SYNCHROTRON SURVEYOR

As the social scientist in residence at the Canadian Light Source, Carin Holroyd is undertaking an international survey of synchrotron scientists to better understand attitudes regarding the commercialization of synchrotron-enabled science. The project will focus on scientists’ views regarding investments in sciences and perspectives on how governments can better support the commercialization of scientific work. See Page 7 for full story.

Government makes mid-year budget reduction

University leaders plan for 2015-16 funding adjustments

The U of S recently received notice from the Government of Saskatchewan of a one-time budget adjustment of $9.8 million to its 2015-16 annual grant.

“The province advised us that in order to meet government expenditures for the current year, they had to make mid-year adjustments that affect the university,” said Greg Fowler, vice-president finance and resources. “So there are three things that we were advised of.”

The first, Fowler explained, is a one-time deferral of $1.35 million towards the Canada Excellence Research Chair in Water Security, a seven-year funding commitment by the Government of Saskatchewan that has two years remaining.

“This payment has been deferred to another year,” explained Fowler.

The second component, the vice-president continued, is a one-time reduction of $560,000 to the Saskatchewan Innovation and Opportunity Scholarship.

“We are filling in that funding, obviously, because it is important to support scholarships at the university,” said Fowler. “But we have heard, and we believe, it is the government’s intentions to restore this funding annually.”

The third, final and largest component of mid-year budget adjustments from the government is a reduction of $7.9 million to the university’s capital grant.

“The larger piece, and the more concerning part, was the reduction of $7.9 million of our capital grant,” explained Fowler. “Our capital grant is made up of things like preventative maintenance and renewal, and support for the health sciences project.”

The next step, Fowler said, is for the university’s leadership team to meet with the Board of Governors at its December 14-15 meetings and “recommend how to offset this funding reduction with as little as possible impact to the university. Once the board has approved this, we will advise our community how we are proceeding with this one-time adjustment.”

Fowler explained that while the university understands the province’s current financial situation and wants to do what it can to support the province, he continued, “we have emphasized that continual financial pressure coming from three directions at once—a reduced operating grant, a reduction of our reserves, and restrictions on our capacity to raise other revenue—is not sustainable.”

Fowler stressed, however, that these one-time reductions are not cause for immediate concern and that he does not foresee any job loss.

“We have emphasized that continual financial pressure coming from three directions at once—a reduced operating grant, a reduction of our reserves, and restrictions on our capacity to raise other revenue—is not sustainable.”

Fowler explained that while the university is well positioned to weather these short-term, one-time reductions to funding because of reserves and prudent financial management, this pattern of cuts is not sustainable in the long term. He noted that these most recent reductions come on the heels of the government’s one-time holdback of $20 million of the U of S operating grant when the provincial budget was announced in March 2015.

While the university understands the province’s current financial situation and wants to do what it can to support the province, he continued, “we have emphasized that continual financial pressure coming from three directions at once—a reduced operating grant, a reduction of our reserves, and restrictions on our capacity to raise other revenue—is not sustainable.”

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2016 has been designated as International Year of Pulses by the United Nations to heighten awareness about the crops’ benefits in terms of nutrition, sustainable food production and food security. Saskatchewan is a lead player.

The centre of it all
Farmer-driven research and development has been the hallmark of pulse crop production in the province since the first varieties were developed at the University of Saskatchewan’s Crop Development Centre (CDC) 40 years ago.

“In terms of research excellence, the pulse crop research and breeding group is now one of the most successful programs in the world,” said CDC Managing Director Kofi Agblor.

“The U of S is a major partner in both chickpea and pea genome sequencing initiatives and is the lead for the lentil genome sequencing initiative.”

Since the 1970s, the CDC has developed dozens of varieties of pea, lentil, chickpea, dry bean and faba bean. Advanced genomics-based tools such as marker-assisted breeding will hasten development even more.

A producer levy, administered through the Saskatchewan Pulse Growers (SPG), provides strong support for crop research and a critical link to farmer priorities.

“Disease resistance and weed control certainly are very important for the growers,” said U of S plant sciences Professor Bert Vandenberg. “We also focus on seed quality—size, color, shape—because pulses are primarily an export crop and our international customers have very specific preferences. Processing quality is also a priority.”

Current research is also looking at improved nitrogen-fixing capabilities to enhance soil fertility, nutritional value of the end crop and enhanced yield. Here, genetic diversity is crucial.

Vandenberg and fellow CDC researcher Kirstin Bett are developing genomic tools to identify and incorporate genetic diversity for lentils. Their work is backed by Genome Canada, Western Grains Research Foundation (WGRF), SPG, Saskatchewan’s Agriculture Development Fund (ADF) and organizations such as the Global Crop Diversity Trust.

Near and far
Genetics may also help farmers grow chickpeas more easily for an expanding and lucrative North American market. CDC researcher Bunyamin Tar’an is part of an effort to incorporate genetics from wild relatives of the chickpea. The project, funded through the U.S. Agency for International Development, is led through the University of California-Davis.

Tar’an is chasing traits such as stress tolerance, yields and nitrogen-fixing capacity with the aim of producing varieties that can grow further north, into Saskatchewan’s dark brown soil zone. The work is supported by SPG, ADF and WGRF.

SPG numbers show the province’s farmers produce more than three-quarters of Canada’s field peas, 96 per cent of its lentils, and 99 per cent of its chickpeas.

While the province’s pulse crops find their way onto dinner plates around the world via export, Saskatchewan expertise is also helping families halfway around the world feed themselves, earn income and preserve soils.

Researchers from the Colleges of Agriculture and Bioresources, Pharmacy and Nutrition and the Department of Bioresource and Environmental Economics.

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When it comes to natural resource development, governments and companies have traditionally held most of the power, but according to Ibironke Odumosu-Ayanu, communities around the world are demanding—and sometimes getting—a seat at the table.

“It’s becoming more prevalent wherever extractive companies go,” said Odumosu-Ayanu, an associate professor in the College of Law. “Often they have the legal license to operate from the government but they also seek a social license to operate. Some companies understand that having a legal license of paper alone might not necessarily get them what they want.”

Odumosu-Ayanu, who grew up in Lagos, Nigeria, one of the world’s largest cities, specializes in the legal frameworks surrounding resource extraction. She became interested in oil and gas law while completing her first law degree.

“Of course in Nigeria there is an enormous amount of oil and gas and it’s always in the news—that’s how the government makes most of its money. A lot of us (law students) were attracted to it,” she said. “That was the attraction to Calgary as well.”

Odumosu-Ayanu completed her master’s degree at the University of Calgary and PhD at the University of British Columbia before joining the U of S in 2008. Of particular interest to her is how resource development can evolve from a government-company dialogue to a three-way discussion that includes people whose communities would be affected by development. Her work is funded through the Social Sciences and Humanities Research Council of Canada.

Communities have used civil disobedience to shut down operations, preventing the company or their government partners from making money. But a powerful tool, said Odumosu-Ayanu, is communications and the power of the internet.

“It’s the power to name and to shame,” she said. “We can say, ‘this is what this company is doing here and it’s not right.’ It becomes news everywhere and the company doesn’t want that.”

This power, along with other factors, has helped bring companies to the table to work with communities and sign agreements with them. Odumosu-Ayanu is interested in “community development agreements” in various West African countries such as Ghana, where groups of communities get together with a company to negotiate what they will receive in return for their co-operation and endorsement.

“Ibironke Odumosu-Ayanu, associate professor in the College of Law.

Of course in Nigeria there is an enormous amount of oil and gas and it’s always in the news—that’s how the government makes most of its money.

Ibironke Odumosu-Ayanu

This can include infrastructure such as clinics and schools, as well as a commitment to employ local people—but it is difficult to tell, seeing as many of the agreements are highly confidential. She is also interested in other types of contracts that may involve communities affected by natural resource extraction.

With respect to agreements, Canada’s Indigenous peoples have an advantage over their African counterparts, she explained. In the past few decades, the rights of Indigenous peoples have increasingly been recognized under international law.

Odumosu-Ayanu explained that some of the people of the oil-rich Niger Delta argue they are Indigenous people whose rights should be recognized accordingly. The Nigerian government has consistently refused, arguing in part that all Nigerians are Indigenous.

In contrast, Canada’s Indigenous people were clearly the first inhabitants of North America and recognized as such by legal documents as treaties with various First Nations across the country.

“I think Indigenous peoples in Canada are a lot more active in terms of their relationship with the law,”

The next energy boomtown of the Prairies

U of S grad student studying energy sector receives $150,000 scholarship

University of Saskatchewan graduate student Sandra Moore has been awarded a $150,000 Vanier Canada Graduate Scholarship to examine how southwestern Saskatchewan communities are being affected by energy development and how they can avoid boom and bust cycles.

Moore, a PhD student in the U of S School of Environment and Sustainability (SENS), will conduct a multi-year examination of the economic, social and ecological costs and benefits of oil and gas development in Maple Creek and the traditionally agrarian-based region.

She said that continued growth in Saskatchewan’s energy sector presents new prospects and challenges for rural communities such as Maple Creek, which is poised to become the next energy boomtown on the Prairies due to its proximity to the Bakken oil fields.

“My research could help other communities in the United States and Canada make informed decisions about natural resource management and manage economic changes before they happen,” Moore said.

Moore will join a multi-disciplinary team of U of S researchers in a long-term study of community adaptation in the region, and her research will be a critical dimension of that assessment, said David Natcher, Moore’s supervisor and a professor in the College of Agriculture and Bioresources’ Department of Bioresource Policy, Business and Economics.

“The findings of this new research will provide a broader assessment of the impacts of resource development on agrarian communities in Western Canada and in the Great Plains region of North America generally,” Natcher said.

Moore’s love for researching how communities adapt to socio-ecological change is a common thread in her background.

After earning her bachelor’s degree in anthropology, Moore worked with non-governmental organizations (NGOs) in Canada and Ethiopia in community development, and pursued a master’s degree in international community development in Canada. Her final project took her to the remote Pacific island of Vanuatu, where she worked with a local NGO that provided youth with business and employment readiness training.

The scholarship, administered by the federal Social Sciences and Humanities Research Council (SSHRC), recognizes outstanding students who have demonstrated academic excellence, research potential, and leadership skills.

“This prestigious scholarship helps us attract and retain world-class doctoral students who as Vanier Scholars gain the expertise and experience to become tomorrow’s leaders,” said Karen Chad, U of S vice-president (research).

Federica Giannelli is a graduate student intern in the U of S research profile and impact unit.
Shafiq Alam got an earlier start than most to life on campus.

Alam, an associate professor in the Department of Chemical and Biological Engineering, grew up at Bangladesh Agricultural University where his father was director of planning. There, he was exposed to engineering at a young age, growing up with what was then a new university.

“I saw how engineers constructed buildings, roads, bridges and powered the facilities by constructing electrical networks,” he recalled. “Those things inspired me. Although I did not understand how any of the engineering works, I learned from my father that engineering is an interesting, challenging and well-paid profession.”

A top-ranked student with an aptitude for math, Alam pursued chemical engineering at Bangladesh University of Engineering and Technology. After graduating, he worked in the oil and gas industry for seven years, but the lure of academia drew him to graduate studies in the United Kingdom and Saga University in Japan, where he completed his MSc and PhD.

Alam’s career in Canada has taken him from the Universities of British Columbia and Toronto with a few years in industry in Mississauga, Ont., and a stint back in Japan on an NSERC fellowship—to Fluor Canada in Vancouver before landing at Memorial University in Newfoundland. There, he established his hydrometallurgy research base before coming to the U of S in 2014.

Alam is interested in developing alternative and environmentally friendly technologies to recover metals through hydrometallurgy—the use of water-based solutions on ores, concentrates and recycled or residual materials. Mine site pollution control is also a focus, particularly the use of bioabsorbents or organisms to remove or neutralize pollutants from contaminated sites. Acid mine drainage and waste treatment in the mining and mineral processing industries are also of interest, as are chemical process modelling, simulation and optimization, bioleaching and biosorption of metals and chemical process flowsheet development.

Saskatchewan’s wealth of natural resources and industry activities align well with Alam’s research interests, factors that helped draw him to the province.

His extensive industry and academic experience has made his expertise a match with Alam’s research interests, factors that helped draw him to the province. As the research lead for the U of S Canadian Feed Research Centre, he will drive integrating crop characteristics with processing features and nutritional availability in desirable end products.

Mary Buhr

“Professor Newkirk is globally renowned in the processing of a wide variety of crop products to provide a myriad of end products,” said Mary Buhr, dean of the College of Agriculture and Bioresources. “As the research lead for the U of S Canadian Feed Research Centre, he will drive integrating crop characteristics with processing features and nutritional availability in desirable end products.”

“Our government recognizes that in order to grow the agriculture industry, we need to make strategic investments into research and innovation,” Saskatchewan Minister of Agriculture Lyle Stewart said. “We are pleased to support the feed research chair and look forward to following Professor Newkirk’s achievements as the new research chair in feed processing technology.”
Picturing mental health
Photo contest captures what mental health looks like to campus community

As part of the Picture Your Mental Health Photo Contest, 75 students, staff and faculty submitted 90 images that picturesquely show what they do to look after their mental health. Almost 800 staff, faculty, students and alumni voted 1,728 times for their favourite pictures. The winners are:

**FIRST PLACE**: TRANQUILITY
Submitted by: Hridaynath Bhattacharjee (graduate student, Department of Chemistry)
Tranquility is a state of mind where you only think about inner peace. It heals and nourishes the mental health.

**SECOND PLACE**: FELINE FINE
Submitted by: Jesse Ponath (undergraduate student, College of Arts and Science)
Did you hear about the cat who swallowed a ball of wool? She had mittens!

**THIRD PLACE**: THE ART OF RELAXATION
Submitted by: Lillian Tu (staff, College of Graduate Studies and Research)
Colouring can be childish, recreational and professional amongst other things but ultimately, it is a stress reliever. It takes a few hours to colour one of the designs in completely and there's something very satisfying about watching the colour slowly spread across the page. When you’re colouring, you’re not really thinking about anything else. It is a simple task that provides me a bit of escape from the busy activities that take up the day. Most importantly, it allows me to be mindful of my mental health and unwind before the next challenge comes my way.

**HONORABLE MENTION:**
1. WHEN I DANCE, I’M A BETTER VERSION OF ME
Submitted by: Jessica Hill (undergraduate student, Edwards School of Business)
I love to do Zumba to keep my mind healthy. After a long day of studying, a long day of work, or a long day of Netflix (we all know how binge watching can make us feel!) it’s important to get up and dance off the everyday stress!

2. BOOK WORM
Submitted by: Rayna Anderson (undergraduate student, College of Agriculture and Bioresources)
Soaking up some rays and taking a break from my favorite hobby is a great way to pass free time after work during the summer. Escaping into another world and becoming invested in the lives of compelling characters is a wonderful way to forget about everything that is causing stress in my life.

3. MY THERAPISTS GILBERT AND EMERSON
Submitted by: Leanne Mathieson (undergraduate student, College of Arts and Science)
Who wouldn’t find their minds calmed by these adorable fluff balls? Just looking at or stroking them immediately takes me to a better, much happier place!

4. A MOO-VING REMINDER
Submitted by: Shannon Palmer (undergraduate student, Western College of Veterinary Medicine)
In the middle of exams a calf at McCreary Land and Livestock Ltd gives me a lick and a reminder as to why I pursued veterinary medicine and what makes it all worth it!

5. CALLIGRAPHY
Submitted by: Sylvana Tu (graduate student, School of Public Health)
Practicing calligraphy helps keep my mind healthy! I’ve recently taken up calligraphy to take a break from studying. It lets me focus on something that isn’t homework and allows me to still be productive.

6. THE CALM OF THE WILD NORTHERN SPIRIT
Submitted by: Jordyn Burnouf (undergraduate student, College of Arts and Science)
Sitting by Canoe River in northern Saskatchewan after a day of helping my dad and brothers harvest wild rice. The sun was setting and the river was calm. It was a beautiful end to the summer.

7. A FRESH START
Submitted by: Celine Grimard (undergraduate student, College of Arts and Science)
I am pausing to take the time to clear my mind and enjoy the nature that surrounds us. This photo reflects breathing in fresh air and realising it is a new day. That anything is possible if you take the time to stop and enjoy the nature that we are so lucky to have.

The Latin inspired rhythms and fun atmosphere is just the thing I need to meet new people, feel good about myself and even combat the winter blues! It’s an incredibly fun way to be active and keep mentally and physically fit. Dance on everyone!

As part of the Picture Your Mental Health Photo Contest, 75 students, staff and faculty submitted 90 images that picturesquely show what they do to look after their mental health. Almost 800 staff, faculty, students and alumni voted 1,728 times for their favourite pictures. The winners are…
Wall designs highlight aspects of education profession

If walls could talk in the College of Education, they would tell stories about all the elements that make up the teaching profession. The Revisited campaign will see eight walls throughout the main floor of the Education Building get a custom makeover, explained Michelle Prytula, dean of the College of Education.

“The impetus wasn't to redecorate the walls,” said Prytula. “This is all about alumni engagement, and you can't have that without student engagement. This is about affinity, connection and pride.”

So a college group of faculty and staff began working with the university's marketing and communications team to redesign a number of walls based on words critical to the teaching profession and ending in a bold "ed"—such as Committed, Diversified and Represented.

The first wall, Committed—featuring the college's education oath and photos from the inaugural pinning ceremony—refers to the commitment the profession of teaching requires. Diversified, the second wall, points to the diversity of students, faculty, staff and alumni in all forms—ethnicity, gender, age, religion, disability and socioeconomic status. The wall also features members of the college community, numerous inspirational quotes on what diversity means and artwork. Represented, the wall completed at the end of November, highlights all of the student associations—Education Students' Society, Indian Teacher Education Program and the Saskatchewan Urban Native Teachers Education Program—and includes a number of shadow boxes that will feature easily changed items to represent student voices in the college.

“The walls take a piece of the profession and bring it to life,” said Prytula, adding that walls, each budgeted to cost between $2,000 and $5,000, will be the first décor update in the college in about 20 years.

Upcoming walls, Prytula continued, include Treasured, slated for December and focusing on the child and family; Connected, going up in January, references connections alumni, students and donors have to the college; Indigenized, in February, will reflect First Nations, Metis, and Inuit culture within the college; Discovered, in March, will focus on research and programming; and Cultured, in April, the last of the initial planned walls, will see fine arts and music education taking centre stage. The Revisited campaign, which has received great feedback so far, Prytula continued, is just one aspect of the college's plans to increase engagement among its stakeholders.

The need for an engagement strategy, Prytula said, has been long overdue as low alumni engagement within the college was brought into sharp focus by a survey conducted this past spring.

“We were challenged in the survey—alumni told us that they felt disconnected,” said Prytula, who also happens to be a graduate of the college. “The feedback made sense because with the sequential program, students were in the college for only a year before leaving to intern, and then half a year after. It wasn't long enough. We realize that if we don't give them a sense of belonging, they will find something else to belong to.”

The college recently moved from sequential to direct admissions, meaning students will now spend four years, rather than two, learning to be teachers, a change Prytula believes will not only strengthen teaching and learning, but will create strong connections between students, eventual alumni, and the college. This change will be available for fall 2016 term.

Another part of the engagement strategy, launched for the first time this fall, is the pinning ceremony, which saw incoming students receive a special pin and had them sign an oath to demonstrate their commitment to the teaching profession.

“It was an amazing event to be at. Students felt great and there was an incredible sense of belonging achieved within the hour long ceremony,” said the dean.

“This is where people come to be teachers. The work that happens here is so valuable and we need to show everyone else that, whether it is on our walls or through our students, faculty, staff or alumni.”

[Image of Michelle Prytula]
How does the Canadian Light Source (CLS) synchrotron compare with other synchrotrons around the world? That is something Carin Holroyd, the latest social scientist in residence at the CLS, is trying to find out.

It is not a question with an easy answer, but she is asking it—part of her research involves surveying scientists around the world at other synchrotron facilities about government and industry involvement in science.

An associate professor in the Department of Political Studies, Holroyd's interests lie in political economy and the role of government in economic development—that is, "what should governments do, and what shouldn't they do, to help build a 21st century economy."

"From the academic and public policy side, there haven’t been a lot of scientists’ voices. So I was interested in hearing what do scientists think about the kinds of things that people say should be done to try to bring science and technology and commercialization together."

The comparative study looks at synchrotron facilities in other countries, including Japan, Australia and the United Kingdom, and asks, among other things, how government can improve opportunities for scientists to better collaborate with their industrial partners. "A number of synchrotrons are moving in a more industrial direction," she said, referencing a Japanese facility she visited that has 62 beamlines, including one owned by and used exclusively for research and development by Toyota.

The CLS has an industrial program, she explained, with a team of scientists who liaise with industry, but connections can also be hard to come by. This further affects funding, Holroyd explained, as they require industry funding money to apply for grants, but industry is not always willing to participate.

"There is a gap between the two, and how do you bridge that so that they can speak each other's language?" she asked. "Do you take a scientist who tries to talk to business, or reach out to a business-person who has a science background?"

Another option is to not overthink it at all. Holroyd spent time at a second synchrotron in Japan where scientists would regularly invite industry representatives to their research presentations. They would explain what a beamline is, how it works and what it could do for their business. "Sometimes it’s just as simple as that, just getting people in the same room."

Once science and industry are on the same page, she added, they can build a firm foundation for partnerships and further business developments. "There are amazingly interesting real-world applications and commercial potential opportunities from a lot of business science," she said.

Holroyd is still distributing surveys and collecting data, so her results are not yet finalized. However, she is interested in hearing from her international counterparts on what works and what does not work when it comes to commercializing synchrotron-enabled science.

"Generally, I’m just looking to see if there are interesting lessons or examples for how things are done in other places," she said.
Looking for a gift for the December 4, 2015 director, alumni and development manager, creative services communications co-ordinator marketing specialist social media specialist director, strategic and college news editor communications our meetings even punnier than usual. Bookstore, I imagine this well-illustrated gem making winter blues as well.

Everyone knows how to colour! This book and these crayons (available at the U of S Bookstore for $16.95 and $4.95 respectively), are perfect for curing the blues. Everyone has a childhood hobby they no longer pursue. My nieces are at tricky ages to buy for—one and 11. They’re too cool for little kid toys, but not quite ready to transition to cash-only presents. This Bluetooth speaker is perfect (and it has a clever name: Porta Party). Now they can dance around to Justin Bieber and Katy Perry as much as they’d like—preferably somewhere the rest of the family can’t hear it. Look for it at the Campus Computer Store for $24.99.

Don’t forget about the time spent complaining about the weather. There are appointments to get winter tires installed and there are lunch-hour haircuts so we look good at all the social affairs. And don’t forget about the time spent complaining about the weather. Between all of that, you might forget to pick up a gift for a co-worker or loved one. So now, for the second year in a row, On Campus News sent members of the marketing and communications staff to shop across campus to come up with some helpful gift ideas.

Happy holidays and see you in 2016!

JEN BOYLE, director, strategic and college communications

Adults returning to their childhood roots is all the rage this year, so what better present than the gift of crayons? This gift is perfect for that person who always says they want a new hobby, but doesn’t want to go through the effort of buying the equipment and getting training in how to do it. Everyone knows how to colour! This book and these crayons (available at the U of S Bookstore for $16.95 and $4.95 respectively), are perfect for curing the winter blues as well.

JEFF DRAKE, manager, creative services

You can buy a Huskies Second Semester All-Access Pass that will get you into every game they play for the rest of the season. It’s a great gift for sports fans—available at the Bookstore and only $55. Oh, and while you’re in the Bookstore buying this, buy some of their other stuff too.

KRIS FOSTER, news editor

We play on words and deal in puns, that’s why Have a Little Pun is the perfect book to give to my colleagues in strategic communications. For only $19.95 at the Bookstore, I imagine this well-illustrated gem making our meetings even punnier than usual.

CHRISTY MILLER, director, alumni and development communications

If you don’t want to wander further than your own desk, consider making a donation online for someone on your gift list. Sure, telling grandma that you’re supporting a student award in the college she graduated from may not be as thrilling as seeing her face when she opens up that box of doilies from your sister, but she’ll appreciate the sentiment and you can imagine the excitement on the U of S student’s face when they receive that scholarship or bursary.

TERI PARKHURST, marketing specialist

My nieces are at tricky ages to buy for—one and 11. They’re too cool for little kid toys, but not quite ready to transition to cash-only presents. This Bluetooth speaker is perfect (and it has a clever name: Porta Party). Now they can dance around to Justin Bieber and Katy Perry as much as they’d like—preferably somewhere the rest of the family can’t hear it. Look for it at the Campus Computer Store for $24.99.

LESLEY PORTER, communications co-ordinator

Don’t forget about your pets this Christmas. After all, they love us unconditionally every single day (or, if you have a cat like I do, just some of the time). These cat and dog stockings, for sale at the Veterinary Medical Centre at the Western College of Veterinary Medicine, are chock full of toys, food and treats. Not only are they a deal at $20, but proceeds go to the Saskatoon SPCA, so you’re supporting more than just your pet.

ANDY SARGENT, social media specialist

Everyone on my list is getting this chocolate-covered doughnut. Donut? Whatever. Because: 1. They are delicious. 2. Look at that face! 3. They are only $1.75. 4. They probably won’t last until Christmas so I will just eat them all. Merry Christmas to me!

JAMES SHEWAGA, media relations specialist

This adorable University of Saskatchewan Huskies plush toy caught my eye at the Bookstore and looks perfect for my young niece south of the border. A nice, unique keepsake that you won’t find in most toy stores in Saskatoon and beyond, and available at the reasonable price of $24.95. Sold!

Happy holidays and see you in 2016!

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CHECKLIST

Help reduce energy use while you are away!

• Shut down your computer
• OR use the lowest power-setting
• Turn off your monitor(s)
• Unplug personal printers or shredders
• Unplug cell phone or iPad chargers
• Unplug kettles and coffee makers
• Check the break room and kitchen too
• Lower blinds to retain building heat
• Ensure that all lights are turned off
Helping farmhands
Sustainability students examine local farm practices

MEAGAN HINTHER

Redberry Lake sits in central Saskatchewan near the town of Hafford. This saltwater lake nestled within rolling prairies is the nesting grounds for more than 180 species of birds—many endangered or threatened—and is a popular summer tourist destination. For the past 15 years, Redberry Lake has been designated a biosphere reserve where maintaining the health of the natural environment is practiced alongside a focus on meeting the needs of the local, mainly agriculture-based community.

In September, School of Environment and Sustainability (SENS) students worked with local farmers to help them assess the sustainability of their farm operations as part of a field course for students in the school’s Master of Sustainable Environmental Management program.

“Exploring Redberry Lake Biosphere Reserve was a wonderful opportunity, and I learnt so much during the field course,” said Alexandra Gresiuk, SENS student. “I’m from Saskatchewan, so I know how important agriculture is. I also care about the environment, but until this course I didn’t realize that sustainability and farming could coexist.”

Groups of three to four students were paired with a local cattle or crop farm and spent five days taking soil, water and vegetation samples, as well as evaluating the operations for how sustainably they were carried out. Students considered environmental, economic and social dimensions of sustainability. In late October, the students met with the farmers to present their reports and talk about their findings.

Gresiuk and classmates Ashley Shaw and Muzeiyi Bagonluri were paired with Nick Partyka, a farmer with a 3,000-acre cropland operation about 20 kilometers west of Hafford. Partyka’s family has been farming in the area since 1914.

“Nick is doing a really good job. He includes wetland buffers and uses a targeted instead of blanket approach when it comes to fertilizers,” said Gresiuk. “Our report focused on some of the potential consequences we could see coming up in the future like eutrophic wetlands, degraded soils and flooding.”

To help prevent this from becoming a reality, the students suggested the farm increase existing buffer areas around wetlands, to help the natural plant life filter the pesticides, fertilizers and herbicides used on crops. They also stressed the need to cover crops to limit soil erosion and add additional nutrients.

“We were looking at not only the impact the Partyka farm would have to its own lands, but also the impact to the larger biosphere reserve and ecosystem,” said Gresiuk.

Partyka was appreciative of the hard work done by the students and is looking forward to going through the recommendations in the report.

“There are a lot of good points in the report. We are doing quite a bit of it already and planning to do more, especially to control encroaching and noxious weeds, basically those invasive species,” said Partyka. “Otherwise these weeds take over the land and need more particular herbicides.”

“I liked working with the students—they are a very diverse group and I found learning about their local farm practices informative, like Alex’s experience in B.C. and Muzeiyi’s in Ghana,” added Partyka.

For the students’ part, working with the farmers was a rewarding experience as well.

“Having a client was really nice. You typically don’t have that experience of doing real work for a client while in school. I really liked getting the feedback from Nick. It makes me a better student,” said Gresiuk.

Meagan Hinther is a communications specialist with the Global Institute for Water Security and the School of Environment and Sustainability.

Outreach critical to research

From Page 2

of Sociology are working with colleagues at Hamline University in Southern Ethiopia to harness pulses to improve nutrition in poor rural regions.

Ethiopia has one of the highest rates of malnutrition in the world, explained Carol Henry, associate professor in the College of Pharmacy and Nutrition. This is in part due to heavy reliance on crops such as wheat, teff (a local grain) and root crops such as cassava.

“These crops are high in carbohydrates and have little or no protein,” Henry said. “They also deplete nitrogen from the soil, making it less fertile for subsequent crops.”

Backed by funding from Canada’s International Development Research Centre (IDRC), the Canadian-Ethiopian team, has worked over 17 years to produce superior varieties of peas, lentils and beans. They also identified local rhizobia—nitrogen-fixing bacteria that live on pulse crop roots.

“These bacteria, when spread onto the seeds of improved pulse varieties, increase crop yields up to 60 per cent and leave valuable nutrients in the soil for the next season’s crop,” said Bruce Coulman, a U of S plant breeder involved with the project.

“The nitrogen fixation also provides an accessible, effective, and affordable alternative to inorganic nitrogen fertilizers, which few smallholder farmers can afford.”

Outreach is critical to the success of the project. This demands expertise in nutrition and gender researchers, to soil and plant scientists, food processors, and post-harvest marketers.

For example, the research team had to demonstrate to farmers that pulses were a worthwhile option. Outreach extended to the kitchen, where women were introduced to techniques such as sprouting pulses to make nutrients more available and mixing pulses with grains to provide more complete nutrition.

“It’s allowed for increased consumption at the household level and extra income through the sale of pulses at market,” said U of S nutrition scientist Gordon Zello. “It has also led to improved nutrition status in the highest risk populations, that is, adolescents, women and children.”

The project is on target to reach about 70,000 farmers over the next two years.

There is no doubt that U of S scientists have their fingers on the pulse of this area of research.

Gordon Sarty has been appointed as acting head of the Department of Psychology for a one-year term effective July 1, 2015.

Lawrence Martz, was appointed vice-dean, faculty relations, College of Arts and Science for a three-year term effective July 1, 2015.

Marvin Painter was appointed as acting head of the Department of Human Resources and Organizational Behavior, effective September 18, 2015 for up to six months.

Dirk de Boer was appointed as the acting head of the Department of Indigenous Studies for an eight-month term effective October 1, 2015.

Daphne Taras’ term as dean of the Edwards School of Business has been extended to June 30, 2016.

Liz Harrison’s term as associate dean, School of Physical Therapy and Rehabilitation Sciences, has been extended to December 31, 2016.

Nicole Rezon-Couture has been appointed senior financial officer in Corporate Administration. Her corporate experience includes research and development, manufacturing and processing, biotechnology, software development, and professional services with international operations.

Len Findlay, professor of English, will lead a Canadian Association of University Teachers Ad Hoc Investigation into events related to Enbridge sponsorship of the Centre for Corporate Sustainability at the University of Calgary. He will be assisted by colleagues from Western University and Osgoode Hall Law School in examining and reporting on questions of academic freedom, conflict of interest, and donor influence on academic decision making.

Around the Bowl

Gordon Sarty

Lawrence Martz

Marvin Painter

Dirk de Boer

Daphne Taras

Liz Harrison

Nicole Rezon-Couture

Len Findlay

SUBMITTED
An interprofessional approach to health education

The University of Saskatchewan is embarking on the development of an interprofessional education (IPE) curriculum for its health science colleges.

IPE, as defined by the World Health Organization, is when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes.

While this is certainly true, Dr. Iry Oandasan prefers to look at the outcomes of IPE and how it benefits society—that is, the people at the receiving end of health care.

“At the end of the day, IPE is a means to improve patient outcomes,” she said. “It enables health care professionals to practice together.”

A leader in IPE research and teaching at the University of Saskatchewan, Oandasan facilitated a session with health science leaders at the University of Saskatchewan on Dec. 4 to help get the ball rolling on a curriculum for students who plan, organize and partake in a two-week series of workshops and meetings focused on health care providers and practice partners.

“An interprofessional approach to health education is a means to improve patient outcomes—that is, the people at the receiving end of health care,” said Oandasan.

This has led to some success in the courts as indigenous peoples claim their legal rights such as the duty to consult as recommended by the Supreme Court of Canada.

“The consultation means and modes of course, people could debate for 25 years,” Odumosu-Ayana said.

“Some are beginning to take their attention to these matters and that’s a positive development.”

In the end, governments and companies are recognizing that community stakeholders must have a seat at the table for resource development to be successful.

“They are asking for declarative statements regarding the constitutionality of particular health as reflected in how hard a similar effort in Nigeria is being resisted. She explained that many cases in that country involve compensation—a landowner objects to a company’s activity and takes them to court. But one such case, which has been argued for a number of years, applies to constitutionality. This means that the relevant legal ruling will apply to all Nigeria.

“They’re asking for declarative statements regarding the constitutionality of particular health laws,” Odumosu-Ayana said. “Those are the kind of things we need, as it would affect all projects across the board.”

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Free textbooks save U of S students money

MEGHAN SIRED

This academic year, instructors of six courses at the University of Saskatchewan (U of S) opted to use free digital open textbooks instead of traditional paper ones, saving 900 students a total of $90,000 in textbook costs.

“Increasing our use of open textbooks is an important initiative that speaks to our broader goal of reducing costs for students and using innovative teaching tools,” said Patti McDougall, U of S vice-provost of teaching and learning. “These texts reduce costs for students, give instructors more control over their instructional resources and improve learning outcomes for students. It’s a win-win for everyone.”

Open textbooks are licensed under an open copyright license, and made available online to be freely used by everyone. These texts are available for viewing on a computer, smart phone or tablet via the internet or as a document that can be downloaded for off-line viewing or printing.

Traditionally published textbooks are produced under closed copyright, meaning they cannot be shared, re-used or re-purposed. They are usually costly, with new editions re-purposed. They are usually not affordable for students.

Open textbooks are produced under an open copyright license, meaning they can be shared, re-used or re-purposed. They are usually available online for free or at a lower cost.

Jacqueline Gelineau, a student who used an open textbook for the first time last year, noted the benefits of using open textbooks, compared to commercially published textbooks, said Ross. “Open textbooks will provide the same quality and variety of content as commercially available ones, with the additional advantage that open textbooks may be customized by instructors.”

Scott Moe, Minister of Advanced Education, said the Government of Saskatchewan is committed to making education more affordable for students.

“Open resources are used at institutions around the world and we’re proud to make use of this innovation in Saskatchewan as well,” said Moe.

Ross said it is in part due to this commitment that Western Canada—Saskatchewan, Alberta and British Columbia—is leading the free open textbook movement in Canada.

Effective March 12, 2014, a memorandum of understanding, titled Open Educational Resources, states that the governments of British Columbia, Alberta and Saskatchewan wish to collaborate on the development of common open education resources within their respective advanced education sectors.

“The potential to work with other post-secondary institutions and open textbook publishing organizations provides huge benefits to students and instructors at the U of S,” said Ross. “We’re just getting started, but people from across campus are already getting excited about open textbooks. If this enthusiasm continues, we’ll definitely see an increase in the use and creation of open educational resources.”

The tri-provincial memorandum encourages the use of best practices, fosters greater collaboration and understanding of key issues and trends, and helps governments share the savings it will generate for open textbooks, compared to commercially published textbooks, Ross said. “Open textbooks will provide the same quality and variety of content as commercially available ones, with the additional advantage that open textbooks may be customized by instructors.”

Open textbooks were also used this fall in courses in the Edwards School of Business and the Department of Chemistry in the College of Arts and Science.

Open textbooks can be used by professors here at the U of S as commercially available ones, with the additional advantage that open textbooks may be customized by instructors.

Instructor-written and peer-reviewed open textbooks are available through organizations such as BCcampus in British Columbia and OpenStax in Texas.

Meghan Sired is a communications co-ordinator in the Office of the Vice-Provost Teaching and Learning.

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*Assuming an average textbook costs $100
The way research is done in the health sciences is evolving. No longer are primary investigators (PIs) and their research staff assigned to one lab, siloed from others outside his or her subject area. Instead, research clusters are becoming the norm, which encourage collaboration across disciplines. This is evident in the D-wing of the Health Sciences Building, where large, floor-to-ceiling open lab space supports modern research activities.

“Over the last few years, we’ve moved several PIs into the cluster labs instead of PIs having their own labs,” said Angela Seto, manager of the molecular design laboratory. With research ranging from cancer to mass spectrometry to cardiovascular health, “each cluster is organized based on their research interests. Even if people aren’t in the same department or college, they’re in the same physical area because their research overlaps.”

Of course, having that many people in one space has its own set of challenges. “Some labs have six PIs, some have 20. It requires a central person to manage day-to-day things like equipment, training, and making sure everyone follows standard operating procedures and safety policies,” added Seto, who has a master’s degree in biology and plenty of prior lab experience under her belt. “That’s my role, to make sure everything runs smoothly in the labs.”

One part of her job she’s particularly fond of is using the X-ray diffractometer. The machine, which is about the size of a small room, uses radiation to analyze various material sources, particularly delicate crystals.

“It’s basically a pre-cursor to the synchrotron,” she said. “It’s neat to see it up and running.”