A vision for the future
Defining the vision, mission and values for the U of S

Kris Foster

The University of Saskatchewan (U of S) has not approved and adopted a new vision, mission and values document since 1993—the new president is going to change that.

There are many reasons why this is an institutional priority, said U of S President Peter Stoicheff, not least of which are the numerous changes that have happened at the university over the past 22 years.

“The university has changed and evolved a lot since then,” explained Stoicheff, pointing to new graduate schools and academic programming, new scientific facilities such as the Canadian Light Source and VIDO-InterVac, and a graduate student population that has grown by almost 70 per cent.

“It’s been a long time without one. Seventy-five per cent of our faculty have been hired since 1993. Three-quarters of our current faculty had no input into the last one.”

Stoicheff said such a document is important “in response to the evolution in our size, scope and identity. It is time to collectively express what our mission and values now are, and a vision for our future. We require consensus on who we are and what we want to achieve.”

Knowing that former president Ilene Busch-Vishniac undertook a process to develop such a document—Vision 2025, which was adopted, then rescinded by University Council—about two years ago, Stoicheff said he “senses that there is a recognition on campus that a process, though very different from this one, was undertaken not that long ago. So this process has to be efficient and not overly lengthy.”

To ensure efficiency and timeliness, Stoicheff has appointed campus members to a committee charged with the development of a first draft of this document. The committee, co-chaired by Brent Cotter (professor in law) and Liz Harrison (professor in physical therapy), will work towards having a first draft ready for University Council in late spring.

The timelines are short, Stoicheff explained, because the committee is not working with a blank slate and can look to work previously done in the form of “the document from 1993, successive integrated plans, Renewing the Dream from 2002 and Vision 2025. They are not starting from scratch and that will make the process more efficient.”

The committee will also be responsible for ensuring the process is highly consultative—with input to be gathered from faculty, staff, students, alumni, donors, University Council, University Senate and the Board of Governors.

While Stoicheff is not on the committee and “will not be driving the thinking behind the process, ultimately it has to be a document I feel is of the quality that befits the future of this university. My influence will amount to requesting a draft document be submitted...
Karen Schwean-Lardner never thought she would become a poultry researcher. Raised on a pig farm, she was not very fond of chickens.

“I was terrified of chickens!” she said with a laugh. “I just didn’t like them and they didn’t like me.”

She eventually conquered her fowl fear while completing her undergraduate, master’s and doctoral degrees in agriculture at the U of S. Now a researcher and assistant professor in the Department of Animal and Poultry Science, Schwean-Lardner is talking turkey.

Her research focuses on the welfare and productivity of commercial poultry, specifically hens, turkeys and broiler chickens. This includes finding the optimal stocking density for them—that is, the number of birds that can be contained within a particular area, so that they are not just happy and healthy, but also maintaining ideal production numbers.

“You have to give them a certain amount of space and light as well as dark,” she said. “One objective is to look at what happens to the birds when they’re raised in different stocking densities.”

Her current project is a 16-week trial looking to find the ideal stocking density for commercial turkeys.

“We’re trying to figure out if the density makes any difference to the well-being of the bird,” she said. “We’re also concerned about what people have to pay for food, so we’re looking at production practices as well.”

Finding that perfect balance—happy birds, happy consumers—is the goal of her research conducted at the Poultry Centre on campus. The facility contains eight rooms, all with varying numbers of young turkeys in them, ranging from low density to high density. Here, Schwean-Lardner and her graduate student, Kailyn Beaulac, will try to get an overall picture of what density level is best for the birds. This includes studying their social and physiological behaviour (such as stress responses) while being mindful of industry production parameters.

“We’re seeing what’s optimal, both from a production standpoint and from a welfare standpoint,” said Beaulac.

For a very logical reason, Schwean-Lardner uses only male turkeys in her research.

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Advocating for academic advising
Advice on education key to student success

Following the campus-wide review of academic advising services that took place a few years ago, a wave of change hit the U of S, including the development of a new Advising Charter.

The charter, explained Patti McDougall, vice-provost of teaching and learning, developed by the Teaching, Learning and Academic Resources Committee and reviewed by University Council, sets out the roles of everyone involved, from students and advisors, to faculty and peer mentors.

“We needed to outline for students what we expect of them and what they can expect of us,” explained McDougall. “We want more students to spend time with our academic advisors because we know it makes a big difference in their success.”

Complementing the renewal of academic advising at the U of S is DegreeWorks, an online program that tracks a student’s degree progress and matches course requirements. Students can access their progress through the DegreeWorks portal, which provides an overview of their completed courses and needed courses.

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Patti McDougall

Male turkeys ideal for research

From Page 2

“They grow faster and get bigger than females do,” she explained. “When I did the original research application, we thought, ‘if we study males, that’s the worst-case scenario.’ That’s why we chose to use males.”

While turkeys and their smaller cousins, the chicken, have a similar social structure “in that they live in nature in small groups,” the two are otherwise quite different. “It’s like comparing two breeds of dogs,” she said. “Turkeys are more curious than brothers. I have no idea why, and don’t know that anyone has any idea why. They just are.”

Regardless, Schwean-Lardner is happy to have gotten over her avian aversion. “I love working with the birds,” she cooed. “They’re so cool!”

Proovst search underway

The University of Saskatchewan is looking for its next provost and vice-president academic.

Perrett Laver, a global executive search firm, is assisting with the search. President Peter Stoicheff is heading the search committee made up of members from across campus, including: Beth Bislon, Michael Bradley, Dana Carriere, Gary Entwistle, Blaine Favel, Greg Fowler, Grant Isaac, Kathleen James-Cavan, Helen Nichol, Carol Rodgers and Gabe Senecal.

Ernie Barber, who currently holds the position of interim provost and vice-president academic, will stay in the role until the next provost begins. The committee is aiming to complete the search in the late spring, with the successful candidate taking office in 2016.

Male turkeys ideal for research

“T"h"g"e"v"o"w"e"r"s"e"r"v"e"r"y"q"u"i"t"e"d"i"s"t"r"e"f"f"e"r."“I"t"’"s"l"i"k"e"c"o"m"p"a"r"i"n"g"t"w"o"b"r"e"e"d"s"o"f"d"o"g"s,”s"h"e"s"a"d"."“T"ū"r"k"e"y"s"a"r"e"m"o"r"c"u"r"i"s"u"s"h"a"n"t"b"r"o"r"e"s."“I"h"a"v"e"n"o"i"d"a"i"d"w"y,"a"n"d"d"o"n"’"t"k"n"o"w"t"h"a"t"a"n"y"o"n"e"h"a"s"a"n"y"i"d"a"w"y"w"h"y."T"h"e"y"j"u"s"a"r."”

R"e"g"a"r"d"l"s,
S"c"h"w"e"a"n-L"a"r"d"n"e"r"i"s"h"a"p"p"y"t"o"h"a"v"e"g"e"t"t"e"n"o"v"e"r"h"e"r"a"v"i"a"n"a"v"e"r"s"i"o"n.“I"l"o"v"e"w"o"r"k"i"n"g"w"i"t"h"t"h"e"b"i"r"d,"s"h"e"c"o"o"e"d.““T"h"e"’"s"s"o"c"o"o!”

Nominations a colleague for the President’s Service Award

Nominate a colleague for the President’s Service Award

The President’s Service Award is designed to recognize exceptional contributions by a non-academic staff member who is currently working at the University of Saskatchewan.

Employee must be a current employee as of April 30 of year nomination is considered.

Criteria for selection of the individual include evidence of the following:

• enhancement of the work environment by providing extraordinary service to the university community;
• inspiration, support and respect of the endeavours of others; and
• distinction achieved through dedication and commitment.

Nomination forms are available from the President’s Office or may be downloaded from the website. For further information, call 306-966-6613.

Deadline March 1, 2016.

www.usask.ca/leadershipteam/president/presidents-award-and-fund.php

READ THE ADVISING CHARTER AT USASK.CA/ VPTEACHING/ADVISING/ADVISING_CHARTER.PHP
Despite a downturn in the economy, Canadians spent a lot of money this holiday season—be it on gifts for loved ones, a vacation or maybe a little something for themselves. Data from Moneris, the software program that processes debit and credit card transactions in Canada, show that spending on Black Friday and Cyber Monday increased 9.6 and 14.1 per cent from last year, respectively. And on Dec. 23—considered the busiest shopping day of the year for the frenzied, last-minute shoppers among us—Canadians spent more than a billion dollars just using their plastic. With initial numbers like that, it is no wonder many people are feeling the post-holiday debt crunch.

Brian Lane, an assistant professor in the Edwards School of Business and certified financial planner (CFP), offered a few strategies for escaping the red zone.

1. ACKNOWLEDGE THERE IS A PROBLEM. Like any instance of losing control, an important step is accepting responsibility for the situation. “We need to acknowledge that something went wrong, instead of just shrugging our shoulders,” he said.

2. DETERMINE WHERE THE PROBLEM LIES. This should be straightforward for someone who is in charge of their own accounts but it may be tricky in the case of a joint account, said Lane, or any situation where a family shares responsibility for money management. “If a family manages spending together, money management. “If a family manages spending together, 8. PAY YOURSELF FIRST. It is important to set money aside regularly to cover future spending needs. An example of the pay yourself first principle, said Lane, is the Canada Revenue Agency (CRA) withholding tax from an employee’s paycheque. “If it works for our tax agency, why can’t it work for us?” he asked. “Spreading out the payments and collecting up front removes uncertainty, and this is an idea that can work very well for people who are interested in saving for future needs.” Consider depositing this in a tax-free savings account or registered retirement savings plan account.

4. ONCE THE SPENDING IS UNDER CONTROL, FOCUS ON PAYING DOWN DEBT. This will require some long-term planning, explained Lane, but the work is worth it. “Record cash inflows and outflows to determine how much cash should be available at the end of each month, then set a target for additional funds that could be used for debt repayment. If we don’t hit that target then the spending has to be adjusted.”

5. DESIGN A BUDGET. The word is not an attractive word for many people, said Lane, “but if it’s done in a way that is reasonable, with a level of detail that’s informative but not overwhelming, budgeting can be very useful.”

6. STICK TO YOUR BUDGET. Once it is tailored to suit your needs, you can keep track of where your money comes from and where it goes, and better plan for the future, he said.

Tuition rates rise by an average of 2.5 per cent in 2016/17

U of S Board of Governors. “In most programs, the total cost of tuition and fees will continue to be lower than the median cost of similar programs at other Canadian medical-doctoral universities.”

Tuition rates in the College of Arts and Science, where nearly half of students are enrolled, will increase by 2.7 per cent on average. The average arts and science student will pay $6,773 in 2016/17 for tuition and fees, including health and dental insurance.

“Students expect to see value for the investment they make in their education, and meeting those expectations is very important to us,” said John Rigby, interim associate provost, Institutional Planning and Assessment. “It is essential for the university to strike a balance between keeping any necessary increases at a manageable level, while at the same time ensuring the quality of our programs and services stays high.”

Tuition is reviewed annually by the Board of Governors and is set according to three principles: comparable to similar programs at other Canadian U15 medical-doctoral universities; accessibility and affordability for the majority of potential students; and the quality of programs and the need to ensure students receive a high-quality education.

Tuition revenue comprises about 25 per cent of the university’s operating budget and is used to ensure ongoing program offerings, fund specific enhancements in programs, student services and the student experience; and to set aside needs-based assistance for students who have modest financial resources. The balance of the university’s operating revenue comes from the Government of Saskatchewan, interprovincial funding, investments and other sources.

In addition to tuition, students pay a variety of student fees that are used to fund specific student benefits offered as part of a university education. Student fees for the regular session for undergraduate students will be $819.97, an increase of 1.7 per cent, and $890.19, an increase of 1.1 per cent, for graduate students.

These costs are made up of institutional fees that support things like student recreation services, and third-party fees that support things like The Sheaf and the University of Saskatchewan Students’ Union. In some cases, students are able to opt out of portions of the student fees, such as the health and dental expenses if they have other coverage, and the U-Pass fee.
2015 Perception Survey

What do people think about the University of Saskatchewan?

Each year, we get some insight into the answer through a survey of public perceptions in Saskatchewan, Edmonton, Calgary and Vancouver. The Social Science Research Laboratory in the College of Arts and Science completed the study. A total of 1,545 randomly selected people took part in a 15-minute telephone survey that took place in October 2015. For more information, please contact communications@usask.ca.

What follows are highlights from this year’s report.

U OF S EDUCATION

We asked people in Saskatchewan if...

...the U of S offers students a high-quality education.

Strongly agree (59%) Somewhat agree (31%)

...the cost of a U of S education is worthwhile.

Strongly agree (33%) Somewhat agree (44%)

...a U of S degree helps people secure a successful career.

Strongly agree (51%) Somewhat agree (39%)

REAL WORLD IMPACT

* Percentages below 5% not shown

U of S research is important to the growth and wellbeing of Canada.

<table>
<thead>
<tr>
<th>Province</th>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
<th>Did not know/refused to answer</th>
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<td>17.1</td>
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<td>12.5</td>
<td>38.5</td>
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<td>17.5</td>
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<tr>
<td>Vancouver</td>
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<td>8.9</td>
<td>11.2</td>
<td>39.6</td>
<td>12.8</td>
<td>9.0</td>
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The U of S provides a social and economic benefit to my community through its teaching or research.

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<td>11.3</td>
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<tr>
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<td>8.8</td>
<td>13.9</td>
<td>15.1</td>
<td>75.5</td>
<td>57.9</td>
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OVERALL REPUTATION

How has the university’s reputation changed in the last five years?

*Total average across all four locations

2015

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<tr>
<th>Stronger</th>
<th>Same</th>
<th>Weaker</th>
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<tr>
<td>46%</td>
<td>30%</td>
<td>24%</td>
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2014

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<tr>
<th>Stronger</th>
<th>Same</th>
<th>Weaker</th>
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<tr>
<td>40%</td>
<td>21%</td>
<td>39%</td>
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WORD OF MOUTH

I would recommend the U of S as one of the top institutions to pursue post-secondary education to...

53.3% a close friend

* Total average across all four locations, combining strongly agree and somewhat agree

55.7% someone in my province

54.3% someone in Canada

48.4% someone outside of Canada

2016 Lecture Series at the College of Law

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<th>Date</th>
<th>Location</th>
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<td>Col. of Law Usask</td>
<td>Deceived and Seized: A Panel on the Realities of Human Trafficking</td>
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<td>JANUARY 26</td>
<td>Col. of Law Usask</td>
<td>&quot;Does Dialogue Theory Justify Judicial Review?&quot;</td>
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<td>FEBRUARY 1</td>
<td>Col. of Law Usask</td>
<td>Wunusweh Lecture in Aboriginal Law: Truth, Reconciliation, and Legal Education: The TRC, Syllabus and Indigenous Laws</td>
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<td>Col. of Law Usask</td>
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<td>FEBRUARY 26</td>
<td>Col. of Law Usask</td>
<td>The End of Internationalism?</td>
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<td>MARCH 2</td>
<td>Col. of Law Usask</td>
<td>A Conversation with Justice Abella</td>
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<td>MARCH 7</td>
<td>Col. of Law Usask</td>
<td>Lawfulness of the Marriage Decisions</td>
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*Speakers and dates subject to change
Health science fiction

It may sound like fiction, but U of S research is changing the future of medicine.

“The general theme of my work is how can we use technology to make a difference,” said Mendez, unified head of the Department of Surgery at the U of S.

Mendez and his team have focused their attention on three main areas: how technology can narrow the gap of health-care service, how state-of-the-art systems can treat neurological conditions and how 3-D printing can be used to personalize medicine.

ROBOTS IN THE NORTH

A big question Mendez has been solving is how technology can help narrow the gap of inequality in health-care delivery. Saskatchewan, with its expansive territory and widely dispersed population, presented a perfect location for Mendez to turn his research in remote sensing technology into application.

Saskatchewan is big and the majority of its 1.1 million population lives in the southern part of the province. Not so coincidentally, that is also where the bulk of the province’s health-care resources—practitioners and facilities—happen to be. This leaves smaller communities, Mendez explained, under served and at risk.

“How do we provide service to the most vulnerable segments of the population: children, pregnant women and the elderly? It’s a big challenge.”

Compounding the challenge in Saskatchewan, he continued, is that about 36 per cent of children in the province between the ages of one month and four years live in communities with populations fewer than 1,000 people. To get treatment they have to arrange transportation, which is not efficient in terms of time and money.

“I’ve been working for a number of years on the idea of remote presence technology that enables the expert or physician to provide care where the patient is in real time.”

To demonstrate this technology, Mendez takes out his smartphone, opens an app, scrolls through a list and selects a robot named Patrick in the Royal University Hospital that can be controlled by his phone. Patrick is equipped with all sorts of high-tech equipment, sensors, a monitor, and a video camera that captures and displays everything in view on Mendez’s phone.

Mendez directs the robot to proceed to the nursing station. Patrick maneuvers autonomously through the hospital corridors, sensing if people are close by or around the corner, and proceeds with caution to the final destination. Once there, Mendez and a nurse have a conversation in real time, just as he might with a patient. This minute-long demonstration only scratched the surface of the robot’s capabilities.

“This technology is evolving,” said Mendez. “With remote sensing we can now do ultrasounds, listen to hearts, do electrocardiograms. With this technology we can do some blood work and have results in real time with rapid diagnostic tests.”

The robots—worth about $80,000 each—are now in six communities throughout Saskatchewan, a number Mendez hopes to see increase by leaps and bounds based on the results he has already seen.

In Pelican Narrows, a northern community with a population of about 2,700, the robotic system is showing impressive results. In collaboration with Dr. Tanya Holt, head of Pediatric Intensive Care, and Dr. Veronica McKinney, director of Northern Medical Services, Mendez has conducted a pilot study using remote presence robots.

“In a period over 10 months we took care of the acutely ill children using the robotic system. What we were able to accomplish is 100 per cent of these kids got the initiation of the therapy immediately. The second is that about 70 per cent of these children did not need to be transported here. We were able to take care of them in their own community. That is a huge thing and we are demonstrating here the value of point-of-care medicine.”

STEM SOLUTIONS

A renowned neurosurgeon, Mendez made a name for himself by looking at how stem cells and...
technology can be combined to combat incurable conditions such as Parkinson's disease, strokes and other neurological disorders. "I look at how we can use state-of-the-art technology and stem cells to repair the brain. We actually developed the technology—new surgical instruments—to implant stem cells in the human brain." His research in brain repair for Parkinson's disease attracted the interest of Harvard University and resulted in a decade-long research partnership. "Harvard University wanted to partner with us because we have the technology and know how. Harvard has the knowledge about the cells and we know how to operate on patients and put cells into the human brain." The partnership between Harvard and the U of S announced this past September, will see Mendez continue to work on cell-based therapy for Parkinson's that is aimed at restoring cells lost through the disease.

The process, Mendez explained, will use stem cells from the patient that will provide the necessary dopamine neurons to enable damaged brain circuitry to be repaired. Mendez began this work in the 1990s and has had promising results. So far, 10 patients with Parkinson's have had cells implanted into their brains as part of a study; all 10 have seen significant improvements.

"This is a game changer. This is a platform for the development of a therapy for incurable diseases that has the potential to benefit millions of people around the world."

**THE THIRD DIMENSION**

This past year, Mendez was planning for a complicated surgery that required him to "put electrodes into the brain of a patient with a complex neurological condition." He normally uses advanced computer software to map out the surgery; this case required more.

"To do this advanced neuro-surgical procedure we needed advanced systems of planning, we needed 3-D structures that are identical to the patient's brain," he explained.

Mendez worked with Bob Wilson from the Engineering Shop in the College of Engineering, which has equipment that can print in three dimensions using a variety of materials. Mendez brought a team together—Dr. Marla Mickleborough and Chelsea Ekstrand (psychology student), Devin Headburn (engineering student) and MRI specialist Alain Lalonde—to figure out how to use personal 3D printers to print an accurate, see-through representation of the patient's brain.

After some trial and error, the group was able to print a semi-lucent model of the brain—including internal nuclear structures—using a rubber material that was a close representation of the brain's texture.

The use of 3-D printing, Mendez continued, is going to change health care in substantial ways, including printing organs and other parts of the body.

"3-D printing is going to become very important. For example, if someone needs a new knee, instead of buying a new one and trying to fit it to a particular patient, you will actually be able to print the knee of that particular patient just before operating. It is personalized medicine that will allow us to be much more efficient, much more accurate."

**OUT OF THIS WORLD**

All of this combines to place the U of S in a pioneering position.

"You can see how technology can allow us to provide care to people who don't have access to care, to repair organs, like the brain, of incurable diseases, and develop personalized medicine using 3-D printing technology. Believe it or not, here we are pioneering all these things. We don't have to go anywhere, the world comes to us," said Mendez.

In fact, there are applications for this work that may go far beyond the pale blue dot of Earth. Mendez was recently invited to present at the World Health Organization and the United Nation's Office for Outer Space Affairs' General Assembly on "Applications of Space Science and Technology for Public Health."

"We were the only university invited to make a presentation to this group which includes members from all the world's space agencies."

Closer to home, Mendez said these pieces come together to provide a glimpse of what the future hospital may look like.

"Hospitals of the future will shrink instead of getting bigger. With the use of remote presence technology we may shift the paradigm of centralization of health care."

Hospitals around the world face similar issues, he continued. Emergency rooms are full, beds are always occupied and wait times are long. With remote presence technology, "we can change that and do point-of-care treatment and diagnosis. We can decentralize services of hospitals to where the people are in their own communities and potentially in their own houses."

This shift means hospitals will mainly deal with the "most acutely ill patients and surgery. Most of the care will be done in the periphery like what has happened in most other industries like banking or the airline industry where they have been able to decentralize."
Mathematician’s experience grows exponentially

Since he won the USSU Young Alumni Excellence Award two years ago, Stavros Stavrou’s (BSc’10, MSc’12, MEd’15) contributions to his field, the University of Saskatchewan and the community have multiplied exponentially.

“When I received the award, I was working on my master’s degree in the College of Education, which I completed last fall,” said Stavrou. “My goal is to earn a faculty position at the U of S, and I started teaching in the math department last summer. I’m now looking into starting my PhD.”

Stavrou was nominated for the award by his friend Paulo Arago (BA’14) for his scholarly achievements as well as his passion for teaching math in a way that makes it accessible for First Nations, Métis and Inuit students.

As the math outreach co-ordinator at the U of S, Stavrou develops hands-on math activities that incorporate Aboriginal culture and anti-racist teaching practices for students and teachers in the K-12 system in Saskatoon and local reserve schools. He collaborates with teachers, elders and researchers to develop innovative ways to teach mathematics.

One of Stavrou’s classroom activities teaches students geometry by using a treaty map of Canada to plot points and measure distances. In another lesson, he uses collaborative learning where students teach him to count in Cree. Another class uses things found in nature—like the branches of a tree or a lightning bolt—to explain fractal patterns. “I teach this way because a lot of students don’t connect with the Western style of teaching where a teacher pulls out a textbook and asks the class to follow along. These ideas enter their brain and are inert—they don’t react with their daily lives,” he explained.

“Helping learners of all ages succeed at learning math is one of Stavrou’s hallmarks—even students at the university level rave about his practical and easy-to-understand approach to math.”

“When I won the award, my picture was hanging up in lower Place Riel for a year,” said Stavrou. “I’ve been a teaching assistant and tutor for the past five or six years, so I regularly received text messages from people I taught saying that they saw my picture and congratulating me.”

A recent highlight for Stavrou was presenting at TEDxSaskatoon in November 2015 about his work as a cultural mathematician. “What I do in the community, I connect with the U of S,” he said. “I’m proud to represent the university.”

Do you know a recent graduate who is deserving of recognition? Nominate them for the USSU Young Alumni Excellence Award by February 5, 2016. Visit alumni.usask.ca/awards to learn more.

FINANCE TALK

Students in the Johnson-Shoyama Graduate School of Public Policy got a bit of face time with Minister of Finance Bill Morneau to kick off the New Year. On Jan. 6, Morneau launched pre-budget consultation with a Google Hangout question period with students from eight Canadian universities, including the U of S.

“The word was first used in 1981, which means they are 35 years old or younger.”

IF YOU HAVE SOMEONE IN MIND, NOMINATE THEM BEFORE FEBRUARY 5, 2016!

It’s easy:
1) Tell us who you’re nominating.
2) Brag about their early achievements and success in their career.
3) Outline how they are serving their local community or changing the world.
4) Share how the nominee stays connected to the U of S. And then...
5) Find a few others to support the nomination.

Visit alumni.usask.ca/awards for more details.

The winner will be honoured at the USSU Experience in Excellence Awards April 3, 2016.
Building consensus

From Page 1

to me for approval before going forward in draft form to various collegial bodies.”

All great institutions, Stoicheff explained, are able to quickly and unanimously point out the aspects that make them so. To him, confirming the vision, mission and values of the U of S is an important step towards building that consensus.

“I need to have the confidence when I speak publicly about the institution that I am answering this question in a way the university would want me to answer it. The university needs to have confidence that I am describing it and its ambitions in the way it wants to be described.”

Stoicheff said now is the perfect point in the university’s history to have this collective discussion.

“The future for this university looks bright and positive. We are in a province where the population is growing, where the mood is one of thinking big and thinking to the future, we are seen as a leader in research among the universities in the country, and a leader in many other aspects of what a university does. We are working from a position of imagining growth and opportunity and that is a great context in which to be able to imagine and define ourselves.”

Committee on vision, mission and values.
The president’s committee on vision, mission and values begins its work in January. An elder is currently being identified to serve on the committee. Its other members are:

- Co-chairs: Brent Cotter (law) and Liz Harrison (physical therapy)
- Senior member of administration: Tom Crosson (risk management)
- Aboriginal member of campus community: Liz Duret (human resources)
- Student: Scott Adams (third-year medicine)
- Member of Board of Governors: Lee Ahenakew
- Member of Council: Wendy Roy (English)
- Member of Senate: Karen Prisciak

Dena Burnett has made a discovery about knee pain that one day could lead to new treatments.

Burnett, a University of Saskatchewan PhD student in biomedical engineering, has found that in people living with osteoarthritis, those with intense knee pain have approximately 30 per cent lower bone density at the knee than those with less pain.

Burnett studies the connection between bone density and pain in this disease, an aspect largely overlooked by previous research.

Called “the wear and tear of joints,” osteoarthritis causes people, especially the elderly, to feel increasing pain due to damage to the knee bone and cartilage, the rubbery tissue that cushions the joints.

Causes of the disease are unknown. Treatments are limited to painkillers and knee surgical replacements in the most severe cases.

The connection Burnett has discovered between pain and bone density suggests that osteoarthritis-related pain could be caused by lower bone density in the joints.

“Bone-modifying drugs could be used one day to increase patients’ bone and help alleviate the pain,” said mechanical engineering professor James Johnston, who co-supervises Burnett with kinesiology professor Saija Kontulainen.

But Johnston cautions that a larger study is needed into whether low bone density is actually contributing cause of osteoarthritic pain.

Previous research into the cause of pain has looked at the damage to the cartilage using techniques such as X-rays and magnetic resonance imaging (MRI) or using samples from cadavers.

Burnett looked not at just the cartilage, but at the bone found deeper under it—the subchondral bone.

She used a non-invasive method—a three-dimensional computer tool developed by Johnston—to measure the quantity of bone in patients.

She compared computed tomography (CT) bone images of people with healthy bones and with those of people at late stages of osteoarthritis.

“These bones are like the foundations of a house, and cartilage is like the walls,” she said. "When you buy a new house, you don’t only check the walls. You check that the foundations are not shaky too."

Burnett’s findings suggest that in people with low bone density, bone is likely less stiff, squishes more and breaks more easily.

This discovery has an important consequence for future treatments. Usually doctors wait until the pain is excruciating before replacing joints with metal implants.

“Our results suggest that waiting too long for knee surgery could decrease the success of the surgery because patients have lower bone density,” said Johnston.

In collaboration with Stanford University, Burnett’s next research step is to use the CT images of more than 5,000 patients across the United States to study bone at various stages of the disease.

Her research is funded by the U of S, the federal agency NSERC and the Canadian Arthritis Network.

Federica Giannelli is a graduate student intern in the U of S research profile and impact unit. This article first ran as part of the 2015 Young Innovators series, an initiative of the U of S Research Profile office in partnership with The Saskatoon StarPhoenix.
Challenges and Opportunities for Renewable Energy in Saskatchewan

Jan. 15, 1–3 pm, Diefenderfer Canada Centre, Prairie Room. JSGS and the School of Environment and Sustainability are hosting Challenges and Opportunities for Renewable Energy in Saskatchewan, a panel discussion on the challenges and opportunities facing the province as it moves toward a low-carbon future. The panel discussion will be moderated by Jeremy Rayner and will feature topics such as attainable renewable energy goals, First Nations transitions to renewable resources, the potential for a carbon-free electrical system in Saskatchewan and necessary steps for the meeting the 1.5 degree warming target outlined in the recent Paris Climate Accord.

Veterinary Microbiology/Veterinary Pathology Seminar Series
Jan. 10, 12:30 pm, Room 2302 WCVM. Kalhari Goonewardene and Thushari KalARI, Department of Veterinary Microbiology, present: Influenza A virus as a possible vaccine target. Cost: Free. Call 306-966-3970 for more information.

Vaccinology and Immunotherapeutics Seminar Series

Winter Refresher 2016
Feb. 29–March 2, Shannon Craig–Snell, a systematic theologian and activist, will lead the discussion during St. Andrew’s College Winter Refresher 2016. Cost: $225.75 (GST included) and $252 (manual included). Call 306-966-4355 or email peter.grant@usask.ca for more information.

Spanish Weekender for Beginners
February 19 to 21, ideal for the traveller who has little or no Spanish-speaking skills, 20 hours over 2.5 days, cost: $351.00 (Manual, Saturday and Sunday lunch included). Cost: Free. Call 306-966-3970 for more information.

One–Week French Immersion
February 22 to 27, all levels offered: ideal for individuals who wish to fast-track their French skills, 30 hours over 6 days, cost: $575 (Manual, Saturday final lunch and transit pass included). Cost: Free. Call 306-966-3970 for more information.

Courses/Workshops

Languages
For more information, visit learnlan-
guages.usask.ca or call 306-966-4355 or 5559.

Multilingual Conversational Language Classes from Jan. 18–March 28:
• French levels 1 to 5: $225.75 (GST exempt)
• Spanish levels 1 to 5: $325.75 (GST included)
• Japanese levels 1 to 5: $325.75 (GST included)
• Taiwanese for the Traveller $252 (manual and GST included)

GERM level 1 to 4: $225.75 (GST included)

Italian level 1: $302.25 (manual and GST included)

German levels 1 to 4: $225.75 (GST included)

Italian levels 1 to 3: $225.75 (GST included)

Portuguese level 1: $225.75 (GST included)

Sanskrit level 1: $316.25 (manual and GST included)

Textbooks and workbooks are extra and sold at bookstores.

The Arts

Amatiello, Stretcher fortepiano in concert
Feb. 6, 7:30–9:30 pm, Convocation Hall. Enjoy a unique opportunity to hear Beethoven, Mendelssohn and Rach- maninov played on fortepiano, piano and the Amatiello celli. Two historic instruments (fortepiano by Hannes Stretcher, 1814 and cellos by Hieronymus Amati, 1690) reveal a unique perspective in the interpretation of Beethoven and Mendelssohn. The wildly romantic Rachmaninov features the Amati celli with the concert Bouchetiano pianos. All are interpreted by guest artist Philip Hanrahan, principal cellist of the Calgary Philharmonic Orchestra and pianist Kathleen Solomon on the stage of Convocation Hall. Tickets $30, seniors’ tickets $10 available at www.partic-
cle/concert/event/44909151690511287 for more information.

Camecho Spectrum 2016
Jan. 14–17, 9 am–5 pm. Camecho Spectrum 2016 brings the marvels of engineering and science to Saskatoon and area. Known as North America’s largest student-run exhibition of science and technology, it is run by engineering students who plan, program and operate in the event. It typically features over 40 displays and welcomes over 1,600 participants. Started in 1930 as the Engineering Show it was renamed Spectrum in 1973 and takes place every three years. For more information visit spectrum.usask.ca or e-mail spectrum.usask.ca.

Eat Smart Tour
Jan. 20, 11–11:15 am, Marquis Hall. Do you need help sticking to your New Year’s resolutions when dining at Marquis Hall? Join us for the Eat Smart tour to learn more about making healthy choices when dining at a buffet. This short 15-minute tour will guide you through the Marquis Buffet and show you what to look for when making decisions, with a focus on choosing delicious high-fibre foods. No purchase necessary to partake in this event. For more information check out the Facebook event page at www.facebook.com/events/538880865013522/.

Writing North 6: Roadkill
Feb. 22, 2–5 pm, Louis’ Louf. Writing North is a two-day writer’s festival that targets Saskatoon and a wider Saskatchewan community of aspiring writers and anyone interested in writers and books. In its new sixth year, Writing North features five established writers. Writing North is presented by the University of Saskatchewan on Thursday evening at The Woods Alcove, 146 2nd Ave. North. The festival continues on Friday evening with a panel discussion featuring five new writers, focusing on various aspects of the particular writing journey. The evening will feature a reading by Dave Bidini and a reception afterwards. On Saturday, writers will conduct workshops and readings. Other special features include poetry (dey Holbaaken–Smith), prose (Luke Henderson), poetry (Donna Kane), and drama (Brad Fraser). These workshops—style sessions will be practical, and intended for developing writers of all levels. As this festival is intended to be a community outreach event, there will be no charge for this event. Please visit www écritetour.com/home/7576 for more information.

Publishing Schedule

No. Issue Date Deadline Date
10 Jan. 29, 2016 Jan. 21, 2016
12 March 7, 2016 March 25, 2016
13 March 28, 2016 April 1, 2016
14 April 15, 2016 April 7, 2016
15 April 29, 2016 April 17, 2016
16 May 13, 2016 May 5, 2016
17 May 27, 2016 May 19, 2016

Coming events

Conferences

JSGS Public Lectures
Visit schoolofpublicpolicy.ca for more information.

University of Saskatchewan

Marketing Schedule
Gordon Oakes Red Bear Centre opens

The Gordon Oakes Red Bear Student Centre—with a development cost projected to be $17 million—opened its doors to the campus community on Jan. 4, 2016. A number of formal and informal celebrations are planned leading up to Aboriginal Achievement Week (Feb 8-12). On Feb. 4 from 2:30-4pm, faculty and staff are invited to tour the building at an informal come-and-go event.

THE CEILING is decorated as a medicine wheel, using colours chosen by the Oakes family. The feature skylight of the building at the centre of the medicine wheel is symbolic of a star blanket.

THE CENTRAL GATHERING AREA can be used for ceremonial smudging and pipe ceremonies. A large exhaust fan and vent are hidden within the high ceiling.

Being close to the earth is important during cultural ceremonies, so dirt taken from the construction site fills a large cement cylinder located in the basement of the building, directly below the gathering area.

THE DESIGN AND DÉCOR of the centre are rich with cultural significance. The exterior of the building is composed of Tyndall stone that adorns many other buildings on campus. The stone wraps around the building creating a symbolic blanket to protect the building’s centre.

Two rows of inlaid tile encircle the building, representing the wampum belt and one of the first treaties between Aboriginal peoples and newcomers on the land that would later become Canada. At each of the four cardinal directions, the colour of the tiles changes to represent each of the four seasons: south (summer, red), east (spring, yellow), west (autumn, charcoal), and north (winter, white).

Douglas Cardinal, a renowned architect of Métis and Blackfoot heritage, designed this 1,884 square-meter building. Cardinal is a forerunner in philosophies of sustainability, green buildings and ecological design in community planning. His architecture is inspired by his observations of nature. He has designed a number of notable buildings including the Canadian Museum of Civilization, the First Nations University of Canada and the Smithsonian’s National Museum of the American Indian.

THE ABORIGINAL STUDENTS’ CENTRE (ASC) is located on the main floor. Graeme Joseph, team leader, First Nations, Métis and Inuit student success, leads the ASC staff and manages the new building. Lori Delorme, student services co-ordinator at the ASC, is Métis and was born and raised in Cochin, Saskatchewan. She has been working at the centre for more than 17 years and assists all Aboriginal students, placing an emphasis on new students.

THE ENTRANCE to the building features a wall composed of elm wood recovered from trees removed from the building’s construction site.

THE SECOND FLOOR of the building has study space, a kitchenette, a computer lab and office space for the Indigenous Students’ Council, the Indigenous Graduate Student Council and tutors.

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The University of Saskatchewan deals in knowledge; it’s in every lab, classroom, facility and office on campus. This year’s back page feature is searching for that specialized knowledge that creates beautiful results and helps make the U of S a wonderful place to work and study.

Share your knowledge at ocn@usask.ca

Knowledge is beautiful.

Walk with the animals, talk with the animals

Sue Johnson might have the most diverse—and interesting—job description on campus.

“If it moves or breathes or was alive at some point in time, I probably deal with it,” said Johnson, technician at the Museum of Natural Sciences in the Geology and Biology Buildings.

A veterinary technician by trade, Johnson started with animal research in the health science disciplines in 1998 before making her way over to the interactive museum in 2003. “It’s a museum of evolution—I’d like to think I’ve also evolved,” she said with a laugh.

Besides occasionally leading tours and interacting with visitors—her conservative guess at a visitor count is about 30,000 people per year—her to do list also includes watering plants, feeding fishes and frogs, and cleaning the intricate crystal, mineral and rock specimens.

And if you are wondering who cleans and maintains the sky-high dinosaur fossil specimens—look no further. “That’s me,” she said.

And what is the best method for cleaning the dinosaur replicas? “Carefully,” answered Johnson. Armed with Swiffer dusters, she gets a literal boost from Facilities Management Division, which supplies a mechanical lift that allows her to reach the top of the T-rex for a thrice-yearly dusting. The bones are subject to a more thorough cleaning every five years, “followed by a coat of Murphy’s oil to make them shiny.”

Johnson appreciates being part of something where she continuously learns about biology while imparting her wisdom on others. “The magnitude of what I get to learn in this job is huge—I find it fun,” she said. “Someone once said that I am full of useless facts, but interesting ones. That’s perfect, because when people are visiting the museum and I do get to interact with them, that’s the one part of my job when there is not enough time in the day.”