



**EPIC EARTH** 

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## SETTING THE STAGE

Preparations are underway for Spring Convocation at TCU Place from June 4-7. Close to 3,700 students will walk across the stage to accept their degrees, and we profile a couple of those exceptional, soon-to-be grads. We also highlight the recipients of our major convocation awards and honorary degrees in this issue.

GAME ON 3

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COMET CRISIS 5



### UNIVERSITY OF SASKATCHEWAN

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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

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## Western College of Veterinary Medicine accreditation achievement

#### MYRNA MACDONALD

After undergoing intensive review in 2017, the Western College of Veterinary Medicine (WCVM) has successfully maintained its accreditation with the American Veterinary Medical Association's (AVMA) Council on Education.

"Accreditation is the ideal opportunity to demonstrate everything that we do very well at the WCVM, and these results confirm what our outstanding outcomes are already demonstrating: we have a high calibre veterinary college that meets and exceeds international standards," said Dr. Douglas Freeman, dean of WCVM.

Accreditation with the AVMA council represents the highest standard of achievement for veterinary medical education globally. In mid-April, the council confirmed the WCVM's status of "accredited with minor deficiencies," referring to items that have minimal or no effect on student learning or safety and are



Freeman

typically resolved within one year.

Examples included having adequate signage in patient isolation areas and a clarification of admission requirements on the college's web site. Freeman said much of the work in resolving these minor issues has already been done or is close to completion.

"Our team works very hard to

" Accreditation is the ideal opportunity to demonstrate everything that we do very well at the WCVM, and these results confirm what our outstanding outcomes are already demonstrating.

— Douglas Freeman

maintain the high quality of our veterinary college's academic programs, facilities and clinical services, so it's gratifying to receive this international confirmation that our efforts are successful," said Freeman.

Statistics collected since the last accreditation site visit in 2010 show that the WCVM is succeeding in its mission to serve as a western Canadian centre of veterinary education, research and clinical expertise. Examples include the following: WCVM students have consistently scored in the top 22 percentile of all students globally taking the North American Veterinary Licensing Examination; 98 per cent of WCVM alumni who were surveyed two years after graduation felt prepared for their careers; and 85 per cent of employers respondents are either satisfied or very satisfied with their WCVM-educated employees.

The WCVM submitted a comprehensive self-study in August 2017. Two months later, a council-appointed team conducted a five-day site visit that included meetings

**SEE FINDING, PAGE 14** 

## IN CASE YOU MISSED IT

A lot happens at the U of S during the weeks when On Campus News isn't published. Here are a few of the top stories from news.usask.ca:

### Métis studies

The Gabriel Dumont Research Chair in Métis Studies and Gabriel Dumont Graduate Scholarships for Métis Students have been launched at the U of S as part of a new fiveyear partnership agreement between the university and Gabriel Dumont Institute of Native Studies and Applied Research. The new chair will increase research and teaching capacity in Métis studies, while the scholarship will create two annual awards of \$20,000 each.

### Invest in the west

Western Economic Diversification Canada investment of \$5.25 million in three U of S research centres—Vaccine and Infectious Disease Organization-International Vaccine Centre, the Canadian Light Source and the Global Institute for Water Security-will help protect Canadians against infectious disease, produce and deliver medical isotopes to hospitals using non-reactor nuclear technology, and help conserve water and energy by advancing green roof technology for cold climates.

### Out of this world

In what will be Saskatchewan's first student-designed satellite mission, a U of S-led space design team has been chosen by the Canadian Space Agency to design, build, launch and operate a small cube-shaped research satellite for launch in 2021. The U of S Space Design Team's Mars rover prototype (a space exploration vehicle) was also selected to compete in the finals of the prestig ous 2018 University Rover Challenge that takes place in Utah this Iune.

### **Inclusive campus**

The U of S converted 31 single-stall unisex washrooms on campus into inclusive washrooms that people of any gender or gender identity can use. With the conversions, and the new construction of the Collaborative Science Research Building, A-Wing and Merlis Belsher Place, there will be a total of 56 inclusive washrooms on campus by 2019. All new buildings on campus will include inclusive washrooms, and female and male washrooms.

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

## More than a game U of S computer scientist awarded Steacie Fellowship

**Regan Mandryk researches gaming technology** to improve physical and mental health.

MARTIN LIPMAN/NSERC

University of Saskatchewan computer science professor Regan Mandryk, whose ground-breaking research involves developing digital game technology to assess mental health, has been awarded one of Canada's highest honours for young scientists.

Mandryk is among six university researchers across Canada who received a E.W.R. Steacie Memorial Fellowship by the Natural Sciences and Engineering Research Council of Canada on May 1.

Mandryk will be awarded \$250,000 over two years to advance her research, enabling her to devote

time and energy entirely to the work. In addition, the fellowship will provide the U of S up to \$90,000 a year for a replacement to perform her teaching and administrative duties for the duration.

"Having two years to focus solely on my research is extraordinary," said Mandryk. "I get a lot of job satisfaction from training my graduate students to do excellent research, and the Steacie provides an exciting opportunity to concentrate on doing just that."

Working with industry partners such as gaming giant Electronic Arts, Mandryk has done pioneering work

in using elements of digital games to design interventions in both physical and mental health. For instance, she has designed digital "exergames" that incorporate physical activity. She also has developed a system that uses off-the-shelf commercial digital games to help children with Fetal Alcohol Spectrum Disorder improve focus and attention related to better behaviour and sleep.

Mandryk said for the past couple of years she has moved away from designing games for physical health to designing games for mental health because this area provides more opportunities for effective

intervention. Further, she is looking beyond designing games geared at treatment to performing digitally-based mental health assessments.

"There's potential for changing the lives of a lot more people by using game-based data to assess mental health issues such as anxiety and depression in an ongoing way," she said.

During the fellowship she will be working with many of her 15 graduate students on the project and has hired a third-year computer science student as an intern to support the research. As well, she has collaborators around the world who

will help in areas such as clinical psychology, game design and player assessment.

Her research involves two complementary approaches. The first is to develop and use games designed especially for mental health assessments. These games are designed in a way that players' choices or actions mirror basic cognitive processes or executive functions that involve mental control and self-regulation.

"In isolation, a task doesn't indicate much, but a lot of tasks placed together in a game can

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# **Spaghetti and 3-D printers** Mobile learning and makerspaces drive research

#### RRIS FOSTER

A small, clear acrylic cube whirs and hums on Marguerite Koole's desk in her office on the third floor of the Education Building.

The 3-D printer, worth about \$150, is adding thin lines of a bright green filament to what will eventually become an apparatus to organize cords for smartphones, computers, tablets and printers, and connect them to a power adaptor. This piece of green plastic is almost symbolic

of Koole's research that aims to connect technology with education in order to improve teaching and learning outcomes.

"Ultimately, what I am interested in is bringing together the study of teaching and learning with technology," said Koole, who joined the Department of Curriculum Studies at the College of Education as an assistant professor in 2014. "I look at how technology can complement and support teaching and learning."

Two areas of particular interest to Koole are mobile learning and makerspaces, both trendy topics that are backed by durable principles.

While pursuing her master's in distance education at Athabasca University, Koole became interested in mobile learning and began looking at how mobile devices, such as smart phones and tablets, could be viable teaching tools no matter the location of the learner.

"In the early years of mobile learning, there was little theoretical work and even fewer models of mobile learning," Koole said. "I realized there was possibility in these devices, which were a bit limited compared to the tools we have today." But as the flip phone became the smartphone, Koole began exploring the use of learning apps

This is my living lab, I watch people interact with technology and observe what might work in the classroom.

- Marguerite Koole

to support distance education, online learning and "learn where you live" curriculum.

"The next apps I want to start

building are for Cree language learning. The apps would address ways of knowing that are linguistically and culturally appro-

priate," she said.

A conceptually different, but equally diverse, learning tool that captured Koole's attention is the makerspace. In its simplest form, she explained, it is a place where people come together to create, invent, learn, and share ideas, problems and solutions.

"There are so many different kinds of makerspaces that it is tough to define," said Koole. "They cross so many boundaries. They can be physical or virtual. They can be high-tech and use 3-D printers, or low-end and use spaghetti for engineering projects."

Unlike mobile learning, which is a relatively recent phenomenon, makerspaces have been around for centuries—it is only the name that is new.

"People have been working in groups for centuries," said Koole. "We have been making and sharing things for hundreds of years. What's different is that modern makerspaces reflect the entanglement of human, material and digital assemblages."

Within those assemblages, Koole said makerspaces are a means

of increasing student engagement and creativity in K-12 classrooms.

To that end, Koole has been running a type of living lab for the past couple years in an unmarked room in the basement of the Education Building. In her very own makerspace, filled with a variety of materials and tools, Koole and her group of makers, comprised of educational librarians and technologists, students, and teachers, get together to build stuff.

"This is my living lab, I watch people interact with technology and observe what might work in the classroom. I look at what people are doing, how it applies to kids and how teachers could do that in schools," she said.

Koole said that learning in makerspaces is valuable because it helps "kids learn through realworld problem solving. It is space for active learning, it is creative and because of the way it can combine language, math, art and problem solving, it gives kids with a different way of understanding the world a way to shine."

Koole said that while technology is a great tool to aid problem solving, sharpen the thinking process and to better understand failure, she is aware that the technology of makerspaces can be a deterrent for some teachers. That's why she never "scares people with techy-talk" and focuses on the creative process rather than technology and materials. It is important to reduce the barriers to access.

"My goal is to get as many people interested in technology and realize it is not scary," she said. "We don't use technology for the sake of using technology, but rather to help learning."



Marguerite Koole, assistant professor of curriculum studies, in her makerspace in the College of Education. 🛛 🖗 KRIS FOSTER

## Tracking the threat of asteroids and comets

#### 🖉 JAMES SHEWAGA

In 1994, astronomers watched in awe as the comet Shoemaker-Levy 9 crashed into the planet Jupiter, creating massive fireballs exploding with the force of six million megatons of TNT equivalent to 600 times the world's nuclear arsenal.

What would have happened if it had hit Earth instead of Jupiter?

"It would be the biggest destruction that mankind has ever seen," said Mel Stauffer, University of Saskatchewan geological sciences professor emeritus. "It wouldn't matter where it hit, it would affect all mankind."

The subject of Hollywood movies, the reality of asteroid and comet strikes is more science, than science fiction. Most researchers believe the likelihood of a massive object colliding with Earth in our lifetime is small, but the planet has been hit before and will certainly be hit again. Stauffer has spent a lifetime collecting the evidence, searching for meteorites, shatter cones (rock violently fractured around the rim of impact craters) and tektites (pulverized rock liquified by the superheated temperature of an impact and blasted into the atmosphere before raining down to the surface).

Stauffer said on average the Earth gets hits by a one-metre-wide asteroid about once a year, although, most burn up in the atmosphere or crash into remote regions or our vast oceans. Two of the most alarming recent events occurred in the Siberian region of Russia, including the 2013 asteroid air burst near Chelyabinsk that was reported in the journal *Nature* to be a house-sized object 20 metres in diameter, releasing the energy equivalent of 440,000 tonnes of TNT.

"It went just past a couple of villages, including Chelyabinsk, and because it was breaking the sound barrier and exploding into pieces, the shock wave broke windows that blew up in people's faces, so about 1,500 people were hospitalized from cuts," said Stauffer. "It was the second largest event that we have been able to accurately measure."

In 1908, what is believed to

have been an asteroid exploded over a sparsely populated area of Siberia, flattening 80 million trees over 2,000 square kilometres of forest in what is called the Tunguska event. More than 1,000 research papers have been filed on that blast, with supercomputer simulations projecting the object to have been 60 to 190 metres wide and to have exploded with a force of up to 15 megatons of TNT (1,000 times more powerful than the atomic bomb dropped on Hiroshima in 1945).

Chelyabinsk and Tunguska are the most recent examples of what can happen when an asteroid or comet enters a collision course with the planet. The Earth Impact Database documents 168 asteroid craters of at least one kilometre in diameter, a list that includes the 130km



dinosaurs.

Stauffer with a tektite.

Sudbury impact—the third largest in the world—1.8 billion years ago, and the 150km Chicxulub crater in Mexico's Yucatan Peninsula created 65 million years ago that has been linked to the extinction of the

📸 JAMES SHEWAGA

The database includes six impact craters in Saskatchewan two kilometres or larger—Viewfield,

SEE DOCUMENTING, PAGE 15



In 2012, Brian Pratt, pictured right, helped discover the impact crater located on the northwestern part of Victoria Island in the Arctic. It is about 25 km wide and is Canada's 30th known meteorite impact feature.

**SUBMITTED** 

# **Earthquakes and eruptions** Studying the risk of natural disasters in Canada

JAMES SHEWAGA

Researchers can't predict when the next cataclysmic natural disaster is going to occur, but Adam Bourassa can give you a good idea of how it could affect us.

The University of Saskatchewan professor of physics and engineering physics is a member of the university's Institute of Space and Atmospheric Studies and has been studying the effects on earth's atmosphere and climate, from volcanic eruptions halfway around the world to wildfires in Western Canada. A U of S-led project-the Optical Spectrograph and InfraRed Imaging System (OSIRIS)-originally designed to operate for two years aboard a Swedish satellite, is still functioning almost perfectly 17 years later and downloading data daily.

"It is quite amazing," said Bourassa. "Because it has lasted so long and the data quality is so high, it has become really important for climate research."

Bourassa's findings, published in 2015 in the journal *Science*, confirmed that even small eruptions can launch aerosols—fine particles and volcanic gasses—more than 10 kilometres up into the stratosphere where they can linger for years, shielding sunlight and cooling temperatures world-wide.

"With OSIRIS we have seen about 10 volcanic eruptions reach the stratosphere and the climate impact of those smaller eruptions has been relatively small, but they can't be ignored if we want to truly understand what is happening with global warming and climate change," said Bourassa. "It also gives us an idea of what could happen in the event of a much more serious eruption like Mount Pinatubo."

The 1991 Pinatubo eruption in the Philippines was the largest in our lifetime, killing nearly a thousand people, destroying or damaging 80,000 homes, devastating crops, dramatically affecting air quality and delivering a billiondollar blow to the country's economy. The eruption injected 17 million tons of sulfuric acid into the atmosphere—the largest amount ever recorded—depleting the ozone layer and causing global temperatures to drop an average of half a degree Celsius for more than a year.

"We are always on the watch for another Mount Pinatubo-sized eruption and we never really know when it is coming, but there is usually one of that size every few decades," said Bourassa. "Those big eruptions, like Pinatubo in 1991 and two in the 1800s, Krakatoa (1883) and Tambora (1815), were associated with cooling of the climate, which can affect crop production. The period after the Tambora eruption was called 'a year without summer' as wine production in France failed and crops were affected world-wide."

More recently, the 2010 Eyjafjallajökull volcanic eruption in Iceland created an ash plume that carried into the jet stream (nine to 16 km above sea level), resulting in a week-long shutdown of all air travel in Europe and more than 100,000 flights cancelled. Closer to home, U of S researchers are now studying data from the 2017 wildfires in British Columbia.



Physics professor Adam Bourassa

"The big forest fires in B.C. in August last year were so intense and strong enough that the smoke actually reached the stratosphere and lasted until January," said Bourassa. "And that was unprecedented. We had never seen that before."

The B.C. coast is also an active earthquake region with a string of 18 largely dormant—but not extinct—volcanoes, which could cause a catastrophic event. While the last volcanic eruption in Canada occurred 150 years ago at Lava Fork in northern B.C., Mount St. Helens in the state of Washington just south of the border erupted in 1980 with 1.5 million tons of sulfuric acid billowing into the atmosphere and volcanic ash falling across Western Canada, reaching as far as Saskatchewan.

"Mount St. Helens is obviously

**SUBMITTED** 

the one that went off most recently, but there is a series of volcanoes down the West Coast and I don't believe any of them are entirely dead," said professor Samuel Butler, the head of the Department of Geological Studies at the U of S. "Mount Hood (Oregon), Mount Shasta (California), even Mount Garibaldi in British Columbia could potentially go off at any time."

A 10-hour drive south of Saskatoon, Yellowstone National Park in Wyoming is home to a massive underground supervolcano that lets off steam—literally through active geysers, hot springs and bubbling mud ponds. Its eruption would be 2,000 times stronger than Mount St. Helens, killing millions and causing worldwide famine from an ash cloud that would circle the globe. However, Yellowstone last erupted an estimated 600,000 years ago and there aren't signs of any imminent eruption, according to Butler.

Of more immediate concern to Canada is the catastrophic damage that would be caused by a major West Coast plate tectonics earthquake and the resulting ocean tsunami-like the one that led to the Japanese Fukushima nuclear reactor disaster in 2011. Butler explained that the Juan de Fuca plate from Vancouver Island down to California is slowly slipping underneath the North American plate, creating the potential for massive earthquakes. Experts agree it's not a case of if, but when, the next massive West Coast earth-



JAMES SHEWAGA Samuel Butler, head of the Department of Geological Sciences.

quake will occur. earthquake, probably a magnitude timescale of hundreds of years,"

nine (on the Richter Scale), "We know that a very large happened in the 1700s, so it's a said Butler, whose department covers earthquake seismology and volcanic eruptions in undergraduate courses GEOL 108, 121, 282, and 406. "The next one could happen this afternoon, or it might not happen for another 300 years."

According to Natural Resources Canada and the Geological Survey of Canada, there is a 30 per cent chance that B.C. will suffer a major earthquake in the next 50 years. A 9.0 quake would prove devastating along the coast, causing numerous fatalities and infrastructure damage, and affecting the economy of the entire country. Better construction standards adopted in the past few decades have helped prepare structures for the next big quake, but scientists are still searching for ways to provide earlier warnings of impending earthquakes and volcanic eruptions.

"Certainly in the seismic realm, the Holy Grail would be the ability to accurately predict earthquakes, and researchers have put quite a lot of effort into it and not had a lot of success," said Butler. "With volcanoes, by monitoring increasing seismic activity, experts are a little bit better at saying yes, there is going to be an eruption in the next day or two. Whereas with earthquakes, we just can't say that. We know where dangerous earthquakes are likely to happen, but we can't say when. So, that's the challenge for researchers." ■

## SASKATCHEWAN'S SEISMIC HISTORY

#### JAMES SHEWAGA

You won't find many places in North America safer than Saskatchewan when it comes to seismic activity, considering it has been more than a century since the last significant earthquake in the province.

The question is, when will the next one strike?

"Unfortunately, we really don't know," said Don Gendzwill, U of S geological sciences professor emeritus and an expert on Saskatchewan's seismic history. "It is over a hundred years since we had the last significant one, so there is no reliable timescale that you can apply. In active seismic areas, seismologists can count the number of earthquakes and count their size and frequency. But with only one significant earthquake recorded in Saskatchewan, it's impossible to get any meaningful statistics and make any meaningful predictions."

The biggest earthquake in the province in more than a century struck May 14, 1909, along underground fault lines near Saskatchewan's international border with Montana and North Dakota, according to the Canadian Geological Survey. The quake was estimated at 5.5 on the Richter scale, strong enough to be recorded in Ottawa by Canada's only seismograph at that time. While it didn't create a lot of damage, the guake did cause windows to crack in Weyburn, a wall in the town electrical plant to collapse in Wolseley, and chandeliers to sway in Estevan.

"The 1909 earthquake was widely felt in Saskatchewan and even into Manitoba," said Gendzwill. "Reports at the time noted that people in Regina, who were shopping late back then until

10 o'clock at night, noticed that goods on the shelves were moving around and no one could understand what was happening. It was also felt in Saskatoon, but not to the degree as in Regina. My favourite story was the railroad engineer who was driving a train from Winnipeg to Regina and suddenly stopped the train to try to figure out what was wrong with it because it was shaking so badly."

That quake was centred in a remote rural area, back when Saskatchewan had only 300,000 people and little urban development. A quake of that magnitude today could be significantly more serious if it occurred near a city.

"If it happens to hit under a populated area, then yes, there could be considerably more damage and injuries now than there was back in 1909," said Gendzwill, who previously helped oversee the U of S Seismograph Network that was established in 1965. "But if it hits in a field somewhere with nobody living within 20 miles, there might not be much damage."

The biggest earthquake to strike the province since 1909 was a magnitude 3.9 on Aug. 17, 1982 near the town of Big Beaver, rattling windows and causing cracks in walls in houses. Most recently, a 3.8 tremor occurred near Esterhazy on Sept. 5, 2016, although it's unclear whether it was a natural event or related to nearby mining activity, since the area features underground salt formations that can dissolve and collapse from groundwater flows. While there was no damage or injuries, that guake resulted in a two-hour power outage that kept miners underground before power was restored.



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## 2018 Spring Convocation

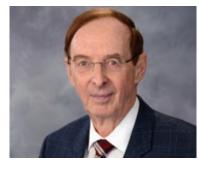


Close to 3,700 students are expected to cross the stage at TCU Place to receive their degrees at Spring Convocation from June 4-7. Additionally, eight individuals who have made a worthy and unique contribution to their community will receive honorary degrees during the convocation ceremonies.

Through conferring honorary degrees, the highest honour the U of S can bestow on an individual, the university recognizes individuals who have achieved outstanding accomplishments in research, scholarly and artistic works; performed exceptional public service; contributed greatly through their professional or philanthropic activity; and demonstrated great athletic prowess.

"The excellence these individuals represent in a variety of fields and disciplines is a reflection of the spirit and values that are foundational at our university," said Peter Stoicheff, U of S president and vice-chancellor. "From one of Canada's greatest hockey coaches, to one of the world's most influential voices, to outstanding community leaders and builders, we are extremely proud to honour this remarkable group at our Spring Convocation ceremonies."

During convocation, the university also hands out the Master Teacher Award, the Distinguished Researcher Award, the New Researcher Award and the University Staff Excellence Award. Here are this year's honorary degree and award recipients.



MERLIS BELSHER Doctor of Laws

An accomplished accountant, lawyer, entrepreneur and philanthropist, Merlis Belsher is committed to building communities. The U of S graduate's leadership was instrumental in the development of the new Merlis Belsher Place multisport complex. Over his career he has received numerous awards including a U of S Alumni Achievement Award, the Queen Elizabeth II Diamond Jubilee Medal, Senior Life Membership from the Law Society of Saskatchewan, the Fellow Chartered Professional Accountant designation, and was named the 2018 recipient of the Sabex Hall of Fame Award by the Greater Saskatoon Chamber of Commerce.



DAVID CARPENTER Doctor of Letters

A renowned author, David Carpenter has written five novels, three collections of short stories, four books of non-fiction and a book of poems. He is the editor of the three-volume Literary History of Saskatchewan. As well, he joined forces with a Cree trapper from Northern Saskatchewan to publish The Education of Augie Merasty. He has received the Saskatchewan Centennial Medal, the Kloppenburg Award for Literary Excellence, the Library Association's One Book, One Province Award, the City of Edmonton Book Award, the SBA's Book of the Year Award, and the CODE Book Award for humanitarian writing.



LEONARD EDWARDS Doctor of Laws

A U of S graduate, Leonard Edwards joined the Federal Public Service in the fall of 1969 as a foreign service officer. Over the next 32 years, he spent time serving Canada abroad, including posts as Canada's ambassador to the Republic of Korea and to Japan. The College of Arts and Science honoured Edwards as a 2013 Alumni of Influence. He is a recipient of the Meritorious Service Medal of Canada for his work on the 2010 summits, and was awarded Japan's Order of the Rising Sun, Gold and Silver Star for his contributions to Canada-Japan relations. Edwards is also a distinguished fellow with the Centre for International Governance Innovation.



AGNES HERZBERG Doctor of Laws

A noted Canadian statistician and U of S grad, Agnes Herzberg researches the statistical design of experiments including contributions to the design of clinical trials in medicine. Most recently, she co-authored a paper examining the noteworthy properties of Sudoku puzzles, including its potential for data compression. Herzberg has a long history with the Statistical Society of Canada (SSC), serving on many committees and as president of the society from 1991-92. In 1999, she received the SSC Distinguished Service Award in recognition of her service to the society and to the development of statistical sciences in Canada.



DAVE KING Doctor of Laws

A legendary coach in Canadian hockey circles, Dave King, a U of S graduate, has compiled a remarkable track record of success that spans five decades in the game nationally and internationally. After guiding the Huskies to their first Canadian university hockey championship title in 1983, King went on to coach Canadian national teams in two world junior hockey championships, four Winter Olympics and five world championships. He also spent 10 years coaching in the National Hockey League, including serving as head coach of the Calgary Flames from 1992-95 and the Columbus Blue Jackets from 2000-2003.



JONI MITCHELL Doctor of Letters

A generational talent, hailed by Rolling Stone magazine as "one of the greatest songwriters ever", Joni Mitchell's musical influence is still widely heard today. Mitchell's success took her to cities around the world, but she still considers Saskatoon-where she grew up and learned to play piano and guitar-her hometown. For a career spanning more than five decades, Mitchell has received the Governor General's Performing Arts Award for Lifetime Artistic Achievement, received a star on Canada's Walk of Fame, was appointed a Companion of the Order of Canada, and was presented with Billboard's Century Award.



ROSS PETTY Doctor of Science

Ross Petty, a U of S graduate, developed a comprehensive clinical, training and research program in pediatric rheumatology at the University of British Columbia. He is author of more than 250 papers and chapters. Petty, a Fellow of the American Academy of Pediatrics and the Royal College of Physicians and Surgeons of Canada, received the Ross Award from the Canadian Pediatric Society for Distinguished Service to Children, the Distinguished Rheumatologist Award of the Canadian Rheumatology Association, the American College of Rheumatology, membership in the Order of Canada, and the Queen Elizabeth Diamond Jubilee Medal.



JOSEPH QUEWEZANCE Doctor of Laws

Joseph Quewezance has dedicated his career to improving the quality of life of First Nations communities in Saskatchewan by influencing public policy on all levels of government. During his three terms as Tribal Chief at Saskatoon Tribal Council, he laid the foundation for many community partnerships with business, government and industry. Quewezance, former Chief of Yellow Quill, co-founded the Saskatoon Tribal Council in 1982. Back then, Saskatoon Tribal Council was a two-person operation that has now expanded to offer programs and services to more than 28,000 people in Saskatoon, and 11,000 members on seven First Nations.

#### UNIVERSITY AWARD WINNERS



DALE CLAUDE **University Staff Excellence Award** 

For close to 40 years, Dale Claude has improved the student experience in the College of Engineering as a lab co-ordinator in the Department of Chemical and Biological Engineering. He is an insightful and inspiring colleague who approaches his work with dedication, open-mindedness and inclusivity and has transformed the college's undergraduate teaching lab from a dimly-lit room in the basement into one of the best in Canada. In addition to providing a world-class lab experience, Claude also mentors countless students who step into the lab, providing them with the necessary tools to tackle real-world issues.



**CARL GUTWIN Distinguished Researcher Award** 

A professor in the Department of Computer Science and the co-director of the U of S Human-Computer Interaction Lab, Carl Gutwin is the world's foremost expert on group awareness. His research on human-computer interaction has had profound impacts on the design and development of collaborative software. A former Canada Research Chair in Next-Generation Groupware, Gutwin's pioneering research is now used in platforms such as Google Docs and Microsoft Office. A dedicated teacher and mentor, Gutwin has supervised more than 85 trainees, many of whom have gone on to become leaders in both academia and industry.



**JOSEPH GARCEA Master Teacher Award** 

Joe Garcea is a dedicated, innovative and passionate teacher-scholar with a strong commitment to public outreach, linking the university to the wider community. A professor in the Department of Political Studies in the College of Arts and Science, Garcea has filled many prominent roles in Saskatchewan, including serving on provincial task forces and regularly appearing as a media commentator on political issues. Garcea's contributions in areas of political studies, regional and urban planning, international studies, public administration, and the Aboriginal Public Administration and Global Studies programs have advanced the university's indigenization, internationalization and interdisciplinary goals.



**TIMOTHY JARDINE New Researcher Award** 

An associate professor in the School of Environment and Sustainability, Timothy Jardine has distinguished himself as an international leader in the field of applied aquatic ecology through a unique blend of disciplinary, interdisciplinary and transdisciplinary research. Jardine, who is affiliated with the Toxicology Centre and the Global Institute for Water Security, studies the biology of streams, rivers, and wetlands from the tropics to the Arctic. Jardine's work has made vital and groundbreaking contributions to water research and to communities that live near water sources, and has established fruitful international collaborations in Brazil, Singapore and Australia.

#### **PROVOST'S COLLEGE AWARDS FOR OUTSTANDING TEACHING**



LEAH FERGUSON **COLLEGE OF** KINESIOLOGY



**ED KROL COLLEGE OF** PHARMACY AND NUTRITION



**EDWARDS** SCHOOL OF **COLLEGE OF LAW** BUSINESS



AMANDA

NATACHA DOUCETTE HOGAN **COLLEGE OF** AGRICULTURE AND

BIORESOURCES



JIM BUGG **COLLEGE OF** ENGINEERING



ROHATINSKY **COLLEGE OF** NURSING







ALLISON MURI **COLLEGE OF ARTS** AND SCIENCE

**ART DAVIS COLLEGE OF ARTS** AND SCIENCE

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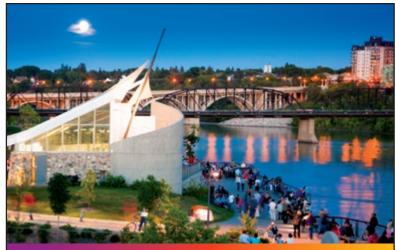
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NUNAVUT JD PROGRAM MARTIN PHILLIPSON, DOUG SURTEES, HEATHER HEAVIN, TRACEY WRAY, BONNIE HUGHES, STEPHEN MANSELL, BEN RALSTON, WENDY PARKES, AAJU PETER, SERENA ABLESON **COLLEGE OF LAW** 





INDIGENOUS STUDENT ACHIEVEMENT PROGRAM TEAM KRISTINA BIDWELL, NUMEROUS COMMUNITY PARTNERS, AND ABORIGINAL STUDENT ACHIEVEMENT PROGRAM TEAM FROM ACROSS CAMPUS **COLLEGE OF ARTS AND SCIENCE** 



## WIN, WIN, WIN. When local hosts hold events in Saskatoon, everyone wins.

#### This year, meet up at HOME. Showcase your city with the Tourism Saskatoon Ambassador Program.

Be a host to the best in your industry and show the world what makes Saskatoon a spectacular destination for conferences and trade shows big and small. With the Ambassador Program, Tourism Saskatoon makes it easy to host your industry's event.

## **BECOME A LOCAL AMBASSADOR**

#### WHAT What is a Local Ambassador?

An ambassador is a promoter of Saskatoon, someone who is enthusiastic about bidding for and hosting a conference in our city.

#### Why become a Local Ambassador? γHW

- · Showcase regional advancements, achievements and expertise to the world.
- Raise your profile locally, nationally and internationally.
- Gain recognition for your efforts by the local community, organisations and government.
- Attract leaders and create public awareness for your field of expertise.
- Assist in creating jobs in the region through direct and indirect services.

#### How Tourism Saskatoon supports Local Ambassadors: (FREE OF CHARGE) **Bid Assistance**

MOH

- · Assist in preparing a comprehensive bid document including letters of support.
- · Provide incentives to qualified events.

#### Convention Plannina

- · Contact hotels and venues regarding price and availability.
- Provide funding for administration support if required.
- Fund and coordinate site visits for key decision makers.
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- · Provide promotional materials and support towards the marketing of your conference.
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When local hosts hold events in Saskatoon, everyone wins!



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# From convocation to dream vacation

English major earns prestigious Hannon Travel Scholarship

#### 

From the works of Chaucer and Shakespeare to the epic poem Beowulf, Emily Mooney has spent the past four years studying classic English literature that paints a picturesque tapestry of life in the Middle Ages and the Renaissance.

Now she is heading overseas to explore the culture and countryside, the history and mystery, of the British Isles.

The day after walking across the stage at TCU Place on June 5 to be awarded her Bachelor of Arts Honours degree at University of Saskatchewan Spring Convocation, Mooney will celebrate by boarding a flight to London to begin a threeweek tour of England and Ireland, after earning the prestigious U of S Hannon Travel Scholarship.

"I am really looking forward to it," said Mooney, who earned the \$7,000 scholarship based on her academics (85.87 per cent average overall), her character, her involvement in university/community activities and her detailed travel proposal. "My application focused on English and classic literature, medieval courses, all the things that I have been studying. So, I am excited to go to Stratford-upon-Avon to see Romeo and Juliet at the Royal Shakespeare Theatre, and I am also going to see the Book of Kells, which is a (thousand-year-old) manuscript that I am excited to see in Ireland."

Mooney's travels will also allow her to trace the roots of her family tree back to the Irish county of Monaghan, as well as a part of the history of the Saskatchewan town of Southey where she grew up.

"I am quite interested in genealogy and my aunt has sent me all sorts of things that I need to go



Emily Mooney with one of the Murray Library's classic old volumes of the works of Geoffrey Chaucer.

find in Monaghan where a lot of my ancestors are from, so that will be great," said Mooney. "And even just being from the town of Southey, it is named after the English poet Robert Southey, so hopefully I can learn a little bit more about him while I am in England."

The Hannon scholarship is one of a number of financial awards that Mooney has earned over her four years at the U of S, including the Roscoe Miller Scholarship for highest academic average in Honours English. She said the financial support allowed her to take full-time studies without needing to work part-time, while also having the time to do volunteer work with the likes of Global Gathering Place and take part in campus activities such as singing and dancing in the Newman Sounds Glee Club.

"I could really focus on my schoolwork and get involved in a lot of extracurricular activities, and I think volunteering is really important, too," said Mooney, who is now looking for a writing position in the field of communications following graduation. "It was great to really become a part of the university and to get involved in the city of Saskatoon, too. I have really enjoyed that aspect of attending the U of S."

And as a third-generation U of S student, coming to Saskatoon for university was an easy decision.

"My mom and dad and all four of my grandparents went here, plus my older sister was here, too, so I think it was all definitely a big part of my reason for coming here," said Mooney, who quickly became a fan of the Huskies women's basketball team, which her sister Alyssa (a 2016 kinesiology graduate) worked with as a student trainer.

"I grew up outside of Regina, so most of the people that I went to high school with went to the U of R. But when I was growing up, I kind of always wanted to go to the U of S because when my parents talked about university, they talked about the U of S. So, there was never really a doubt in my mind that I would come here. And I just think it is a great university. And it's been great for me."

I just like to help during someone's moment of crisis, to make them feel that there are people there that care for them and are working hard to make them better.

— Tyler Lindsay

College of Nursing student Tyler Lindsay sits in the sunny E-Wing atrium of the Health Sciences Building.

## **Swapping homework for hospitals** Change of plans leads Lindsay to U of S nursing degree

JAMES SHEWAGA

#### On second thought, Tyler Lindsay has chosen to make a difference in the emergency room, rather than in the classroom.

Six years after earning his education degree at the University of Saskatchewan, the 27-year-old Saskatoon student will walk across the stage again at TCU Place on June 7 to be awarded his Bachelor of Science in Nursing at U of S Spring Convocation. For Lindsay, it will mark the culmination of a six-year journey of self-discovery, from budding teacher to primary care paramedic to registered nurse, after graduating with a sparkling 85 per cent academic average.

"When I did my first degree, nursing was never even on my list, but the more that I got involved in health care and the more that I watched nurses work in emergency and critical care settings, it definitely drew me towards the profession," said Lindsay, who hopes to write his national licensure exam shortly after convocation to complete the final step in becoming a registered nurse. "I didn't really think I would ever graduate again, but here I am. So, I'm excited about it."

Lindsay first started thinking about going from teacher to student again while interning at a school in the Saskatchewan town of Kamsack. As he managed the swimming pool there part-time, he connected with a local ambulance company and began working nights and weekends with them after taking an emergency medical responder course. The experience was life-changing for Lindsay, who quickly decided to make the switch from education to health care, upgrading his skills to work full-time as a paramedic.

"I just like to help during someone's moment of crisis, to make them feel that there are people there that care for them and are working hard to make them better. That is kind of what drives me," he said. "You definitely see a lot of trauma (as a paramedic), especially in tragic accidents. But I think some of the best situations that I have been a part of are those moments where you are able to help someone, to ease suffering, to make a positive impact on their health-care experience. You know that you have done something that has made a difference."

Lindsay has spent the last five years serving as a paramedic in Saskatoon, the past two years working part-time while taking full-time nursing studies as he powered through six straight semesters without a break to complete the Post-Degree Bachelor of Science in Nursing program.

"Being able to complete the degree in two years was the reason why I chose this program," said Lindsay, whose girlfriend Sarah is also graduating from nursing this spring. "I went right through, six semesters, no breaks, while working part-time as a primary care paramedic, so it was very busy. There are definitely some sacrifices that have to be made and it requires a lot of time management. But I'm glad that I choose this option."

While nursing has one of the lowest male enrolment rates (22 per cent) on campus, Lindsay said he felt right at home from day one.

"I think male enrolment is increasing and I really enjoyed my time in the college," said Lindsay. "It wasn't a difficult decision at all to pursue it, but definitely, the welcoming atmosphere from the instructors and professors when they express how excited they are to see male students in the lecture hall, it's reassuring that you made the right decision."

🗊 JAMES SHEWAGA

Lindsay said the excellent hands-on training that nursing students receive at the U of S sets the program apart.

"I have really enjoyed our clinical experiences and I think that is a highlight of the program, having a diversity of placements and instructors from different backgrounds to share their expertise," said Lindsay, who hopes to work in the emergency ward or the intensive care unit at one of Saskatoon's hospitals. "I think it has really prepared me for my career and I am looking forward to getting started."



# POWWOW

## **Assessing learning disabilities**

RRIS FOSTER



### 9:30 AM – 4:30 PM MAY 30, 2018, IN THE BOWL EVERYONE WELCOME!

#### **CELEBRATE INDIGENOUS GRADUATES**

9:30 am Grand entry and honouring of high schoo graduates12 pm Honouring of U of S graduates

#### **GET INVOLVED**

#### 200 volunteers needed

Everyone is invited to volunteer! Various duties and shift lengths are available in the morning and afternoon.

#### **Indigenous Graduates**

If you are a Métis, First Nations or Inuit U of S student graduating this year, you can still sign up to participate in the Graduation Powwow.

sign up at **usask.ca/powwow** 







Tim Claypool, associate professor in the Department of Educational Psychology and Special Education in the College of Education.

Conservative estimates put the number of Canadians with a learning disability between three and five percent, with the ripple effect being felt in the classroom with lower high school completion rates.

Learning disabilities are "invisible" but have the potential to significantly impact an individual's ability to gain from instruction, said Tim Claypool, associate professor in the Department of Educational Psychology and Special Education in the College of Education.

Key to addressing this mounting issue is accurate assessment, intervention and accommodation. To that end, Claypool and a few of his colleagues launched Counselling Assessment Intervention and Research Services (CAIRS) in 2015.

"We saw a gap in the need for assessment services in Saskatoon, and in remote areas of Saskatchewan where the need is exponential," said Claypool who serves as director of CAIRS. "The other gap was in providing our graduate students psycho-educational assessments and intervention training."

CAIRS, Claypool continued,

"is an opportunity for the public to access psycho-educational assessments service in cases where they might not be available to them for a variety of reasons from financial to the number of psychologists available. We fill a gap by linking those who need assessment with qualified professionals."

Now in its third year, CAIRS has provided more than 300 assessments throughout the province and has been able to provide the requisite training to students in the master's program in School and Counselling Psychology.

"We assess a range of disabilities, it could be a challenge with learning, a learning disability, an attention disorder, anxiety, intellectual challenges or behavioral disorders," said Claypool, who is a registered doctoral psychologist. "The hallmark (of this) is someone with average or above average intelligence who struggles in an academic setting."

Through those assessments, done under the supervision of a registered psychologist and a provisional psychologist, two students per terms are able to fulfil a

350-hour practicum to complete his or her degree requirements.

Claypool noted that all assessments, which take about five to seven hours each, are guided by the standards set out by the Saskatchewan College of Psychologists and meet rigorous principles of the province.

CAIRS also works closely with Access and Equity Services, formerly Disability Services for Students, at the U of S to ensure any intervention recommendations are guided by Saskatchewan's Human Rights legislation and that accommodations are appropriate.

"There is a great demand for psychologists in the province," Claypool said. "The training our students receive through CAIRS is really valuable in addressing this provincial shortage. Anyone in this area of practice is in very high demand and fortunate when it comes to career options."

While assessment services are currently only offered on the Saskatoon campus, they are available to anyone who submits an application and goes through the screening process. Claypool said he would like to see CAIRS become mobile in the coming years.

"A mobile clinic in remote communities would be great," he said. "We have partnered with First Nation communities to bring their students from North Battleford to our campus clinic in the past and would like to do that in La Loche and Buffalo Narrows as well."

Claypool said CAIRS has been a great success, not only in training students and providing much needed assessment services, but also in showing the value of the college to the broader community.

"As an assessment centre, CAIRS has increased the profile of the College of Education within the greater Saskatoon community as its members come to know CAIRS as a client-centred, cost-effective and efficient agency for assessment," he said. ■

## **Bridging the gap** Language program helps students improve English skills

EMILY MOONEY

International students studying at a post-secondary institution often face additional challenges when taking university classes, especially if English is not their first language.

The U of S began addressing this challenge in 2012 with U-Bridge, a program in which students take one university course for credit per term with support from a language instructor while working towards meeting U of S language proficiency requirements.

"We've been running this program for five years and we've never had a student fail their academic class during that time," said Lisa Krol, U-Bridge co-ordinator and instructor. "Students who complete U-Bridge have a higher retention rate than international students who haven't taken the class."

U-Bridge, offered through the U of S Language Centre, provides resources that enable these students to succeed academically. Krol explained that U-Bridge is crucial to the success of international students.

"It literally bridges them to the culture of Western higher education," said Krol. "The education style here is very different than in countries like China. U-Bridge gives the students time to adjust and change their learning strategies and approach, and I help them to do that."

Krol's students in the second level of U-Bridge attend an English

as a Second Language (ESL) class five days a week and also attend a regular section of Sociology 112. After their sociology class, the students participate in a follow-up session with Krol on the lecture, followed by more language lessons that focus on listening, speaking, reading and writing skills.

A typical follow-up session involves breaking down parts of the lecture in which the professor used words that the international students may be unfamiliar with or topics specific to Canadian culture were covered, said Krol. Since the ESL instructor attends the academic class with the students, she can address key points and ensure comprehension during this session.

Students have the opportunity to get help with understanding the textbook, and support with improving their grades. They are also able to develop skills such as note-taking, evaluating the credibility of online sources, and writing research papers during these language classes.

"Before this program, we used to get feedback from the departments that many international students were struggling, failing, and getting in trouble with plagiarism," said Krol. "Now we see students better prepared, less likely to get into what I call academic distress, and they are much less likely to get in trouble with plagiarism because now they know how to research and cite."

Krol believes that her presence

in the sociology class is beneficial not just for the students, but also for university instructors.

Students who

complete U-Bridge have a higher retention rate than

international students who

Lisa Krol, U-Bridge co-ordinator and instructor.

haven't taken the class.

"There are fewer problems for professors because students are better able to handle the academic requirements," said Krol. "The pressure on the professors goes down. If a student is struggling with something, I can teach to that directly. It's usually not difficulties with understanding the content, but with understanding the language." "It's a good chance to get to know how university works," said Yisi Feng, a student in the second level of U-Bridge. "Before you go to university, there's lots of pressure and questions. This is a good way to take a chance with U-Bridge and see how it works, with a teacher to help you."

— Lisa Krol

Due to the success of U-Bridge, Krol said they are trying to spread word on campus "because we want to help any international students who struggle with language in their MOONEY

classes. We know there are students out there who aren't accessing resources. We want academic advisors and professors to let students know that they have this support before they give up."

For more information about U-Bridge, visit uslcstudent.usask. ca/U-Bridge.php. ■

Emily Mooney is a student intern with the Office of the Vice-Provost Teaching, Learning and Student Experience.



ORGANIZED BY UNIVERSITY OF SASKATCHEWAN & ONE HEALTH PLATFORM





#### CONFERENCES

### Saskatchewan Cancer Research conference

June 13, Health Sciences Building. The Conference will capture some of the exciting ongoing cancer research that is done exclusively in Saskatchewan and directly aims to bring all basic scientists and clinicians within the province to one place in a single event. This annual conference serves as a valuable networking and learning event for students, physicians and scientists that are driven towards one goal—finding breakthrough therapeutics. Registration is free and lunch is provided. For more information, visit usask. ca/~franco.vizeacoumar/scrc.html.

### Protein structure, function and malfunction

June 14–15, U of S campus. Many labs in Western Canada conduct research on protein function and structure. The aim of this two-day meeting is to provide a forum for up-and-coming researchers involved in the study of proteins and protein structure and function, be they graduate students, post-doctoral fellows or faculty, to present recent results, engage in discussions about their research, and meet their peers. Registration is free and Wednesday evening reception and light breakfasts and lunches are included. For more information and to register visit cmcf.lightsource.ca/psfam.

#### Canadian Writing Centres Association Conference

May 24-25, this conference is an opportunity to exchange knowledge, share challenges, and ask questions about the ways our teaching and tutoring can and should engage in anti-oppressive educational practices. Opening keynote speaker is Sheelah McLean, an organizer with the Idle No More network, an educator, scholar and community organizer, whose work has focused on research and projects that address inequality. Gregory Younging, a member of the Opaskwayak Cree Nation in northern Manitoba, former assistant director of research to the Truth and Reconciliation Commission of Canada, will give a talk on May 24 at 7:15 pm. Closing plenary speaker is Jack Saddleback, a Cree two-spirit transgender gav man from the Samson Cree Nation and former USSU president,. For more information, visit cwcaaccr.com/2018-cwca-accr-conference/

#### COURSES/WORKSHOPS

#### Edwards School of Business, Executive Education

Call 306-966-8686, email execed@edwards. usask.ca or visit edwards.usask.ca/exceed. Registration is open to the public and all university employees for upcoming programs:

- May 14–16, The Project Management Course – Saskatoon
- May 23–25, Digital & Social Media Program: Metrics, Measurement & Analytics – Saskatoon
- May 25–June 1, Effective Executive Leadership Program – Waskesiu Lake
- June 5-6: Innovation Acceleration Process
  Saskatoon

#### The Working Mind: Workplace Mental Health and Wellness

This education-based program is designed to address and promote mental health and change behaviours and attitudes towards people living with mental illness, helping to ensure people are treated fairly and as full citizens with opportunities to contribute to society like anyone else. Launched by Mental Health Commission of Canada in 2013, The Working Mind was developed by clinicians and peers and based on scientific research and best-practices.

- May 16, 8:30 am–4:30 pm, Admin C280, session for people leaders. Register at working-mind-people-leaders.eventbrite.ca
   May 23, 1:30–4:30 pm, Admin C280,
- session for faculty and staff. Register at usask-the-working-mind.eventbrite.ca

#### MISCELLANY

#### An Evening with Tom Jackson

May 16, 5:30–10 pm, German Cultural Centre. Join us for St. Andrew's College annual fundraiser with featured entertainer will be Tom Jackson, who will bring his unique gift of story and song to make the evening unforgettable. The dinner will also serve as the farewell celebration honouring the contributions of Lorne Calvert, who concludes his tenure at the end of June.

NEXT OCN: June 8, 2018 DEADLINE: May 28, 2018 Since opening in 2013, Grad House has evolved to offer more than just space for sleep and study.

Sure, it has a range of living space from apartments to lofts and boasts communal study and social spaces on each floor, as well as a music room equipped with pianos, athletic space and multi-media classrooms.

But what truly makes the space unique, explained Evan Potts, co-ordinator of student life at Graduate House, is the strong sense of community.

"One of the best things about Graduate House is our programming assistant (PA)," said Potts. "The PA is a student staff member who facilitates programs and events for the residents to help build community and help create connections. Our PA has put on a ton of events that range from yoga nights to dessert potlucks."

Another big draw of Graduate House is the Faculty in Residence (FiR) project, in which a faculty member lives on the premises.

"The Faculty in Residence program is an amazing opportunity for both students and faculty," said Martin Gaal, the faculty member currently taking up residence at Grad House. "Students have access to both the FiR on a weekly basis as well as a broad sampling of faculty during



the annual Faculty Mix and Mingle. Faculty also benefit from unstructured interaction with students. The FiR acts as a bridge between both worlds, a bridge that is often missing in academia."

Gall said that he and his family have enjoyed the experience and opportunity presented by FiR and Grad House.

"We also appreciate the thought that has gone into making it a part of the sustainable mission at the university," said Gall.

Some aspects of the eco-friendly building include a low-flow water system which conserves plumbing and utilities, an energy efficient heating, ventilation and air conditioning, as well as increased insulation to stay warm in the winter and cool in the summer. Even rainwater is stored for outdoor irrigation, while drought-resistant plants enhance the landscaping.

The residence is located in close proximity to bus stops and has indoor bicycle storage to promote cleaner transportation, as well as a large recycling centre and singlestream recycling bins throughout the premises to contribute to the green initiative.

Graduate House has room for 262 students and accepts graduate students, students enrolled in professional programs, and students in their third and fourth year of study. Its construction was supported by a \$6.5-million donation from U of S alumnus Russell Morrison and his wife, Katherine Morrison.

## Finding creative solutions at WCVM

FROM PAGE 2

with WCVM students, faculty, staff, alumni and other stakeholders.

The council's final report referred to the Government of Alberta's recent decision to withdraw financial support from the WCVM—a loss of \$8 million per year—and leave a long-term partnership with the other western provinces. While the news didn't affect the college's recent accreditation, Freeman said the council will require regular updates on the status of the interprovincial partnership and college funding since evidence of financial stability is a critical part of the accreditation process.

"It's worrisome when a veterinary college loses a quarter of its annual operating base. But we are working within the college and with regional partners to address this challenge with creative solutions," said Freeman.

The council's report also included positive comments about the WCVM's Indigenous engagement efforts, as well as the new simulation centre and its co-operative relationship with other U of S health science colleges.

"The college is doing extremely well, and it was very satisfying to share the many 'points of pride' from our innovative veterinary program and our engaged partnerships with the international site team visitors," said Freeman. ■

> Myrna MacDonald is responsible for communications and media relations in the Western College of Veterinary Medicine.



## **Documenting near-Earth objects**



Daryl Janzen, a U of S sessional lecturer in physics.

📷 JAMES SHEWAGA

Geological sciences professor Brian Pratt holds a shatter cone, resulting from an asteroid hitting the Earth.

#### **FROM PAGE 5**

Gow Lake, Maple Creek, Elbow, Deep Bay and Carswell (the biggest at 39km wide)—dating between 75 million and 395 million years ago, as well as the 25km Victoria Island crater in the Arctic that U of S geological sciences professor Brian Pratt helped discover in 2012 while exploring the area for Natural Resources Canada.

"It was exciting," said Pratt, who co-authored a paper on the find in the research journal *Meteoritics and Planetary Science*. "We were flying in a helicopter and we could see the rocks looked strange. So, we landed and walked about 30 yards to the first outcrop of tilted rocks and right away we saw shatter cones. We both looked at each other and said, 'This is a meteorite impact!' That's what creates shatter cones, so we knew exactly what we were dealing with."

Pratt estimates that impact occurred between 130 million and 450 million years ago and likely had wide-ranging effects.

"It could have been a shallow sea when it hit, or it could have hit land, we just don't know for sure," he said. "If it hit land, there would have been an awful lot of debris in the atmosphere that would have affected climate, probably creating a cooling period." While major asteroid strikes are rare in terms of Earth's 4.5-billion-year geological history, even another Tunguska-sized impact would have a devastating effect on a populated area. In the 1990s, Stauffer was a member of the national Meteorite and Impacts Advisory Committee which called on the Canadian Space Agency and the National Aeronautics and Space Administration (NASA) in the United States to identify near-Earth objects (NEOs) and track potential threats to the planet.

"They didn't do anything right away, but a few amateur astronomers did and NASA finally took heed and started their program, which I guess I can claim a tiny, tiny bit of credit that our group put the bug in their ear," Stauffer said.

To date, NASA has documented 18,043 NEOs in our solar system, including 1,900 that are at least 140 metres in diameter and have orbits near enough to Earth to be classified as potentially hazardous asteroids. But thousands remain undetected. On April 18 an asteroid labelled 2018GE3, estimated at up to 100 metres in diameter, escaped detection by NASA until just a few days before passing halfway between the Earth and moon (192,000km) at a speed of 106,000km per hour.

"There are lots of asteroids and comets in our solar system and it's impossible to predict the trajectories of all of these objects, but we need to try," said Daryl Janzen, a U of S sessional lecturer in physics who discusses NEOs in his Astronomy 104 class.

Identifying threats is the first step, with the United Nations recently endorsing establishment of the International Asteroid Warning Network for world-wide collaboration to defend Earth from potential impacts. While NASA's official position is that no known asteroid is projected to collide with the planet this century, NASA is preparing for a 2021 space mission designed to demonstrate a kinetic-impact technique to nudge an object off of a collision course with Earth.

"There is an extremely low probability of the planet coming into contact with one of these large near-Earth objects in our lifetime, but there is really good evidence that it happened in the past and led to mass extinction on the planet," said Janzen. "So, although the probability is low, it's important to discover as many NEOs as we can, so that if one does enter into a collision course with Earth, we can try to do something about it."

# Predicting mental health decline through gaming

#### FROM PAGE 3

provide data you can combine and use with computational modelling techniques to provide an assessment about the players," Mandryk said.

The second approach involves having access to big data from thousands of people playing commercial games. Players will be recruited though tools such as Amazon Mechanical Turk that find participants for online studies, and by seeking participants on gamer forums.

By tracking players' natural game interactions such as play times, in-game choices and typing patterns, studying stress metrics derived from processing speech signals, and using webcam observations of facial expressions and even heart rates, she plans to create a predictive model of mental health decline.

"Those are the two things I'm trying to make progress on over the next couple of years that I haven't had the time or the resources to



Mandryk

pursue at this scale," she said.

"There's so much potential benefit. Not only can we assess a large number of people, but by using games we can also assess the mental health of people at much lower ages, like young children and in geographically remote areas, which is an important consideration for Canadians."



## TIME TRAVEL

Pack your bags and set your sights on memory lane, because this year's On Campus News back page features landmark moments and events from our storied 110-year history.

Have a particular event you'd like to see featured? Let us know about it at news@usask.ca. With files from University Archives and Special Collections.



Back Row L-R: Douglas McConnell, Marion Pettit, Mary Oliver, William Exton Lloyd. Front Row L-R: Howard McConnell, David Hossie, President Walter Murray, John Moore, John Strain.

## MAY 1, 1912 FIRST CONVOCATION

May 1, 1912 marked the first convocation at the University of Saskatchewan, with seven students comprising the first graduating class. Those students—our first Rhodes Scholar, two women, twin brothers, a student born in Ireland, and a Saskatchewan-born-andraised student—studied English, classics, agriculture and history.

Three students from this class (including both women) earned graduation honours: Mary Oliver, high honours in classics and the Copland Scholarship, Marion Pettit, honours in English and history, and Rhodes Scholar David Hossie, honours in Latin and English.

From its beginning, the U of S intended for women to have access to higher education, with the University Act stating "no woman shall by reason of her sex be deprived of any advantage or privilege accorded to male students of the university."

Oliver was the top student that year and possibly would've been considered for the Rhodes Scholarship. Unfortunately, the Rhodes Scholarship remained unavailable to women until 1976.

While eight students are featured in the photo, one student did not graduate. The life of William Exton Lloyd is a bit of a mystery. Exton took the first exam ever given at the U of S, he was a member of the first U of S track and field team, and was a member of the original Graduation Year Book Board. While he appears in this convocation photo, he did not actually graduate from the U of S.

UNIVERSITY OF SASKATCHEWAN