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NEW YEAR, NEW PERSPECTIVE

As we begin a new year, *On Campus News* sits down with University of Saskatchewan President Peter Stoicheff to review the unprecedented challenges of 2020—the year of the pandemic—and look ahead to the promise of 2021. The new year brings new hope, new vaccines and a new perspective on the university’s role in progressive post-secondary education innovation, and a renewed focus and appreciation of USask’s impact locally, provincially, nationally and globally, as we continue to strive to be the university the world needs.

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 **JODY PEACE**

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MAJOR MILESTONE

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CLIMATE CHANGE

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ACADEMIC ALL-CANADIAN

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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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UN advisor headlines USask's PAW conference

USASK RESEARCH PROFILE AND IMPACT

World-renowned economist, sustainability leader, and author Dr. Jeffrey Sachs (PhD) will address the University of Saskatchewan (USask) 2021 People Around the World (PAW) conference focused on the United Nations' (UN) 17 Sustainable Development Goals (SDGs).

Twice named among *Time Magazine's* 100 most influential world leaders, Sachs is director of Columbia University's Center for Sustainable Development and president of the UN Sustainable Development Solutions Network. His many books include *The End of Poverty* and *The Age of Sustainable Development*.

"We need champions of sustainable development because we are not winning this battle," Sachs has stated. He has described sustainable devel-

opment as "a new way of choosing our common future."

To be held online Feb. 2-3, the 2021 PAW conference will address how to harness the power of collaboration to address the SDGs and re-emerge stronger and more resilient in the aftermath of the pandemic. Participants will be encouraged to "act local and think global."

"Now more than ever—in the face of climate change and a pandemic—we are seeing the need to support local but also to connect and think global about how our choices locally have a global-scale impact on peoples and systems around the world," said Meghna Ramaswamy, director of the USask International Office, which has organized the annual conference with committee members across campus.



Dr. Jeffrey Sachs (PhD) is the director of Columbia University's Center for Sustainable Development and president of the UN Sustainable Development Solutions Network.

Canada's International Development Minister Karina Gould will speak about Canada's role in addressing the SDGs, as well as Canada's role in supporting international efforts to fight the COVID-19 pandemic.

Highlighting the need for climate action, National Research Council Program Director Dr. Phil De Luna (PhD) will speak about

technologies to help Canada meet net-zero emissions by 2050. De Luna is a member of a Canadian Commission for UNESCO working group looking into how to use artificial intelligence tools to advance sustainability. Forbes magazine named De Luna to their Top 30 under 30 – Energy list.

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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:

Winter term plan

The University of Saskatchewan (USask) is continuing a hybrid approach to program delivery in the winter term, with class instruction primarily provided in a remote format through at least the end of April. Similar to the fall term, the hybrid delivery model will combine primarily remote online learning, with limited clinical, laboratory and other in-person instruction only where required to meet specific teaching goals and where circumstances permit, in consultation with public health and Saskatchewan's Chief Medical Health Officer. The Winter Term Implementation Plan is available online at: covid19.usask.ca

Indigenous wellness

USask fourth-year medical students will be able to take the national award-winning Indigenous wellness online course, *The Role of Practitioners in Indigenous Wellness*, at no cost with the generous support of the Canadian Medical Association and the Saskatchewan Medical Association. According to Federation of Sovereign Indigenous Nations Vice-Chief David Pratt, the FSIN Cultural Responsiveness Framework (CRF) was developed to address systemic racism within the Saskatchewan health-care system. The FSIN has been working collaboratively on how to integrate the CRF into the USask Indigenous wellness course.

Order of Canada

Five members of the USask community will receive one of the country's highest civilian honours in 2021 after being appointed to the Order of Canada. USask alumnus Chief Darcy Bear is the long-time chief of the Whitecap Dakota First Nation, while law alumnus Daniel Bereskin is a leader in the field of intellectual property and trademark law. Meanwhile, David Dube is a business leader, philanthropist and supporter of local sports and the university; Gary Gullickson is a renowned former USask music professor; and former USask crop scientist Dr. Alfred Slinkard (PhD) joins as an honorary member.

Santé Awards

USask's Dr. Carrie Bourassa (PhD), a prominent national leader, visionary and researcher in Indigenous health, was honoured with a Santé Achievement Award from the Saskatchewan Health Research Foundation. USask medical imaging researcher Dr. Humphrey Fonge (PhD) received the Impact Award and seven USask researchers were awarded Excellence Awards: Dr. Yuliang Wu (PhD), Dr. John DeCoteau (MD), and Dr. Bhanu Prasad (MD) in medicine, Dr. Walter Siqueira (DDS) in dentistry, Dr. Marta Erlandson (PhD) and Dr. Corey Tomczak (PhD) in kinesiology, and Dr. Paulette Hunter (PhD) of St. Thomas More College.

FOR MORE UP-TO-THE-MINUTE NEWS, VISIT: news.usask.ca @usask

USask's Crop Development Centre Celebrating 50 years

 KATHY FITZPATRICK

The year 2021 marks a major milestone for the University of Saskatchewan's (USask) Crop Development Centre (CDC): 50 years of reshaping western Canadian agriculture.

CDC Director Dr. Curtis Pozniak (PhD) sums up the half-century of innovation in one word: "achievement." He calls the CDC's release of more than 500 crop varieties "remarkable."

Equally significant are the imprints CDC scientists have left on the agricultural landscape—the replacement of vast acres of summer fallow with productive crops, for one. The transformation is the result of an organization established to help producers diversify and farm more productively and profitably, by introducing new crops such as pulses, along with better-performing varieties of established crops such as wheat and barley.

Over the years, contributions to the CDC from government agencies, industry partners and producer organizations have paid off handsomely. For every \$1 million invested in CDC plant breeding, producers make more than \$7 million, according to a 2016 economic impact report.

High yielding varieties with resistance to disease and pests remain important goals, especially in the face of climate change. But crops must also adapt to changing market demands, as world population rises while consumers demand choices that are healthier and more ecologically sustainable. Crops must also evolve to suit changing production and processing methods.

"As plant breeders, we have a lot to think about in terms of what traits we are targeting," Pozniak said.

In striving to breed better varieties more efficiently, Pozniak has led the way in the use of new technologies in wheat breeding. He and fellow wheat breeder Dr. Pierre Hucl (PhD) headed the Canadian Triticum Advancement through Genomics Project (CTAG), helping an international consortium sequence the wheat genome.

Genome sequencing provides "the genetic blueprint of the varieties that we're working with. The blueprint helps us identify genes, and to create molecular testing tools that we can use to improve efficiency in selection," Pozniak explained. He co-led the follow-up project CTAG2, sequencing 16 different wheat varieties. In addition, CDC scientists have worked on sequencing pea, lentil, chickpea, tepary bean, barley, oat and flax genomes.

A changing world led to the CDC's creation. In the late 1960s, a global glut drove down the price of wheat, the crop Saskatchewan farmers relied on most heavily. Meanwhile, the USask Crop Science Department was looking for research money. With funding from the National Research Council and the provincial government, the CDC started up in 1971.

Some early game-changers established the CDC's reputation nationally and internationally. Pulse breeder Dr. Al Slinkard (PhD) selected two new green lentil varieties in the first decade of the CDC (the large-seeded Laird and small-seeded Eston). By the late 1980s, Laird was the most widely grown lentil variety in the world. Here in Saskatchewan, lentils went from minor crop to major commodity. Nearly all of the country's production comes from this province, and Canada itself

became the world's top producer and exporter. In November, Slinkard was recognized for his valuable contribution by being granted honorary membership in the Order of Canada "for his research in agronomy and the development of two cultivars of lentils that have transformed agriculture in Western Canada and now feed thousands of people."

The malting barley variety Harrington captured worldwide attention following its release in 1981, appealing to brewers as far away as China and becoming a leading choice of North American producers. Developed at the CDC by Dr. Bryan Harvey (PhD) with help from Dr. Brian Rossnagel (PhD), Harrington was the first variety suited to growing conditions in Western Canada that produced the high enzyme activity in demand for two-row malting barley for beer. It could also be malted two days faster than other varieties and had no dormancy period before germi-

nating, hence less storage space was needed at malt plants.

CDC varieties also helped Saskatchewan become Canada's top producer of flax and peas. Other releases include the first Canadian hullless barley, the first hairless canary seed, along with new varieties of hard red spring wheat, durum, and faba beans.


Early on, CDC scientists promoted the idea of seeding winter wheat into stubble. An insulating blanket of snow, trapped by stubble, helped fall-seeded winter wheat survive in Saskatchewan's harsh climate.

"Keeping the snow uniformly on the field was the key," USask wheat breeder Dr. Brian Fowler (PhD) said.

However, limitations to no-till had to be solved: the lack of effective seeding equipment and agronomic information such as crop residue management, fertilizer application and seed placement. In the 1970s and '80s the program worked closely with equipment manufacturers, farmers, and conservation groups to overcome these limitations.

Still, better-performing winter wheat varieties were also needed. Fowler released a string of them, starting with CDC Kestrel in 1992. His varieties dominated winter wheat production across the Prairies.

In the longer term, a more important spin-off turned out to be the application of winter wheat no-till methods to spring crop production, Fowler explained. This technology was quickly transferred and advanced in the 1990s after the cost of Roundup fell to the point where burn-off of weeds was practical in the spring.

Today, one thing in crop breeding remains unchanged. It still takes eight to 10 years to develop a new variety, Pozniak noted. Peering into the future to identify what will be in demand is "what makes it so fun." 

Kathy Fitzpatrick is a Saskatoon-based freelance writer and journalist.





DAVID STOBBE



DEBRA MARSHALL



SUBMITTED

Dr. Erika Dyck (PhD) is a medical historian in USask's College of Arts and Science.

Dr. Simonne Horwitz (DPhil) is a medical historian in the College of Arts and Science.

Dr. Scott Napper (PhD) is a professor in the College of Medicine and senior scientist at VIDO-InterVac.

History of infectious diseases and vaccination

New USask course features an innovative interdisciplinary approach

SHANNON BOKLASCHUK

As people around the world wait to receive one of several COVID-19 vaccines developed to help end the coronavirus pandemic, a timely new University of Saskatchewan (USask) course will explore interdisciplinary perspectives on infectious diseases and inoculation.

The course, HIST 273: History of Infectious Diseases and Vaccination, will kick off in January as USask's second-term classes begin. The course will be taught by two medical historians from the College of Arts and Science, Dr. Simonne Horwitz (DPhil) and Dr. Erika Dyck (PhD), alongside Dr. Scott Napper (PhD), a professor of biochemistry, microbiology, and immunology in the College of Medicine who serves as a senior scientist at the Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac). Instruction will be delivered remotely, as most USask classes continue online due to the ongoing global health crisis.

Horwitz said the new co-teaching collaboration will demonstrate to students from various disciplines that complex issues such as COVID-19 can't be solved by the sciences, social sciences, or humanities alone.

"When we think about dealing with infectious diseases and pandemics, we immediately think about the scientific solutions, vaccines, and medical cures—but one look at how the COVID-19 pandemic is playing out tells us that that is only one part of the story," she said. "Context, history, and human behaviour matter. We will not be able to deal with this pandemic with science alone. We need to understand how epidemics can highlight social tensions, the ways in which race, class, gender, and where you live all affect mortality and morbidity—these are the lessons of history and the humanities."

As a fellow historian of medicine, Dyck is also interested in looking back at previous health crises. Examining the past "helps us to gain perspective and pay attention to outcomes that might not be directly related to the disease per se," she said.

"For example, we know that past pandemics caused a breakdown of social order, divisive campaigns about personal liberties, or anti-science attitudes that combated public health authorities—themselves often battling to get a grip on the science behind the spread

of disease," she said. "These kinds of protests are nothing new today, but studying them in history helps to remind us that pandemics are not ever just about diseases and vaccines, but so often they are about the stories we tell each other as we try to cope with uncertainties."

In June 2020, Dyck and other USask researchers launched the COVID-19 Community Archive to capture people's everyday experiences during the current pandemic as well as formal responses to the health crisis. The digital archive continues to welcome submissions from local residents—photographs, social media posts, videos, and personal reflections—that chronicle individual and collective experiences related to the pandemic. Students enrolled in the HIST 237 course will also be invited to contribute to the community-driven project, she said.

For Napper, a biomedical scientist, teaching a history course will be a new experience—and he said he's "extremely grateful for the opportunity to be guided by two medical historians who are renowned for both their expertise and teaching." He has always been fascinated with the stories under-

lying key moments in science—such as the personalities, motivations, and struggles of the people involved, the contexts in which the discoveries occurred, and the responses of their peers and the public—noting the timing for the launch of the new USask course is "tragically perfect."

"As we struggle through this pandemic, there is a clear need for multidisciplinary approaches to manage the threats imposed by infectious diseases. Developing an effective vaccine is a critical, but incomplete, solution. Other disease control measures, such as masks and distancing, are also critical to minimize disease spread. The success of these efforts is heavily dependent upon the degree of public trust and support, which will either enable, or hamper, their utilization," said Napper.

"These challenges aren't unique to COVID," he added. "For example, some the greatest challenges identified in containing the Ebola outbreak were community resistance; efforts to eradicate polio through vaccination have fallen short due to challenges facing communications strategies of immunization programs; and vaccine hesitancy is listed by the

WHO (World Health Organization) as one of the greatest threats to global health. Clearly there is a need for a strong united effort by the biomedical and social sciences."

Horwitz, Dyck, and Napper plan to teach the first part of the history course synchronously. In the second part, students will work together in groups—specifically designed to include people from various academic disciplines—as they explore and analyze disease scenarios from different historical periods and from different global locations. Horwitz said the central question of the assignments will be: why should we remember this disease and its management as we face new pandemics?

"Teaching this class with historians—one who focuses on the global south and one who focuses on the global north—and a scientist who specializes in vaccines and infectious disease is the perfect opportunity to give students this complex picture," she said. "It also models, to both the humanities and science students, how these kinds of collaboration can work." ▀

Shannon Boklaschuk is a communications officer in USask's College of Arts and Science.

ALUMNI SPOTLIGHT

Every month in *On Campus News*, we highlight an exceptional graduate of the University of Saskatchewan (USask) in our Alumni Spotlight series. In this issue we profile Joseph Tootoosis (BA'13), now working in communications and marketing for the Saskatchewan Indigenous Economic Development Network in Saskatoon.

Going from the Prairies to the West Coast eventually led Joseph Tootoosis to the nation's capital and an opportunity to represent Canada and North American Indigenous Peoples in Egypt.



JOHN GRAINGER

Joseph Tootoosis: All roads lead home

JOHN GRAINGER

Joseph Tootoosis (BA'13) has seen a lot of highway in his 31 years.

The wind-swept desert tracks of the Middle East to the rain-slicked roads of the West Coast and the gravel highways across the Canadian Prairies have all led Tootoosis to where he is today—back home.

In November 2020, Tootoosis was hired to handle communications and marketing for the Saskatchewan Indigenous Economic Development Network in Saskatoon (SIEDN). However, getting to this point has been quite the journey for Tootoosis, something he can appreciate now looking back on his travels and travails.

“A lot of the time, going through adversity, personally or family-wise, you realize later how well you’ve done, and sometimes under extreme duress,” said Tootoosis. “Now, I’m blessed to be in this part of my life and to be where I am.”

As a youngster growing up in Saskatoon, Tootoosis proved to be a skilled athlete who climbed the ranks to play in the Saskatchewan Midget AAA Hockey League with the Beardy’s Blackhawks program, which was one of a kind in Canada for Indigenous hockey players.

Tootoosis always dreamed big and recalls writing on the back of a hockey card from one of his youth teams that he wanted to be a lawyer, just like his dad, Jacob Howard Tootoosis. He did make it to law school, but swerved into the business path just after entering the University of British Columbia (UBC). Getting to that point, however, was not on a straight line.

Once he finished high school, he enrolled at USask, but it wasn’t a pleasant experience, especially when his dad passed away in 2009.

“At that time, I knew that hockey would have to go on the back-burner,” he recalls. “I attempted to go to university to begin my undergraduate studies because I thought it was the right thing to do at the time.”

However, the challenges he faced were difficult to handle and he withdrew from university. His academic adviser made sure he left the door open to returning to get his degree.

“It just proved too much for me. I honestly didn’t care. I didn’t think I’d be back.”

At 19, he left for British Columbia’s Fraser Valley for a spell,

then found himself going to Fort McMurray in northern Alberta where he started training as an electrician in the oil sands.

“I wandered around Western Canada and saw a lot of the country, but I also spent a lot of time reflecting on how things had gone and what lay before me because it looked very uncertain.”

Tootoosis found himself going back to Flying Dust First Nation, near Meadow Lake, Sask., and got a job pumping gas.

“That sure taught me a lot because people don’t treat you very well at all,” he said.

His mom and grandparents urged Tootoosis to give school another shot, so he saved his money, re-applied to USask and was accepted. That was when his academic career really took off. He studied hard, won academic awards and received an invitation from Inspire to speak about his journey to policy makers and other younger students. That turned a light on for Tootoosis. He realized his initial goal of law school was not far from reach.

After graduating with distinction from USask with a political

science degree, Tootoosis wrote his law school admittance test and passed, and began preparing to attend UBC law in 2014.

It looked like Tootoosis’ life was finally getting back on track until he suffered a concussion playing intramural hockey.

Another setback. Doctors eventually recommended he take a year off to recover from post-concussion syndrome. He found himself traveling and reconnecting with family in the Northwest Territories before returning to take a job back home at Flying Dust as a community planner and governance officer.

His concussion and rehabilitation period were signs for Tootoosis that law school may not be the road to take after all. A friend and mentor, Chief Chris Derrickson of Westbank First Nation, recommended he think about a change to the MBA program at Simon Fraser University’s Segal Graduate School of Business, with a specialization in Indigenous Business Leadership.

That fork in the road proved to be a good decision for Tootoosis. At 27, he was accepted into the program, the youngest person ever admitted. He caught the attention

of the Assembly of First Nations in Ottawa who brought him to Ottawa as a policy analyst in 2018. This was done while still handling a full class load for his MBA.

Soon, he was selected by the national chief to participate as a member of the Canadian delegation for the United Nations Convention on Biodiversity to visit Egypt where he had a chance to experience different cultures and represent Canada and Indigenous Peoples in North America on the world stage.

He’s been able to parlay his experiences into his current role back in Saskatchewan with SIEDN, after seven years of being away from Saskatoon.

“There are a lot of functions in this role that are closer to things I would do as a policy analyst—doing stakeholder analysis within the province and see what the economic and political landscapes for Indigenous and non-Indigenous organizations look like.”

Tootoosis isn’t quite sure what is next, but does not fear where the road might lead him. ■

John Grainger is a communications officer in University Relations.



What Canada's melting glaciers tell USask researchers

An overhead look at the Peyto Glacier ice caves, photographed in the summer of 2019 by the Global Institute for Water Security, using an unmanned aerial vehicle.

MARK FERGUSON

CHRIS MORIN

Imagine a Canada without glaciers.

It may seem unfathomable, but these masses of ice are melting at an alarming rate. Canadian glaciers have shrunk 15 per cent since 1985, and estimated glacier loss in the Rockies could rise to 100 per cent by the end of the century, according to University of Saskatchewan (USask) hydrology PhD candidate Caroline Aubry-Wake.

One of the areas that Aubry-Wake conducts research at is the Peyto Glacier in Banff National Park and the Athabasca Glacier in

Jasper National Park. It's an area that's a cause for alarm—not just the immediate region, but also those areas downstream—and a look at the region's rapid ice loss makes this clear.

"Every time we go to Peyto it looks different and there are more things to study," said Aubry-Wake, whose research combines mountain field work and a mathematical hydrological model to assess changes in water resources.

"We collect a lot of data

measuring snow and water and we hope to get an understanding of what is happening with the glacier and to use this information to make our computer simulations. And then when we return to the field, something has changed, like there will be a large hole in the glacier or the ice will have retreated significantly. And we are running against the clock to make sure our information is accurate."

The more scientists see how the levels of the glacier change now, the better they can predict what it will look like in the future, which in

turn will help USask researchers like Aubry-Wake predict Canada's water resources 10 to 80 years from now.

As a member of the USask Global Institute for Water Security (GIWS) and the USask-led Global Water Futures (GWF) program, Aubry-Wake is part of the team that works out of the Coldwater Laboratory in Canmore, Alta., an important facility for researchers working to change how water is managed across the country, according to Dr. John Pomeroy (PhD), director of GWF.

"We are very proud to be doing

this from the Coldwater Laboratory in the Rocky Mountains, a remarkable mountain research base that USask has helped to establish," said Pomeroy, who also holds the Canada Research Chair in Water Resources and Climate Change at USask. "This base allows us to have locally-based technicians and scientists on site, and the graduate students, so we can logistically get up on those glaciers. It's a very challenging thing to do. We have to get the right weather and have people."

SEE GWF, PAGE 7



Caroline Aubry-Wake of USask's Global Institute for Water Security is a PhD student in the Department of Geography and Planning.



USask Global Institute for Water Security researchers make the climb up to the Peyto Glacier in August, 2019.



Field research technician Greg Galloway of USask's Centre for Hydrology refuels while maintaining a weather station at the Peyto Glacier.

GWF: Global impact

FROM PAGE 6

USask is ranked No.1 in Canada for water resources research (Academic Ranking of World Universities), and GWF is the most-cited water research group in the world.

GWF, which involves key partners University of Waterloo, McMaster University, and Wilfrid Laurier University, is positioning Canada as a global leader in water science for cold regions. Funded by the Canada First Research Excellence Fund and many partners, the research program provides governments, businesses and communities with the risk management tools they need to tackle threats to Canada's water supply and quality.

In addition to working to better address and prepare for increasingly extreme floods, droughts, fires and water pollution events, the GWF team of scientists draws upon transdisciplinary research and a vast array of knowledge that helps to translate the data taken from declining glaciers like Peyto into a national narrative. And it's a story that Dr. Phillip Harder (PhD) is working to share.

A researcher with the Centre for Hydrology at USask, Harder's work typically focuses on snow and prairie agricultural-hydrology interactions. But his expertise in deploying, and synthesizing data from, unmanned aerial vehicles has been instrumental in gathering data in the Rockies. The use of drone technology to assist in 3D mapping, along with archival photos, has been helping USask researchers determine how quickly glaciers like Peyto are melting—and how much time they have left.

"Thanks to technological advances in drone sensors, video and photography, you can get high-resolution images where you can see the melt from year-to-year, where ice caves are appearing in the glaciers where there weren't any before," said Harder.

One of the tools Harder uses is lidar (Light Detection and Ranging). Simultaneously shooting out and measuring the reflections of 100,000 laser pulses a second, the drone-borne device allows scientists to precisely map the surface of the ice. While there's a lot of work

that goes into gathering this data, Harder said that the high-precision 3D representation of the surface visualize the year-to-year change of the glacier.

"You are able to pick up the big changes quite easily, but you can also discern the amount of melt that has occurred," he said. "There's a lot going on there, and there's a lot of questions we still have. Is this thing melting faster? Which parts are melting the fastest and how are the surrounding moraines and

meltwater lake areas changing? What will the landscape look like in the future and how will it function?"

Faced with this information, USask researchers are tasked with the important duty of protecting Canada's water resources. According to Aubry-Wake, an award-winning student who earned a prestigious Vanier Scholarship in 2018, it remains to be seen how much water we will have in the future, but the current data points to some immediate impacts across the

“ The Rockies feed some of the biggest rivers that cross our continent, so what's going on in Alberta has impacts across the Prairies.

— Caroline Aubry-Wake

Prairies, when it comes to agriculture and the environment.

"Glaciers act as storage, accumulating snow into the winter and melting late in the summer. Glacier meltwater is the main source of water in the late summer, and is used for irrigation, hydro power, but also to supply downstream cities. Once there are no more glaciers, we won't have nearly as much water in the mountains in August," said Aubry-Wake, who is supervised by Pomeroy. "The Rockies feed some of the biggest rivers that cross our continent, so what's going on in Alberta has impacts across the Prairies."

While GWF's research on glaciers is clearly important to Saskatchewan, the research conducted out of the Coldwater Laboratory, and the work being done by the research team on water security as a whole, is critical to the entire country, according to Pomeroy.

"The work of PhD candidate Caroline Aubry-Wake and Research Associate Phillip Harder, along with dozens of other students and post-docs at USask in the high mountains, has provided preeminence to the University of Saskatchewan for high mountain hydrology and climatology," said Pomeroy.

"This work has allowed us to develop agreements with 44 countries around the world who adopted the high mountain summit statement in Geneva last October on integrating high mountain observations and predictions for the good of society. This also improves the water security of Saskatchewan, which receives the vast majority of our river flows from the Canadian Rockies." ■



“ The pandemic is the greatest challenge the university has faced in decades.

— President Peter Stoicheff

The president's perspective:

New year brings new optimism for the University of Saskatchewan

Peter Stoicheff is now in his sixth year as president and vice-chancellor of the University of Saskatchewan, after receiving unanimous approval to serve a second five-year term.

DAVID STOBBE

JAMES SHEWAGA

The year 2020 will be remembered as the year of the pandemic, but for President Peter Stoicheff it was also the year the University of Saskatchewan (USask) passed one of the most critical tests in its storied 113-year history.

“The pandemic is the greatest challenge the university has faced in decades,” said Stoicheff, now in his sixth year serving as USask president. “It would be up there with the Great Depression and the (Spanish Flu) pandemic of 1918, and I think the campus has responded in extraordinary fashion.

I am constantly reminded of the enormous resilience and responsiveness that this university has shown, almost to the year, across a span of a hundred years.”

As the campus community begins the new year with new hope—and with COVID-19 vaccines on the way—Stoicheff said it will not

be business as usual post-pandemic, with the university busy preparing to build on the lessons learned in a year we will never forget.

“With our post-pandemic shift project, we need to ask ourselves, ‘What are the major ways in which we need to change to continue to be the university a new post-pandemic

world needs?’ We will not just be going back to normal. It will be a new normal,” said Stoicheff.

“There are fundamental changes in programming, in research, in the way we are structured, and in the way we work with each other, that will change. We are a major research-intensive university in this country and a significant player in the university environment and we need to ask ourselves how we can best respond to these changes to help make the world a better place in the future. We are in the midst of

exploring that, and that is exciting.”

As the president looks back on the challenges of 2020, he is quick to commend the patience and perseverance of students, staff and faculty who successfully made the monumental move in mid-March to remote delivery of all classes and exams to complete the semester, a practice that has continued in the 2020/21 academic year.

“Faculty, staff and students had to adjust mid-stream at a very

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The president's perspective:

Campus community rose to the challenge

FROM PAGE 8

challenging time and everybody had to make major adjustments to work remotely for the health and safety of all members of our campus community,” said Stoicheff. “I can never thank enough all of our students, staff and faculty who were able to do that in such a way that the main mission of the university kept on moving ahead, somewhat seamlessly.

“Our Pandemic Response Team, the PRT, has also done an extraordinary job under difficult circumstances. And we would be remiss not to mention the dedication of the many people who were

called upon to continue to work on campus throughout the pandemic.”

Stoicheff is also humbled by the spirit of students, staff, faculty and alumni, who have stepped up to help the community in these trying times. From collecting and distributing personal protective equipment, food and supplies for front-line health-care workers and community members in need, to helping in testing and tracing centres, volunteering to battle COVID-19 outbreaks in places like La Loche, to providing free mental health supports, USask’s connection to community has been front and

centre during the pandemic.

“It is really clear that we continued to make an impact in the community, even during this crisis,” said Stoicheff. “There were so many important volunteer initiatives by members of our university, and the students, in particular, were extraordinarily creative in this regard. At the same time, donors, employees and alumni stepped forward to contribute to student aid in a time of need. So there was much to be proud of.”

Meanwhile, university researchers continue to work tirelessly on the front lines of the fight against COVID-19. USask’s Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac) has drawn national and international attention as the first facility in the country to isolate the virus, as well as the first to develop and advance a vaccine to animal testing. USask researchers are also developing new therapeutics and innovative testing techniques, pandemic monitoring and modelling, as well as creating

remote therapy and virtual mental health programming.

“We have done a lot on the health-related side, in terms of research,” said Stoicheff. “VIDO-InterVac immediately comes to mind, and it is really a whole team of people and researchers who are specialists in many different areas, particularly in coronavirus work. I am also thinking of the wastewater COVID-19 work that involves researchers from different parts of the campus, and involves the city and the Saskatchewan Health Authority. No matter where you look in the university, there is research underway connected to the pandemic. And the whole world is watching.”

While the pandemic has been the primary focus in multiple disciplines all across campus, USask’s signature areas of research also continued to have global impact in 2020. USask remains ranked No.1 in the country—and 20th in the world—in water resource research and also internationally regarded in the area of food security, high-

“ It is really clear that we continued to make an impact in the community, even during this crisis.

— President Peter Stoicheff

lighted by the recent wheat genome breakthrough.

“The work that our researchers and colleagues around the world have been doing to map 15 different varieties of wheat genomes is extraordinary and will have a huge impact on food security globally,” said Stoicheff. “And the work that has gone on in our Global Institute for Water Security has been exceptional. This kind of research impacts large numbers of people around the world and it should be a point of pride for everybody at the university, that this is a university that

SEE USASK, PAGE 10



University of Saskatchewan President Peter Stoicheff’s public presentations were often delivered remotely via video in 2020, the year of the pandemic.

DAVID STOBBE

The president's perspective:

USask researchers in national spotlight

FROM PAGE 9

operates on a global level.”

The university's reputation as a national research leader was also reaffirmed with \$88.8 million in federal funding for USask's three national science facilities—VIDO-InterVac, Canadian Light Source, and SuperDARN (Super Dual Auroral Radar Network). USask facilities received a third of all funding awarded through the Canada Foundation for Innovation's Major Science Initiatives Fund.

“For a single university to attract one third of the funding that has gone to universities in the entire country is an extraordinary achievement and speaks highly of the quality of research that goes on here,” said Stoicheff.

VIDO-InterVac also received more than \$12 million in additional federal and provincial funding to build vaccine-manufacturing capacity on campus, reinforcing USask's future as a national centre

for pandemic research.

“Building that pilot manufacturing facility, which is underway, has been supported handsomely by both the federal government and by the province, and at a difficult time for the province financially,” said Stoicheff.

And the world is taking notice of USask's research success. In Canada's Top 50 Research Universities 2020 rankings, USask is ranked first among the country's medical universities for growth in total research income, and moved up three places to 11th in the overall national rankings.

Regionally, USask has reinvested in Indigenous and northern education with the opening in 2020 of the new Prince Albert (P.A.) campus, featuring a large percentage of Indigenous students.

“We are not the University of Saskatoon, although our relationship with the City of Saskatoon and the people of Saskatoon is extremely important,” Stoicheff said. “We also

take very seriously that we are the university named after the entire province, so to be able to open a campus like this in P.A. is extremely meaningful for me and should be for everybody at the university.”

The university also refreshed its senior leadership team by welcoming Dr. Airini (PhD) as provost and Dr. Baljit Singh (PhD) as vice-president of research. In addition, USask appointed Dr. Angela Bedard-Haughn (PhD) dean of Agriculture and Bioresources, Dr. Debby Burshtyn (PhD) dean of Graduate and Postdoctoral Studies, and Dr. Loleen Berdahl (PhD) as executive director of the Johnson Shoyama Graduate School of Public Policy.

“I am proud that we have a very diverse senior leadership team at the President's Executive Committee level and I think that's really important and it speaks to the importance of the EDI (Equity, Diversity and Inclusion) policy and action plan that we passed at University Council,” said Stoicheff. “Everybody

in the university has to do their part to activate the principles of the EDI policy and I think the appointments that we have made in senior leadership are a reflection of that.”

Meanwhile, despite the pandemic, USask remains on track to match or exceed record enrolment of 26,000 by April.

“Originally we were anticipating that our student enrolment numbers could be down a lot, so to see we were up by close to two per cent was remarkable,” said Stoicheff. “There are only three provinces in the country where university enrolment is increasing, and we are one of them. It's a testament to the quality of our programs, the quality of our faculty, and the quality of the research talent that we attract.”

As the university begins a new year, an ongoing area of concern is the financial impact of the pandemic. Increasing operating costs and revenue losses in areas of food services and student housing that was largely shut down, along with the effects of freezing tuition for students, have had a major impact on the budget.

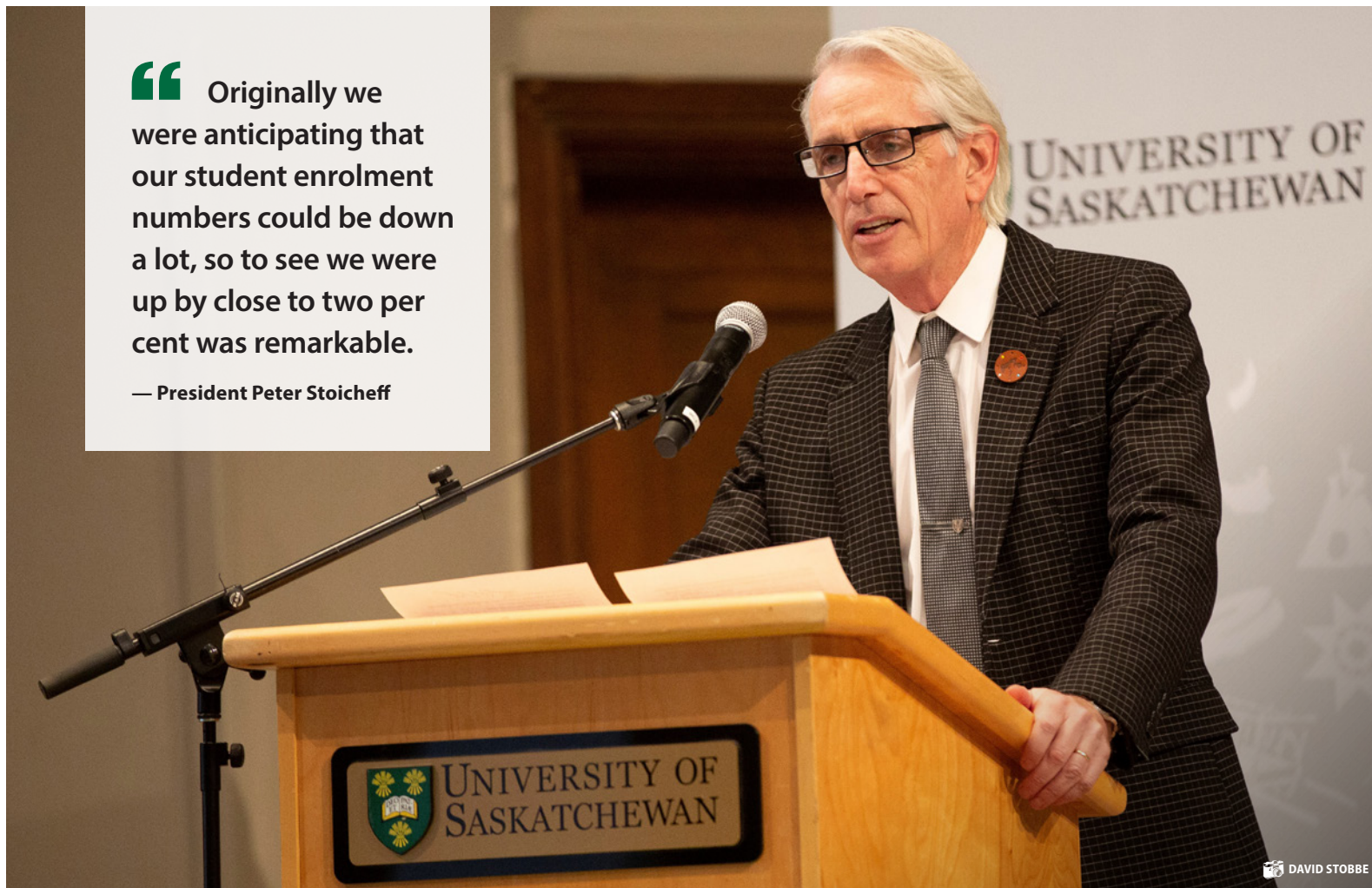
“We made the right decision for students to freeze our tuition at zero,” said Stoicheff. “I am glad that we did it, but these decisions do have financial consequences and it was a multimillion-dollar proposition to not raise tuition. The entire university sector has been hit hard by the pandemic, as have been all sectors across the country and around the world, so we are not alone. It is a considerable financial issue. But on the other hand, it is not a problem that will compound itself over the years, because the pandemic will end.”

To that end, university officials are now preparing for life after the pandemic in 2021.

“With our post-pandemic shift project, we need to go out and ask the health sector, government, education, industry, and Indigenous leaders, Elders and communities, how have their worlds changed?” said Stoicheff. “And then we need to bring that information back in and ask ourselves how we can respond to those changes to help make the world a better place.”

“Originally we were anticipating that our student enrolment numbers could be down a lot, so to see we were up by close to two per cent was remarkable.

— President Peter Stoicheff



DAVID STOBBE

USask's Dalai one of Canada's longest-serving CRCs

✍ DONELLA HOFFMAN

Dr. Ajay Dalai (PhD) was a petroleum engineer, early in his career at the University of Saskatchewan (USask) College of Engineering, when he was asked to explore a new research path—bioenergy and its environmental benefits.

It's been a very successful 20-year journey.

Today, Dalai is one of the country's longest-serving Canada Research Chairs, having been the CRC in Bioenergy and Environmentally Friendly Chemical Processing since 2001. His work has made him a world leader in efforts to develop alternative energy sources and he has been awarded more than \$36 million in funding from the Natural Sciences and Engineering Research Council of Canada (NSERC) and other competitive sources.

"It has worked out really well, not only for me but for the department, the college, and the university," said Dalai, a distinguished professor in the Department of Chemical and Biological Engineering. "We have brought a lot of new knowledge over the last 20 years to the world."

Dalai began as a Tier 2 chair on July 1, 2001. He and the six other researchers became USask's first-ever CRCs that year. Of that group only Dalai remains, making him the longest-serving CRC at USask. Though Dalai was trained as a petroleum engineer, he was asked to develop a CRC application focused on bioenergy—renewable energy

“ We have brought a lot of new knowledge over the last 20 years to the world.

—Dr. Ajay Dalai (PhD)

generated from organic matter. Dalai knew little about it and recalled that it was not on the radar of provincial or federal governments.

"I looked at determining what is the environmental benefit, the financial benefit? What is the benefit to industry? Canada has a lot of natural resources but we didn't have a lot of technology to transfer these resources into value-added products that can bring in money for farmers," said Dalai.

In 2017, Dalai became a Tier 1 CRC. His large research group—he supervises more than 30 people every year—now works in three theme areas: bioenergy, heavy oil processing and environmental engineering. Significant achievements include:

- Developing a catalyst, in collaboration with Dr. Hui Wang (PhD) from his department, to transform carbon dioxide and methane—potent greenhouse gases—into synthesis gas, or syngas, a basic feedstock for producing gasoline and other fuels.
- Developing a method to produce biodiesel from low-cost raw materials such as waste cooking oil, soya, green seed canola and mustard, with reduced water usage.

Dalai said it's rare to find researchers working in both petroleum and bioenergy, and points with satisfaction to a successful 10-year collaboration with SaskPower and the Saskatchewan Research Council to reduce mercury in flue emissions at its Boundary Dam Power Station and a 25-year relationship with Syncrude Canada.

"We're not only strong in bioenergy, we're very strong in petroleum research, and in pollution control," he said.

Dalai's research program is a great example for other researchers, said Dr. Terry Fonstad (PhD), associate dean research and partnerships at the College of Engineering.

"His work has shaped our research mission," he said. "He impacts key industries in our province, including agriculture and oil and gas, and shows how expertise from USask Engineering is playing a critical role in for the economies of our province and our country."

Earlier this year, Dalai was awarded the Royal Society of Canada's Miroslaw Romanowski Medal for outstanding contributions to environmental science—one of Canada's highest honours for academics. He's published more than 550 research papers, which have



Dr. Ajay Dalai (PhD) is the Canada Research Chair of Bioenergy and Environmentally Friendly Chemical Processing, and a distinguished professor in the College of Engineering.

been cited more than 28,000 times (his Google Scholar H-index of 78 is considered exceptional), and he has supervised more than 150 graduate students and post-doctoral fellows.

"Ajay Dalai is an inspiring academic," said Dr. Suzanne Kresta (PhD), dean of USask Engineering. "He exudes enthusiasm and excitement. He's a world leader in his field due in no small part to the fact he works incredibly hard and holds himself and those around him to a standard of excellence every day."

Dalai is quick to credit the encouragement of his partner Debasmita over the course of their 30-year marriage, as well as the support of his children, now grown. He said an ability to recruit

and mentor high-quality research personnel, prioritize, and provide clear direction to students so that they can meet their goals, have contributed to his success.

"Being passionate is not very difficult when you are surrounded by a lot of talented, world-class students, post-doctoral fellows, mentors and collaborators and have an excellent research climate here at the college and the university," he said. "How do you stand back and relax when everything is in place to succeed in doing high-quality research?"

Donella Hoffman is the communications officer in USask's College of Engineering.

Pandemic perspectives: 2021 and beyond

 NATASHA KATCHUK

With 2020 wrapped up, long lineups and shortages of everything from toilet paper to yeast to lumber will hopefully remain distant memories in the minds of consumers.

Looking back, the supply-and-demand challenges experienced by many can be attributed to supply chain management and consumer behaviour, according to Dr. Keith Willoughby (PhD), dean and professor of management science in the Edwards School of Business at the University of Saskatchewan (USask).

“There is no playbook for a pandemic,” said Willoughby. “It was new territory for supply chains and consumers alike because no one had dealt with a pandemic on this scale before. Consumer behaviour, combined with the general public’s response to a pandemic, precipitated panic buying and somewhat of a hoarding mentality.”

Ten months on, Willoughby believes the vaccine deployment news is having a calming effect on the behaviour of businesses and consumers, despite the steady wave of increases in COVID-19 cases.

“Supply chains are more stable now and consumers are doing a better job of self-regulating,” explained Willoughby. “Consumers have developed a higher tolerance for supply irregularities because they understand even though a product may be out of stock today, it’s not new territory and it will eventually be restocked. Businesses, in turn, have learned how to be more responsive to quick changes in

demand from consumers.”

The just-in-time method Willoughby is describing ensures that businesses are holding small amounts of inventory while trying to economize and optimize their stock-keeping units (SKUs).

“Supply chains are focusing on those SKUs that are in high demand,” said Willoughby. “For example, industries facing an aluminum shortage are economizing their supply chain. Those manufacturers are focusing on core units as opposed to the different customization and variation you might see in non-pandemic circumstances.”

When it comes to the economy, Willoughby referenced the double-edged-sword analogy. Restaurants, movie theatres, and the gym sector have been dramatically throttled due to the pandemic, while it has simultaneously raised the profile of others.

“The nature of restaurants that focused on dine-in experiences and haven’t yet been able to transition to food delivery options or curbside pickup are at a big disadvantage,” explained Willoughby. “At the same time, travel restrictions have people looking to add new life experiences where they may not have focused before. You’re seeing other industries reap the benefits of the situation related to lumber, fitness equipment, Christmas trees, and so on.”

Looking forward, Willoughby advises businesses to focus on their value propositions in order to survive and thrive over the next few

months in an attempt to weather the remainder of the pandemic.

“Identify what your customers find valuable and focus on the inherent value proposition,” Willoughby said. “For a restaurant, perhaps the value proposition wasn’t necessarily the experience, but simply the food. It may force some sectors to consider an alternative value proposition as a way of adapting to meet customer needs until the pandemic is behind us.”

As 2021 unfolds, Willoughby predicts another byproduct of the pandemic will be the declining use of cash. While cash is considered legal tender, there is a misconception that businesses have to accept every form of payment. By law, a business can choose its own form of legal tender for payment. The difficulty of this was superseded early on in the pandemic because there was a fear that the COVID-19 virus could be passed by handling bills and coins.

“I think what you’re seeing is the tipping point towards a cashless society emerging post-pandemic,” said Willoughby. “Canada was already known around the world for its low propensity towards cash usage. It has accelerated due to changing consumer spending habits as a result of the pandemic and the reliance on cashless transactions.”

Likewise, Willoughby feels there are lessons to be learned as a society to withstand the future, underscored by the *RBC Humans Wanted* report on thriving in the age of disruption.



Dr. Keith Willoughby (PhD) is the dean of USask’s Edwards School of Business and a professor of management science.

 DAWN STRANDEN PHOTOGRAPHY

“Our focus should be on supporting the retraining and skill-building efforts for our workforce,” said Willoughby. “Building the skills that humans will need and want going into the future is our biggest opportunity for our workforce to

navigate the current and future job markets.”

Natasha Katchuk is the senior communications officer in the Edwards School of Business at USask.

USask biomedical researcher searches for answers to viruses

 KRISTEN MCEWEN

A University of Saskatchewan (USask) biomedical scientist is aiming to identify and create cures for viruses before they evolve to make a deadlier impact.

“Unlike human evolution—where discernible changes are not seen in a decade, or a lifespan—you can see viruses rapidly evolving in a short span of few years from being benign organisms to deadly pathogens,” said Dr. Anil Kumar (PhD).

A new assistant professor in

the Department of Biochemistry, Microbiology and Immunology in the College of Medicine, Kumar has dedicated his career to studying the biology of viruses. Figuring out how viruses infect healthy cells is the key to finding a treatment.

“The interaction between a virus and the cells of its host is an ongoing battle,” Kumar said. “The cells mount multiple defenses to prevent virus infections, but virus continuously evolves ways to overcome those barriers and

successfully infect cells.”

Viruses adapt relatively fast to new environments and to new hosts they encounter, which is why we often see viruses previously linked exclusively to animals making the jump to humans, Kumar explained.

His current focus is studying the Eastern Equine Encephalitis Virus (EEEV), a virus that fatally impacts humans and horses in eastern parts of Canada and the United States. The virus is transmitted via a mosquito bite and attacks the body’s nervous system, causing meningitis (an infection of membranes around the brain) and encephalitis (inflammation of the brain).

In recent years, there have been an increase in recorded incidents of mosquitoes spreading EEEV to humans. According to the Centers for Disease Control and Prevention (CDC), there were 38 reported human cases in the U.S. in 2019. Half of those patients died of encephalitis within two to 10 days of infection. Survivors often experience mild to severe neurological problems, including seizures and paralysis which in many cases can be lifelong.

In certain aspects, EEEV is similar to the Zika virus, which can also be transmitted to humans through a mosquito bite, Kumar explained. During post-doctoral research in the lab headed by Dr. Tom Hobman (PhD) at the University of Alberta, he started studying the Zika virus before it emerged into a pandemic in 2015.

“What we saw with Zika virus was, even though it was known for over 60 years, there were only about 15 recorded cases of infection world-wide until 2007. But then

certain genetic changes occurred in the virus, which made it efficiently spread in human population, leading to the 2015-2016 pandemic,” he said.


“Something similar happening with viruses like EEEV is a real possibility,” he added.

Born in Trivandrum, India, Kumar took an early interest in studying viruses, starting his career path by observing virus infections in plants. After completing his bachelor’s degree in agricultural sciences at Kerala Agricultural University in 1999, Kumar pursued his master’s in plant virology at Indian Agricultural Research Institute, New Delhi. In 2006, Kumar shifted his focus to human viruses when he joined the lab of Dr. Ralf Bartenschlager (PhD) at the University of Heidel-

berg, Germany. He began studying dengue virus for his PhD, which he completed in 2010.

Upon arriving at USask, Kumar was interested in the potential for collaboration and access to facilities to develop a vaccine for EEEV. USask’s Vaccine and Infectious Disease Organization-International Vaccine Centre, a Level 3 biosafety facility with vaccine development infrastructure, is ideal to study virus biology and develop and test new vaccine candidates. The strong virology research community on campus was also appealing as Kumar may look to rely on their expertise for the creation of a vaccine.

He is also looking forward to the potential collaboration with researchers in USask’s Western Veterinary College of Medicine, to develop better EEEV vaccine for horses.

“When there is a future outbreak of EEEV, we should have vaccines ready to protect the people and horses from the lethal consequences of the infection. That is the goal I would like to pursue,” Kumar said. 

Kristen McEwen is a communications co-ordinator in the College of Medicine.



Dr. Anil Kumar (PhD) is an assistant professor in the Department of Biochemistry, Microbiology and Immunology in USask’s College of Medicine.

 SUBMITTED



The University of Saskatchewan Retirees Association congratulates the 2020 winners of its Continuing Contribution Awards.

Dr. Lillian Eva Quan Dyck, Professor of Psychiatry, retired as Associate Dean of Graduate Studies and Research to serve Canada as Senator for 15 years (2005-2020), achieving landmark legislation on behalf of Indigenous women.

Dave Lepard, Audio-Visual Technician (1968-2003), after retiring from the College of Medicine has continued his career-long, volunteer service to the labour movement at local, provincial, and national levels.

Collaboration key in USask oncology research

 KATIE BRICKMAN-YOUNG

A career in research and academia wasn't what Dr. Monique Mayer (DVM) envisioned for herself when she graduated from the Western College of Veterinary Medicine (WCVN) in 1995.

But after a few years in private practice, Mayer decided to take specialized training and became a board-certified specialist in radiation oncology.

"My love for animals is what made me want to become a veterinarian. I hadn't planned on going into academia. But, it was a good choice for me because I enjoy teaching and the research," said Mayer, who joined the WCVN's Department of

Small Animal Clinical Sciences in 2004. "It is important to have people treating patients, but [we] also [need] people investigating what treatments are effective and what we can do to improve treatments. I see that [as the] responsibility of people in academia to ask those questions."

As a radiation oncology researcher, Mayer is dedicated to finding solutions to questions and better treatment options for cancer patients—animals as well as humans. She works collaboratively with other University of Saskatchewan (USask) researchers and has been recently working with groups from the College of Medicine,

College of Arts and Science, and the Canadian Light Source.

Her husband, Dr. Niels Koehncke (MD), is a specialist in occupational medicine at the College of Medicine. The pair recently teamed up to investigate how to better protect the medical staff in our veterinary hospitals and clinics from radiation exposure.

"Radiation is super valuable, and we use it to make a diagnosis and treat our patients, but when using ionizing radiation for imaging or therapy, there may be some worker exposure and some harmful effects," said Mayer.

Their research focused on describing what was going on in the field and surveying specialists. The hypothesis was that people's behaviours and awareness of radiation are not at adequate levels for protecting workers.

"Workers are not always wearing their personal protective equipment (PPE). The PPE is heavy and interferes with their ability to do their jobs, and it isn't always available," explained Mayer.

Out of their research findings, the team developed training videos in four different languages—English, French, Spanish and Portuguese—to help workers better protect themselves when working with radiation.

"Those videos did improve

the behaviour, and people were safer. But, they didn't get to where we wanted them," Mayer said. "Our goal is to continue to raise awareness and document what is happening. We want to lay the groundwork. We can't jump right to fixing a problem until you show that the problem exists."

Another one of Mayer's collaborative research projects is a "head positioner"—a device holds the patient's head in an exact position during stereotactic radiation therapy, a form of non-surgical radiation that is used to treat animals with brain tumours at the WCVN Veterinary Medical Centre.

Mayer worked with Dr. Sally Sukut (DVM), a WCVN veterinary radiologist, and employees at the USask Physics Machine Shop to design and manufacture the head positioner device that looks like a small box. Once the patient is anesthetized, the animal's mouth goes over the top, and the lower jaw hangs open. The outer box is used to line up the animal to the machine for the laser. A revamped version of the positioner attaches to the treatment table, which automatically corrects the animal's head position.

The device immobilizes the

animal so the radiation therapy team can precisely target the treatment.

"If we don't treat accurately, we can fail to help our patients, and we can even harm them. It is essential to be accurate in radiation oncology, and this [device] helps us be accurate."

Mayer is also working with the Canadian Light Source synchrotron to look at microbeam radiation.

"We are looking to see when people have had a recurrence [of cancer] after having standard radiation treatment that could be treated with this microbeam radiation," she said. "We are in the early stage of looking at how the dose is deposited and whether it is achievable with the synchrotron."

The COVID-19 pandemic has delayed the team's research work, but Mayer hopes to move forward with their research in 2021.

"The goal of this project is to look at it with the long-term goal to do it in humans, but it is always a parallel. If it will be effective in human patients, there is no reason why we can't do it for canine and feline patients, too," she said. ♥

Katie Brickman-Young
is a communications officer
in WCVN at USask.



 CHRISTINA WEESE

Dr. Monique Mayer (DVM) is a professor in the Department of Small Animal Clinical Sciences in the Western College of Veterinary Medicine at USask.

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Huskies' Gabruch earns top marks on and off the field

✍️ JAMES SHEWAGA

She was a first-team league all-star, the second-leading scorer in all of Western Canada, and a finalist for the Huskies' 2019/20 Female Athlete of the Year award.

But perhaps the honour Maya Gabruch is most proud of is being named an Academic All-Canadian for the fourth straight year in her student-athlete career at the University of Saskatchewan (USask).

"Definitely for me, school comes first," said Gabruch, who led the Huskies women's soccer team in scoring with nine goals in 14 games in 2019 and posted an academic average of 90 per cent to help lead a record class of 178 outstanding Huskies athletes who earned All-Academic recognition in 2019/20. "I didn't come to university just for soccer, but it has definitely been a great bonus being able to play for the Huskies."

Unfortunately for the Huskies, the global pandemic in 2020 did something that Canada West opponents couldn't do in 2019—find a way to stop Gabruch from scoring. The decision to cancel university sports across the country left Gabruch facing the possibility of not playing her fifth and final year of Huskie soccer.

"I remember when it was first announced, we were kind of all in shock and so disappointed," said Gabruch, a 22-year-old striker from Saskatoon. "But now we have definitely had time to accept it, and everyone is hoping to all play together again next season. So we will see what happens."

For Gabruch, playing that fifth season in the fall would create a whole new challenge. On track to graduate with her Bachelor of Science in Kinesiology in spring of 2021, Gabruch has applied to get into



Maya Gabruch

medical school in USask's College of Medicine in the fall of 2021. While she has proven more than capable of balancing academics and athletics and excelling in both, medical school would be a completely different challenge.

However, Gabruch has spoken with her coaches about ways to help her balance a difficult first year in medical school with a demanding training and competition schedule as an elite Huskie student-athlete.

"My coaches and I have talked about all of the options and they say that they would be very accommodating if I did get in and chose to do both," said Gabruch, who has written her Medical College Admission Test (MCAT) and expects to learn in February whether she will advance to the interview stage of the admission process. "It would definitely have to take a lot of compromise to make it work, but I would certainly like to try, if I get the opportunity."

In the meantime, Gabruch has relished the opportunity to spend some time training with her teammates once again, from limited outdoor practices in the fall to phys-



Maya Gabruch was a Canada West conference first-team all-star in 2019 and an Academic All-Canadian in 2019/20.

ically distanced indoor workouts with masks in small groups of student-athletes, as they work to stay sharp for the hopeful resumption of competition in the fall.

"The most difficult thing is not seeing my teammates, so it has been great to be able to get together, even in small groups, to train," she said. "It looks like pretty much everybody is going to be back, and we will also have the 2020 recruits and the 2021 recruits, so that will just make our team that much better."

Gabruch is one of five players with a fifth year of eligibility remaining, with all five hoping to play their final season.

"She is planning on playing her fifth year as of right now, so all has stayed status quo," said Huskies

head coach Jerson Barandica-Hamilton, who is hoping to have Gabruch back to help build on the team's impressive 8-2-4 record in 2019. "She did write her MCAT back in late September ... but she is focused on training and bettering herself for the immediate future and will decide once she has more certainty if she gets into medicine or not."

In the meantime, Gabruch is

working on completing her kinesiology degree and continuing to prepare for a possible final season and potentially for medical school. But the one thing that is certain is just how much she has enjoyed being a Huskie student-athlete.

"I remember absolutely loving it in my first year and every year it has gotten better," she said. "It has been a great experience." ♥

BY THE NUMBERS:

Including student-trainers, a record 209 students involved with the Huskies program received All-Academic honours (average of better than 75 per cent while completing a full course load) in 2019/20, the most in school history. In all, players, trainers and managers from all 15 teams were honoured, representing 11 different USask colleges and schools.

Scholarship support helps a student-parent succeed

INALIE PORTADES

A single parent and mature student, Marcia Little credits her scholarship for providing her the flexibility to take care of her family while succeeding academically.

She received financial support of \$5,000 through the Susan's Award for First Nations Female Students with Dependent Children, gifted generously by Dr. James Dosman (MD) and Susan Dosman.

"The scholarship took my focus off the financial stress, especially at the time when I was peer mentoring and participating in other campus activities. I was able to alleviate my bills, purchase art supplies and most importantly, afford textbooks as one book could cost up to \$200," she said. "I'm earning this degree not only for myself, but also for my kids. Without the help of others, I wouldn't have been able to do it alone."

Little is from Ahtahkakoop Cree Nation, and is a mother to four children and a grandmother to one. Three of her children are now adults living separate lives, one who is attending the University of Saskatchewan (USask) as a second-year student. Meanwhile, her youngest, who is 14 years old, is currently living with her.

Besides being a mother, Little is also a full-time student in USask's College of Arts and Science. Through her own experiences, she found USask as a step towards starting a new beginning in her life.

"After leaving an abusive marriage three years ago, I moved back to my community and stayed with my family," she said. "I felt hopeless and afraid from experiencing hidden homelessness. The loss of autonomy due to the years of

“ I did it for those who feel they don't have a voice, and experiencing intimate partner violence. "I want to let them know that there is hope.

— Marcia Little

abuse had reared its ugly face.”

With her previous education in management studies and office education, the only work she could find was a temporary position as a finance clerk in her community. However, her contract ended and left her searching for employment yet again.

"To get by, I used my talent to paint artwork and sell them to friends and family," Little said.

Little wanted things to change in her life, so she took a chance and moved with her youngest to Saskatoon. In 2018, she applied to USask and received her admission in the same year.

Now in her fourth year of studies, Little continues to thrive in and outside the classroom. Last year, she was one of the college's 13 Indigenous Student Achievement Award winners. Additionally, one of her paintings, along with 10 other Indigenous/Métis/Inuit artists, was published by an Indigenous social enterprise called Colouring it Forward, in the *Indigenous Art & Wisdom Journal*. The painting featured in the journal was the same piece she created after she started her healing journey, and said it represented going back home to heal and taking back her power.

On top of balancing her role as both a parent and student, Little also

participated in campus activities. During her time as a peer mentor for USask's Indigenous Student Pathway Success program, she was invited to take part in the video series called *The Value of an Arts and Science Degree*. While filming, Little stood for an hour staring into the camera as hundreds of students and faculty walked by, and said it was a proud moment for her, taking up space as an Indigenous woman.

"This project helped me realize that my voice matters and that



SUBMITTED

Marcia Little is grateful to have received the Susan's Award for First Nations Female Students with Dependent Children.

people are paying attention. I did it for those who feel they don't have a voice, and experiencing intimate partner violence," she said. "I want to let them know that there is hope and life after abuse."

In the future, Little aspires to pursue her master's and PhD in

applied social psychology. She is looking forward to combining her education and passion for art to help children who have suffered through trauma and abuse. ♥

Inalie Portades is a communications co-ordinator in University Relations.

Showcasing USask research projects

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Livia Castellanos, Saskatchewan Ministry of Advanced Education's executive lead for international education and jurisdictional initiatives, will speak about the province's role in addressing the COVID-19 pandemic and SDGs, as well as the launch of Saskatchewan's new international education strategy.

With a focus on the global impact of citizenship education with links to the SDG goals, David Arnot, chief commissioner for the Saskatchewan Human Rights Commission and former Saskatchewan Treaty

Commissioner, will address what citizenship means for all peoples.

The conference will showcase cross-cutting global research projects undertaken by USask researchers, staff and students, and their partners in government, industry, NGOs, and non-profits. Session presenters have built collaborative projects with global partners to address the SDGs around the world in a diverse range of areas—from climate action, to health and well-being, to renewable energy and

water security.

"International research projects can help transform institutions and create a community of global citizens to promote social cohesion and inclusivity for peaceful, just and prosperous societies," said Ramaswamy.

As a special highlight, Saskatoon chef Dale MacKay, winner of the Top CHEF Canada in 2011, will present a cooking show, highlighting a simple and delicious recipe using locally sourced ingredients. ♥

For more information, visit: internationaloffice.usask.ca/paw



KAPLAN COLLECTION: A MUSICAL JOURNEY AROUND THE WORLD

 JAMES SHEWAGA

From being gifted an Inuit drum in the Arctic to stopping his boat deep in the jungle to hear—and later be given—a flute-type instrument from isolated Indigenous villagers along the Amazon River, Dr. David Kaplan (PhD) collected exotic instruments from all over the world.

That collection of more than 400 instruments amassed over more than 30 years is one of the hidden gems of the University of Saskatchewan (USask) campus, donated in 2013 by the late great USask music professor and Order of Canada recipient, who passed away in 2015.

“David Kaplan was an interesting character because he had so many different interests,” said Dr. Glen Gillis (PhD), a USask professor of music and one of Kaplan’s students during his undergraduate studies on campus. “He started collecting these instruments back in the ’70s when he was on sabbatical or when he was on vacation. He wanted to bridge cultures through music.”

Some of the highlight items in the Kaplan Collection are displayed in the Education Building outside of the entrance to the Quance Theatre, with the bulk of the collection stored in a room adjacent to the music professors’ offices. The collection features instruments representing global music traditions from North America, South America and the Caribbean, as well as Asia, Africa, Australia and Oceania.


“It is the only collection of its type in Saskatchewan,” said Gillis. “Some of the instruments are pretty common, but he has some gems from various places and probably one of

the most interesting instruments is the Inuit drum that was given to him as a gift. There are also some very interesting Indonesian instruments and Chinese instruments that culturally are very old, but the Inuit drum is one of the most unique items in the collection because those have to be bestowed within cultural traditions.”

In 2019, Gillis had the honour of performing a song that Kaplan wrote for him, in a tribute concert celebrating the life of the late professor, conductor and composer, who also served as the former head of the Department of Music during his 30 years at USask.

“I did my undergraduate degree here and David Kaplan was one of my most influential mentors, so that was very special personally for me,” said Gillis, who was serving as interim head of the department at the time of Kaplan’s passing.

In the future—post-pandemic—Gillis and his colleagues would like to display more of the Kaplan Collection for public viewing.

“It is special in lots of different ways,” he said. “It is a visual display of who he was and what his interests were. And I think we are still at the tip of the iceberg of the potential of what we can do with this collection.” 



The Kaplan Collection features more than 400 instruments from around the world, donated to USask by the late Dr. David Kaplan (PhD).