production is over \$20 million per year.

These introductions have also had a large impact on home gardeners and nursery sales. The plant patent royalties, 40 per cent of which come from Europe and the United States, funds continued research at USask.

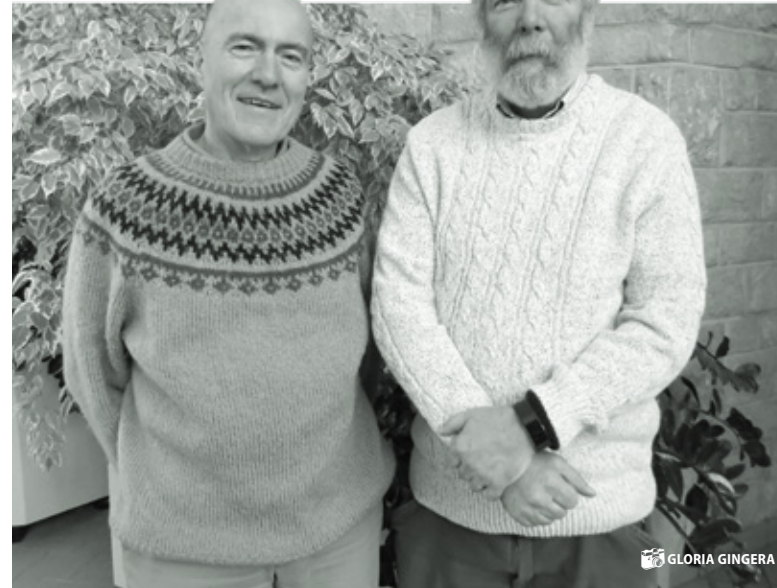
In 2019, Bors and Sawatzky were presented with the prestigious Stevenson Award for their work in fruit breeding on the Prairies. As the university celebrates 100 years



Dr. Cecil Patterson (PhD) began potato breeding in 1930 in the Department of Horticulture at USask.



Dr. Cecil Patterson (PhD)



Research technician Rick Sawatzky (left) and Dr. Bob Bors (PhD) received the Stevenson Award in 2019 for their work in fruit breeding.

of horticulture at USask in 2021, Patterson's vision of commercial orchards supplying fruit to urban populations on the Prairies has indeed been realized. 🍷

Author and retired USask horticulturalist Sara Williams and Bob Bors co-authored *Growing Fruit in Northern Gardens*, available at the University Bookstore.



# Studying e-cigarettes risk to reproductive health

✍ SAVANNAH GOLDSTEIN

E-cigarette companies spent more than \$9 billion in marketing last year to promote their product as a healthy alternative to conventional cigarettes for smokers, but University of Saskatchewan (USask) scientist Dr. Ali Honaramooz (DVM, PhD) is not convinced.

“The use of the word ‘healthier’ in this context, as if it is synonymous with ‘less harmful,’ is misleading if not deceitful,” said Honaramooz, a professor and researcher in the Western College of Veterinary Medicine’s Department of Veterinary Biomedical Sciences. “In the absence of evidence, the premise for claiming e-cigarettes as being less harmful than smoking is shaky.”

Honaramooz’s successful research program focuses on reproductive technologies for use in animals and people. He and his team of researchers are recognized globally for their award-winning work with cell imaging and the successful regeneration of functional testis tissue from stem cells in vitro (in a petri dish) and in vivo (implanted in living mice).

In 2020, his laboratory team designed an experiment that allows researchers to identify and study in detail the effects of e-cigarette use on the health and development of testis tissue. This latest project is inspired by a recent Health Canada

survey which found that e-cigarette use by Canadian youth tripled between 2014 and 2019, jumping from a prevalence rate of six per cent to 20 per cent in only five years.

“I usually look for important, everyday applied or clinical questions that can be answered using my specialty and the study tools that we have at our disposal,” said Honaramooz. “As a father of three teenagers, I feel this research may help shed light on some aspects of e-cigarettes that are not sufficiently studied and may help to inform young individuals and their parents, as well as practitioners and policy makers.”

Expectant mothers are another demographic group at the greatest risk of experiencing poor reproductive health and fetal development as the result of e-cigarette use. Despite the risks, pregnant women defended their use of these products as a healthy alternative to conventional cigarettes in survey responses.

Unlike other vital body systems that are fully developed at birth, the reproductive system is left purpose-

fully underdeveloped until puberty. This leaves the developing organ susceptible to interference by carcinogens and chemical toxicant—much like those found in e-cigarette vapours—from early fetal development into late adolescence.

Honaramooz and his team successfully regenerated functional testis tissue from stem cells by modifying the testis cell aggregate implantation technique. With this modified method, researchers isolate various testis cells and gonocytes (the stem cell precursor to sperm) from donor pig testis and inject them under the back skin of recipient laboratory mice. The result is a fully re-formed testis tissue implant, capable of producing both functional sperm and male steroid hormones.

Different substances, such as e-cigarette vapour, can then be introduced to the developing tissue so scientists can study the effects directly and in real time—a feat which, until recently, was considered impossible.

Since Honaramooz has the ability to manipulate testis tissue during varying points in development, his research team can model the effects of e-cigarette vapour and other toxicants on testis tissue as it occurs in fetal, newborn and prepubescent individuals. The scientists can also use their model to investigate the effects of second-hand



Dr. Ali Honaramooz (DVM, PhD) of the Western College of Veterinary Medicine at USask.

CHRISTINA WEESE

e-cigarette exposure and to test different e-cigarette flavours and varying doses of nicotine.

Given the sheer lack of background information on vaping toxicology, Honaramooz isn’t sure what his research team will discover. Still, they expect to find something.

“You see, toxicology is all about dose. ... At reasonably relevant doses, I probably expect to see subtle changes such as in gene expression and possibly cell behaviour,” said Honaramooz. “Again, the effects do not necessarily have to be significant or visible to cause major functional consequences. ... [Even subtle differences] can lead to carcinoma and germ cell testicular cancer.”

In the meantime, Honaramooz warns consumers to be wary of products marketed as healthy, espe-

cially where common sense suggests otherwise.

“My own advice is to stick with what has worked over millions of years of evolution: the basic, unaltered primary food and drink items in their natural and non-modified form—just as we follow manufacturer’s instructions in choosing the fuel for our cars.”

**Savannah Goldstein of Vancouver is a second-year veterinary student at the Western College of Veterinary Medicine (WCVM) whose research position was supported by the college’s Interprovincial Undergraduate Student Summer Research program. Her story is part of a series of articles written by WCVM summer research students.**

# Investing in USask's future leaders of the minerals industry

✍ INALIE PORTADES

The International Minerals Innovation Institute (IMMI) created the Mining Futures Award to help University of Saskatchewan (USask) undergraduate students studying mining engineering to cover portions of tuition, books, instruments, and fees. Third-year geological engineering student Jodi Boser was selected and recognized at the College of Engineering's 62nd annual awards ceremony on March 3, as the second USask student to earn the award.

"Before hearing the news in January, I was going through some personal struggles and unsure of whether I was going to be able to complete the semester. However, I got a phone call from the Engineering Student Centre Office and (they) notified me that I was selected as this year's recipient. In that moment, I knew that the award was my sign to keep going," said Boser, who received a \$12,000 award.

"I told myself that if there's a professional organization like IMII that wants to support me, then I have to believe in myself, and so I did."

Since 2012, the IMII has been supporting and sustaining the Saskatchewan minerals industry. It is committed to developing and implementing innovative education, training, research and world-class partnerships, as well as investing in future professionals.

Al Shpyth (BA'86), executive

director of IMII, said that students like Boser are important to the future of Saskatchewan's minerals industry.

"Saskatchewan is one of Canada's great minerals jurisdictions, and our industries have long relied on graduates from the University of Saskatchewan, investing in homegrown talent."

Not only does the IMII see the value of supporting aspiring engineers, the organization also embraces diversity and inclusion. In 2019, they launched their scholarship programs—the Mining Futures Award being one of them—to help women and Indigenous post-secondary students break through in the minerals industry.

"We wanted to ensure that our scholarships will help solve the financial barriers to entering post-secondary education and at the same time, be used to support diversity and inclusion in the workforce," Shpyth said.

Boser said that the IMII's scholarship programs stood out to her as they are geared to support women and Indigenous students who are interested in pursuing a career in STEM fields (science, technology, engineering and mathematics). She saw the Mining Futures Award as an opportunity to gain credit in the mining industry as a young female student.

"There have been many times where I was the only girl that I

saw working underground; I was constantly surrounded by men. I know my opinions are often disregarded because I am a female engineering student," Boser explained.

"Young women in technical positions have to prove that they deserve the respect that our male counterparts are automatically given, so it's exciting to see that



Third-year USask geological engineering student Jodi Boser earned this year's Mining Futures Award from The International Minerals Innovation Institute.

 SUBMITTED

organizations in the mining industry are pushing for positive change with respect to diversity and inclusion in STEM fields."

Since Boser received the award, she said that everything has fallen into place perfectly. It has motivated her to work hard

and share her experiences in mining with other students. She is looking forward to completing her degree in 2022 and one day, land a career in the potash industry. ♥

**Inalíe Portades is a communications co-ordinator in University Relations.**

## Identifying trends in animal diseases

FROM PAGE 2

"Each of the networks operate independently, but there is a bit of crossover in participants," said Huang. "The networks are relatively small, but sharing information will be key."

The new network is focused on four core activities: disease surveillance, including quarterly meetings to review and discuss data from provincial diagnostic labs and network practitioner surveys; intelligence gathering from other surveillance activities performed by researchers, government and industry experts; knowledge translation and transfer by converting helpful information for stakeholders; and communication by making the information available to partners and the public.

Much of the work that WeCAHN and the other regional networks perform is through passive surveillance and gathering information from those in the field who may notice abnormal cases.

"Important surveillance information comes from veterinary practitioners as they go about their work," said Wilhelm. "Practitioners are in all of our networks and they complete a survey describing what they have seen. It is also helpful for veterinarians to come together and talk about what they see on-farm and in clinics."

Over time, WeCAHN's goal is to identify trends in different animal diseases.

A key component to WeCAHN and the other networks is One Health—one of USask's signature

areas of research—which recognizes the interconnections between people, animals, plants and their shared environment.

With these topics in mind and how they relate to each other, watching for animal health trends can definitely connect to public health matters, such as the ongoing pandemic.

"There are so many things that cross over [between animal and human health] and I think the last year has been eye-opening on how something can infect an animal and then potentially pose a major threat to humans," said Wilhelm. ♥

**Katie Brickman-Young is a former communications officer in the Western College of Veterinary Medicine at USask.**

# From Ghana to Canada: Huskie's life-changing move

JAMES SHEWAGA

Coming from the tropical climate of the West African country of Ghana where daily temperatures average +30 C, Maxwell Amofo knew he was in for a major change coming to Canada. However, nothing could have prepared him for what he faced when he landed in Saskatoon for the first time in January of 2018.

"I remember it was -42 when I arrived, so it was quite a shock for me," said Amofo, a College of Arts and Science sociology student and fourth-year forward with the University of Saskatchewan (USask) Huskie men's basketball team. "It was a major change, but I just had to adapt and cope with it."

From climate to culture to cuisine, Amofo's adjustment to university life on another continent—both on and off the court—was significantly more challenging than for the average student. But a commitment to balancing both academics and athletics has paid off, and he hopes to take a large leap in his basketball development when the Huskies finally return to action.

"Maxwell is a terrific young man and his academics are important to him, his faith is important to him and he takes full measure in everything he does," said Huskies head coach Barry Rawlyk. "He is not a guy to cut corners, and he is one of the hardest working individuals I have ever met. He is pretty quiet, but he is very intelligent and a very high character kid. I have a lot of respect for Maxwell for the person that he is."

Looking back, Rawlyk is glad he took a chance on Amofo, a powerful 6-foot-7, 220-pound forward who had limited basketball experience playing largely unstructured games on outdoor cement courts growing up in Africa. Rawlyk

first learned about Amofo from his older sister Ellen, who earned a master's degree in public administration at USask in 2018 and wanted to bring her brother here.

"I did some homework on him and the film of him was playing on an outdoor court and it was pretty raw footage," said Rawlyk. "But, you could certainly see the potential and the athleticism, so we exchanged emails and he was very articulate about what he wanted to do. So I took a leap and said let's do it. That became a lengthy process with the student visa, but (Dr.) Patti McDougall (PhD) (vice-provost of teaching, learning and student experience) and Shawn Burt, the chief athletics officer at the time, were instrumental in bringing him here. I give them a lot of credit in supporting Maxwell and supporting our program to make it happen."

Joining the team in mid-season, Amofo had to quickly adjust to the complexities of structured play on the court for the first time, but found plenty of support from teammates and coaches.

"Playing in university was the first time for me playing real organized basketball, but my coaches and my teammates did a very good job of helping me understand the game," he said. "I try to become a student of the game and try to understand the game more every day."

Off the court, Amofo's

adjustment to life at USask—while balancing a full academic and athletic load—was helped by a course he took in his first semester.

"My first year I did anthropology and I got to know people from different backgrounds and it changed my perspective about your experience, how you grew up, your background," said Amofo. "It was a good class for me to understand how to deal with the culture shock and everything."

Two years later, the pandemic has provided another challenge for Amofo. With no Huskie practices, he has missed spending time with the teammates and coaches, who have become a second family for him.

"I miss my coaches and my teammates so much," he said. "This has been a major change for me because we are usually all together travelling, playing, practicing and seeing my teammates every day. I can't wait to get on the court, but we all need to stay safe, until the time we can get back on the court and play the game that we love."

With two years of eligibility remaining, Amofo hopes to develop into an impact international player. While he has not been a major scorer on a team filled with offensive threats, Amofo has contributed in many areas. In the Huskies' last season in 2019/20, Amofo led the team in shooting percentage and offensive rebounds, was third in blocked shots and fourth in steals and assists.

"Over time he has really become a lot more knowledgeable about the game and has become a very efficient contributor to the team," said Rawlyk, who is again serving as general manager of the Saskatchewan Rattlers, with Huskies assistant Chad Jacobson



International student Maxwell Amofo is a fourth-year Huskies forward and USask sociology student from Ghana.

GETMYPHOTO.CA

coaching the Canadian Elite Basketball League team this summer. "We are looking for Maxwell's continued growth as a player and to help some of the younger players and I really appreciate that aspect of his contribution to the team as well."

For Amofo, coming to USask has been nothing short of life changing.

"That was the best decision I have made because I have learned about basketball, and perspective on life and school," he said. "We are not just athletes, we are students and we are accountable for everything we do. The privilege that I have now, after completing my education, I want to go back to help teach kids in my country of Ghana." 🇬🇭



# SOROKIN COLLECTION A TRIBUTE TO WORLD-RENOWNED SOCIOLOGIST

✍ JAMES SHEWAGA

From his role in the Russian Revolution to attracting the attention of Dr. Albert Einstein (PhD) and U.S. Presidents John F. Kennedy and Herbert Hoover, Dr. Pitirim Sorokin (PhD) became one of the most influential social scientists of the 20th century.

Carefully stored in a quiet corner of the University Archives and Special Collections holdings in the Murray Library are the contents of the Pitirim A. Sorokin Collection acquired by the University of Saskatchewan (USask) in 1968, and serving as a priceless resource for sociology researchers from around the world ever since.

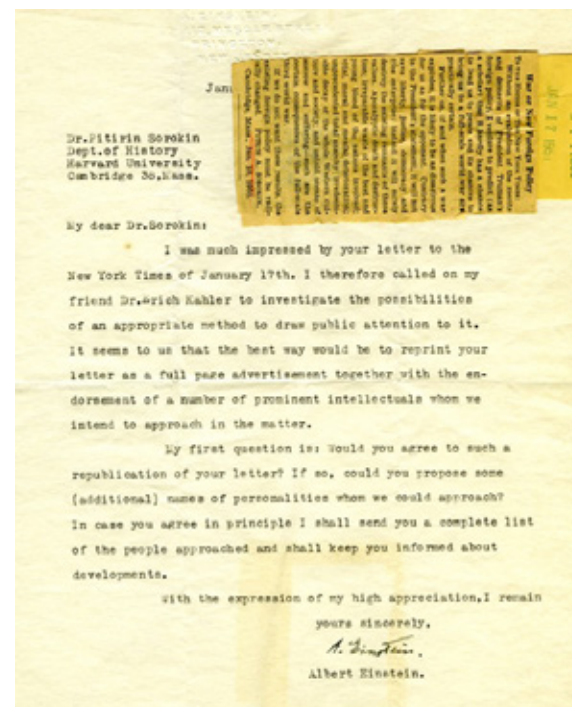
“It’s a major asset for the University of Saskatchewan,” said Dr. Terry Wotherspoon (PhD), a professor in the Department of Sociology in the College of Arts and Science since joining USask back in 1989. “I don’t think that most people are aware of its significance. The collection has drawn a lot of attention over the years and it has given profile to the university.”

The Sorokin collection, parts of which were digitized in 2008, features more than 1,500 books and manuscripts in more than 50 languages, photographs, memorabilia and personal correspondence between Sorokin and the likes of Einstein. While Sorokin had no specific connection to USask, he

was looking for what was described as a “safe and neutral home” for his papers, and selected the university prior to his death in 1968. The acquisition was led by former USask professor Dr. Richard DuWors (PhD)—previously a student of Sorokin—and former head librarian David Appelt.

“That collection is continuously being researched,” said David Bindle, librarian in University Archives and Special Collections. “Researchers from all over the world come to us with requests for Sorokin material. It’s an important collection.”

Born in 1889, Sorokin played a role in the Russian Revolution in 1917 that ousted Tsar Nicholas II, and became a member of the new government, before being arrested himself and sentenced to death by the ruling Bolsheviks. Newly installed Russian leader Vladimir Lenin saved his life by ordering his release, and Sorokin was expelled from the country in 1922 and settled in the United States, later founding the Department of Sociology at Harvard University.



The personal letter from Dr. Albert Einstein (PhD) held in USask’s Pitirim A. Sorokin Collection.

USASK ARCHIVES



Renowned sociologist Dr. Pitirim Sorokin (PhD) was a prolific writer who survived the Russian Revolution.

“Sorokin himself had an incredible history,” said Wotherspoon. “He initially supported the revolution and was imprisoned two or three times for his political actions. And in some of Sorokin’s work, he talked about how formative being in prison was, because he was thrown in with political prisoners and street criminals and others and learned a lot about different viewpoints on society.”

The university honours his legacy by hosting the Sorokin Lecture series, which began in 1968 following his death. The seventh Sorokin Lecture—*My Life With Pitirim Sorokin*—was delivered at USask by his wife Elena on March 12, 1974, with the series continuing to this day. 🇨🇦