

PASSIONATE VOICE

Sylvia McAdam Saysewahum believes institutions like universities have an important role to play in supporting efforts to share Indigenous history and ways of knowing. She is doing her part through her advocacy, her writing and her work with the Indigenous Voices program at the U of S. Read more on Page 3.



COLLEEN MACPHERSON

Returning to IP3

Eight priorities refocus on the integrated plan

COLLEEN MACPHERSON

Almost six months after the TransformUS program prioritization process was laid to rest and a new set of priorities established, the interim provost and vice-president academic is encouraged by the effort being brought to bear on significant projects for the U of S.

Ernie Barber said the eight priorities outlined last September in fact refocus the institution on the objectives of its third integrated plan (IP3), *Promise and Potential*.

“This set of initiatives needs to be understood within the framework of what we wanted to do in *Promise and Potential*. They’re all in the plan in various ways,” he said, adding a period of leadership transition like the University of Saskatchewan is in at the upper echelons of the organization “is not usually the time to strike off on a new strategic direction.”



Ernie Barber, interim provost and vice-president academic.

Since the priorities were announced, a person has been appointed to lead each and Barber is seeing members of the campus community “putting our individual and collective energy into projects with university-wide importance. Our guidance is still IP3. We’re demonstrating we can focus and

we are modelling distributed leadership, and I’m very pleased with that.”

Barber pointed out while he is not in charge of the individual projects, “I still have an eye on them all because I need to make sure the leaders and teams get what they need to accomplish the initiatives.”

He went on to highlight the progress made in each of the eight priority areas.

PRIORITY 1: Accelerate the delivery on the commitment to Aboriginal achievement

This priority, lead by Heather Magotiaux, vice-president of advancement and community engagement, “is in some ways too big to call a single initiative.” Work is focused on building a representative workforce and a proposal is being made for additional investment in Human Resources and the office of the vice-provost for faculty relations to assist units with activities like developing representative candidate pools, he said. There will also be a pilot project designed to help colleges identify and hire Aboriginal scholars.

“We also need to make

a decision about Indigenous Voices,” an initiative designed to build awareness and understanding of Indigenous ways of knowing. Funding for the program from the Provost’s Committee on Integrated Planning ends this year, he said. Barber is also looking at the Indian Teacher Education Program (ITEP), describing its funding as vulnerable. “My role is to make sure this program does not disappear because of changes to external funding.”

PRIORITY 2: Continue the restructuring of the College of Medicine

Dr. Preston Smith, dean of medicine, is leading the continuing efforts to address a number of issues within the college. Barber said one of the

See *Individual*, Page 2



Individual, collective effort on projects

From Page 1

most challenging issues centres around attaining clinical research and clinical teaching faculty members.

PRIORITY 3: Deliver on the promise of inter-professional health education and interdisciplinary health research

The interim provost said additional investments would be made in the Council of Health Science Deans to create positions dedicated to developing programming. This priority is being led by Karen Chad, vice-president of research.

PRIORITY 4: Advance the reorganization and strengthening of graduate studies and support for graduate students

“Before the end of the academic year, we will have signalled to

campus what we are doing about the organizational structure of the College of Graduate Studies and Research,” said Barber. “I think it’s fair to say it will not be business as usual but graduate studies will not be reduced to just an academic unit.”

Priority leader Adam Baxter Jones, acting dean of the college, will also be releasing a report identifying priority areas for financial support for students. Barber added the recent drive to unionize grad students is a call for the university to pay closer attention to them as employees.

PRIORITY 5: Continue the capital project for the transformation of the library collections, facilities, capital and services

This project is decades old, he said and was originally focused on the Murray Library

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Ernie Barber

and Murray Building only. That has changed to include the entire library system and Barber said the project’s capital steering committee has resumed meetings. Library Dean Vicki Williamson is leading the initiative.

PRIORITY 6: Complete the reorganization and revitalization of centrally organized teaching and learning activities and functions

Patti McDougall, vice-provost teaching and learning, is managing the reorganization, said Barber. Two of three units in Media Access and Production (eMAP) have been repositioned in Information and Communication Technology, there has been progress on moving non-credit programming from

the Centre for Continuing and Distance Education (CCDE) into colleges, and the University Learning Centre will be transferred to the library, a change that Barber said will be seamless for users.

PRIORITY 7: Focus on the creation of inter-disciplinary and cross-college academic programming

“This is devilishly difficult because this university favours academic programming that is uniquely linked to one academic unit,” commented Barber. But there were examples of cross-college programs identified in the program prioritization process and Toddi Steelman, priority leader and executive director of the School of Environment and Sustain-

ability, is working with deans to expand the offerings in environmental studies. The goal, Barber said, “is creating opportunities for better outcomes for students with the same resources ... (but) we need to walk before we run.”

PRIORITY 8: Align administrative services culture to support and facilitate the academic mission

Initially, this realignment was expected to take place in pieces but Barber said it has become apparent it needs to happen across all services and across the campus. Greg Fowler, vice-president of finance and resources, is working with a consultant to assess how services are delivered and develop a new model. Barber added the goal “is to make sure that our central administrative services are college facing” with a how-can-we-help attitude.

After recapping the priority-area efforts, Barber added he senses that “most people are like me—they’re proud of this university and that pride is like the pride you have in a child. You want to protect them from harm but you also want them to get better. This process is about putting the effort into being better.” ■



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Sylvia McAdam Saysewahum: a passionate Indigenous voice

COLLEEN MACPHERSON

Sylvia McAdam Saysewahum is a passionate woman. She is passionate about the land but does not describe herself as an environmentalist. She is passionate about correcting the wrongs of the past that have disadvantaged Canada's Indigenous people but she never calls herself an activist. Most of all though, she is passionate about education, and life-long learner is a description that fits her to a tee.

Saysewahum, special projects co-ordinator in the Gwenna Moss Centre for Teaching Excellence, has spent her life educating herself and others, and for more than a year, has focused those efforts at the U of S through the Indigenous Voices initiative.

Indigenous Voices was created three years ago, she said, "with a hope and a dream to provide opportunities to faculty and staff to learn about Indigenous ways of knowing. For example, our history is not written in any European textbook; our history is written out on the land and when you destroy Indigenous history."

Education is key, said Saysewahum, who will soon shed McAdam in favour of her family's traditional surname (Her great grandfather went into a residential school with the surname Saysewahum, and came out a McAdam, she explained, "but obviously we're not Irish.").

Education, she continued, "can create one portion of a paradigm shift and that's badly needed because the erasure of Indigenous people in the colonizers' systems is problematic. Indigenous voices need to be heard. These voices have been silent for a long time and I want to be a part of that."

And she has been for some time, most notably as a founder of the Idle No More movement. Born and raised on the Big River First Nation, Saysewahum pursued life coach training after high school, then did a degree in human justice at the University of Regina. From there, it was a series of jobs: social worker, radio announcer, firefighter. "I just love learning."

But working as an Aboriginal resource officer with the Saskatoon Police Service "was an eye-opening job" for

Saysewahum. The work involved guiding victims through the systems of laws and the resources available to them, and what she saw was "an unending cycle of children who had been in the system and who have grown into adults and are still in the system."

“ Education can create one portion of a paradigm shift and that's badly needed because the erasure of Indigenous people in the colonizers' systems is problematic. Indigenous voices need to be heard. These voices have been silent for a long time and I want to be a part of that.

Sylvia McAdam Saysewahum

It was then she decided to study law. While enrolled at the U of S, Saysewahum, a single parent to seven children, worked to support herself and her family, and wrote a book for the Saskatchewan Indian Cultural Centre entitled *Cultural Teachings: First Nations Protocols and Methodologies*. How did she do it? "I didn't sleep." She graduated 2009.

Law continues to be an abiding interest for Saysewahum, whose second book—*Nationhood Interrupted: Revitalizing Nêhiyaw Legal Systems*—will be released by Purich Publishing March 5. In it, Saysewahum takes the unique opportunity to share Nêhiyaw laws.

The book, she said, "is the first time that elders have given permission for our laws to be written down. I think it's also a part of my people's laws that if you have knowledge to share you must share it. It's an obligation and a responsibility."

When asked whom she believes should read the book, her reply was "absolutely everyone and I hope for other Indigenous nations that this (book) will create a template to revitalizing their laws. This knowledge is diminishing and I'm not going to live forever and neither are my parents. This knowledge is inherent knowledge; it's not hidden and it shouldn't be hidden. It belongs to the public."

Past events prevented knowledge of Indigenous laws being shared nation to nation, she said, "and this is, I hope, a process of correcting that. It's a healing, nurturing, loving, respectful, peaceful process. It's always been there; I've just translated it into English."

Saysewahum said she is pleased with the progress made through the Indigenous Voices initiative "but there's always more that can be done. We can always do better but 500 years of colonization is not going to change in three years."

In addition to creating opportunities to broaden understanding of Indigenous ways of knowing, institutions like the U of S need to be more vocal on many issues, she continued, in particular the doctrine of discovery, the claiming of exclusive rights to lands by colonial powers.

"When we think about decolonizing, when you explore that term, it means, in its international understanding, to give back the land, to give back the resources to Indigenous people. I think we all need to

think about that and question why the court system today still applies the doctrine of discovery yet there is not legal basis for it in international discourse."

She applauded a recent paper by Ken Coats, Canada Research Chair in Regional Innovation at the U of S, that encouraged provinces to share revenue from natural resources with Aboriginal people. "That's a huge step and we need more of that."

"When I do presentations, I talk about treaty, about the erasure of Indigenous knowledge, the resources that are being extracted in violation of treaties and Indigenous sovereignty, and what the treaties promised in terms of land. That's what I talk about in the book and that's exactly what Indigenous Voices is about."



Saysewahum

Although she enjoys her work, Saysewahum's passion for learning appears to be leading her toward a PhD program of exploring land-based pedagogies around the world from the understanding of Indigenous people. "That's totally me. My history is connected totally to the land." ■

FROM THE ARCHIVES

We are the champions



PATRICK HAYES, UNIVERSITY LIBRARY, UNIVERSITY ARCHIVES AND SPECIAL COLLECTIONS

RG 2095.

In March of 1979, the University of Saskatchewan Huskies became the first and only double (men and women's) national volleyball champions.

Both programs have had much success. Since 1976 when the University of Saskatchewan began playing varsity volleyball, each has won four national championships. The game's history on campus, however, is much older. A strong inter-mural program emerged in the 1950s. The first inter-collegiate game was in 1955 against the University of Alberta. For the first two years,

the men's intermural champions represented the university; after that, a varsity all-star squad was formed.

The U of S has hosted a number of tournaments including Super Volley, which started in 1973 and was at one time the largest volleyball tournament in North America. Several national teams have played on campus and there has been a longstanding relationship with Japanese volleyball. This year is the second time the University of Saskatchewan has hosted the national men's tournament. ■

NEW TO US



Saman Razavi

The possibility of long-term water shortages was an issue Saman Razavi always considered of great concern while growing up in Tehran.

"Iran, and the Middle East in general, is a water-scarce region. Water is very important, arguably as important as oil."

When he moved to Canada to pursue his PhD in hydrology at the University of Waterloo, Razavi found himself living in a country perceived as having an abundance of water, but where that may not always be the case.

"Eventually Canada may even face (water scarcity)," Razavi said. "I've seen how people are vulnerable to water, and how people can fight over water. This is what drives my research and career."

Razavi is the latest researcher drawn to the U of S by the Global Institute for Water Security and its "ambitious and world-class research program." He joined the School of Environment and Sustainability as assistant professor in watershed modelling in November, following a postdoctoral fellowship with the College of Engineering.

"My current research has two parts—how source water is generated and how we forecast, and the second component involves how we control and allocate that water," he said. "Basically: what water are we going to get, and how are we going to use it?"

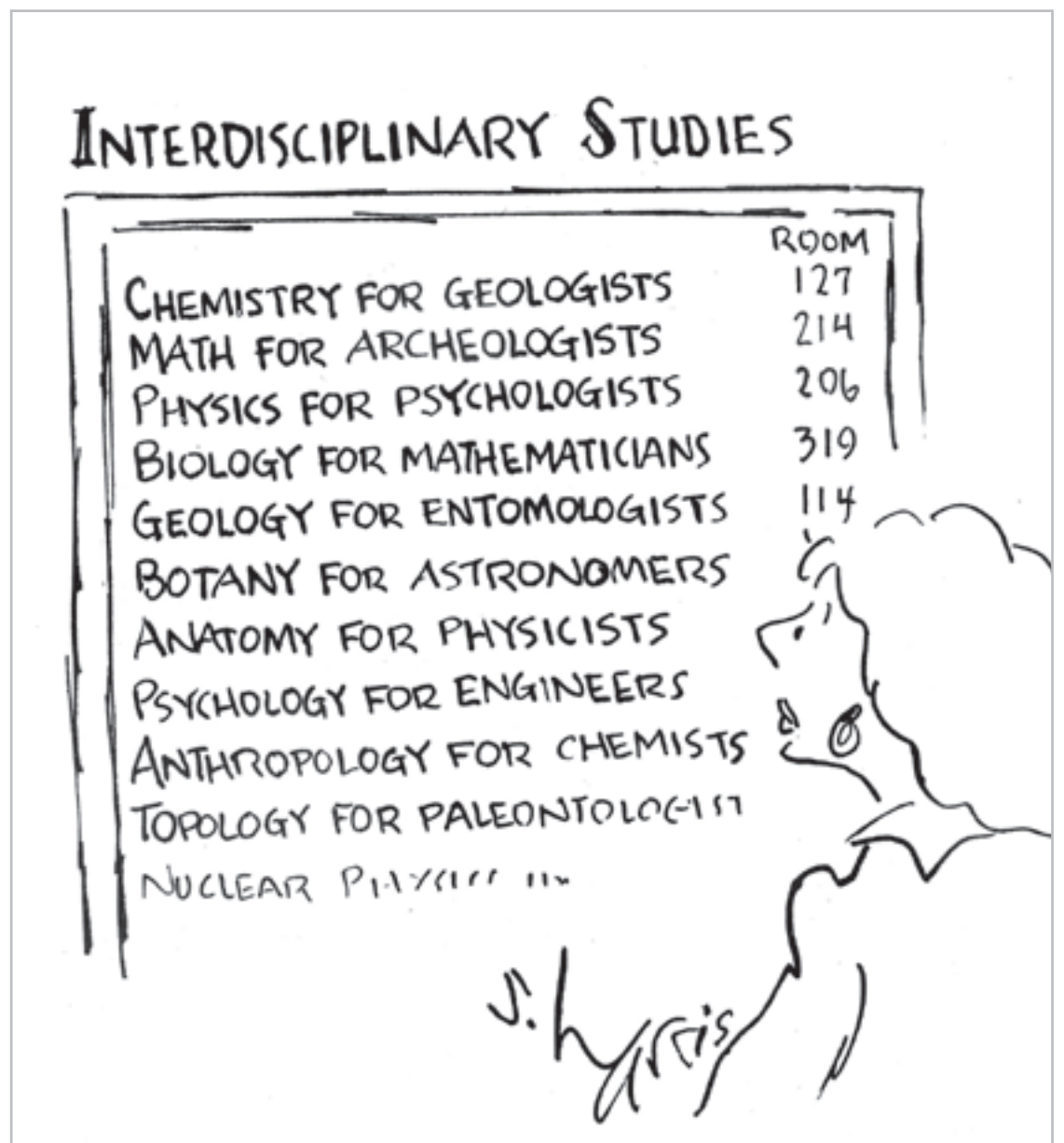
In his master's studies at the Amirkabir University of Technology in Tehran, Razavi focused mainly on the water management or second half of the question. But in his PhD, he focused on the hydrological side.

This gives him, he explained, a unique perspective in the water resources academic community. He has worked with both the hydrologists and the water resource managers and can understand where both groups are coming from and what their needs are.

"In traditional hydrological modelling, you're mainly dealing with nature and physics. But when it comes to water management you're mainly dealing with people, making it incredibly challenging."

But with that challenge comes opportunity: "I can develop a new avenue for research into global understanding of water problems and their solutions." ■

NEW TO US highlights the work of new faculty members at the University of Saskatchewan. If you are new to campus, or know someone who is, please email ocn@usask.ca



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Board of Governors to host reception for community

The U of S Board of Governors is changing up the format of its annual meeting with the campus community, hoping to create a more satisfying event for everyone.

For the past number of years, the board has held a gathering in Convocation Hall where various board members spent time describing the work they do followed by an open question-and-answer period, explained University Secretary Beth Williamson. The goal was to demystify the board and its responsibilities, to allow members of the board to meet members of the campus community and to answer questions about the board's work "but there has been a sense those meetings were not accomplishing those purposes," she said.

One issue with the format was that many of the questions posed from attendees were

outside the purview of the board and best answered by senior administrators. "It was ask a question, get an answer, ask another question, get an answer. The board felt it wasn't communicating or getting to know the community better."

Still with the goal of helping people understand the board's role and giving them the opportunity to ask questions, board members decided to move to a more informal format that they are calling a campus community reception. On March 23, board members will gather at Louis' Loft from 4:30-6 pm and will make themselves available to meet and talk to staff, students and faculty, explained Williamson. She added the event will not be open to the public, just to those who work and study at the U of S.

"We hope there will be more one on one or small group discus-



Williamson

sions, that people will be able to talk about things in a conversational way. The hope," she continued, "is that this format leads to a healthier understanding of each others positions."

The campus community reception coincides with a two-day meeting of the board and its committees March 23 and 24. ■

Anyone wishing to attend the Board of Governors campus community reception March 23 can RSVP to alumni.usask.ca/events/registration

ON CAMPUS NEWS

On Campus News is published 18 times per year by University of Saskatchewan Marketing and Communications. It is distributed to all U of S faculty, staff, graduate students and members of governing bodies, as well as to others in the university community, related organizations, some Saskatchewan government officials and news media.

Subscriptions are available for \$22 per year. Story and photo ideas are welcome. Advertising rates are available online or on request.

On Campus News aims to provide a forum for the sharing of timely news, information and opinions about events and issues of interest to the U of S community.

The views and opinions expressed by writers of letters to the editor and viewpoints do not necessarily reflect those of the U of S or *On Campus News*.

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18	May 22, 2015	May 14, 2015

Penguins are what they eat

Patterson finds diet change affecting populations

✍ KRIS FOSTER

Cute little penguins in the Antarctic face ugly big problems.

Penguin populations in the region have been in decline for some time, but there has never been a clear reason, said Bill Patterson, geology professor and director of the Saskatchewan Isotope Laboratory.

In search for answers, Patterson boarded the ship National Geographic Explorer and headed to the South Pole to examine the nesting sites of three brushy-tailed penguins—Adélie, Chinstrap and Gentoo. What he discovered were significant population declines in two species and slight growth in the third over the past 100 years.

“We examined (isotope values of) eggshells and bits of prey items from guano around rookeries and there were no substantial changes for 44,000 years,” said Patterson. “It was a boring data set. So then we examined samples from 2003, and it was completely different. Isotopic changes coincided with population drops.”

The change, Patterson continued, was linked to diet, specifically the consumption of krill, a crustacean closely related to shrimp. Krill populations have changed drastically over the past 250 years for many reasons, including changes in whaling and sealing, fisheries and climate change.

“When krill populations went up due to whaling and sealing—removing those krill feeders—penguins switched to eating krill,” Patterson said, adding that krill were abundant and slow, meaning penguins could feed more quickly and be in less danger from predators like leopard seals and killer whales. “Penguins are very aware that their lives are in danger every time they jump into the water.”

They are so aware of predators in the water, he said, that it is not uncommon to see a group of penguins standing by the water’s edge, waiting until one brave penguin jumps in to test for safety.

“They will wait and watch until either that



Adélie penguins and Bill Patterson, aboard the National Geographic Explorer.

PHOTO SUBMITTED

one penguin resurfaces or not. If it comes up, they all jump in.”

So penguins got hooked on krill because of availability, but then krill populations started to decline. “Whaling began in the 1760s and krill populations grew but when whaling and sealing stopped, those populations recovered substantially.”

As whale and seal populations bounced back, krill populations went into decline, a situation that was even more pronounced because fisheries began catching 150,000 to 200,000 tons of krill per year for food, feed and oil.

Not only was there now a shortage of krill for penguins to feed on, but what was left of the krill population was moving south because of climate change. “The warmer temperatures resulted in krill population moving (to a more suitable climate),” said Patterson.

The penguin diet over the past 100 years to present day is quite different from the krill-only diet during periods of stable populations, Patterson continued. “By examining feathers, nails, guano, stomach contents and eggshells, we know that their diet is now mostly squid, emerald rock cod, silverfish, ice fish and other fish that are further below the surface.”

All these seemingly unconnected events have resulted in penguins competing for scarce food and adapting to new food sources.

“We taught them to eat krill and then took that away.”

This diet change has been problematic for Adélie and Chinstrap

penguins that are selective eaters; those populations have decreased between 30 and 50 per cent and 20 and 30 per cent respectively. The story for Gentoo penguins is startlingly different.

“Because Adélie populations are collapsing, Gentoos are expanding into those nesting sites,” he said. “Gentoo are like teenagers and will eat anything compared to Adélie and Chinstraps which are very

selective eaters.”

Unfortunately, this is not the end of the story, said Patterson, especially when looking at projected temperature increases.

“There are lots of important

animals in this ecosystem and we don’t know how further climate change will influence the ecosystem. It’s changing faster now than it has over the past 30 million years.” ■



Nominate a colleague for the President’s Service Award

SELECTION CRITERIA

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.

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For further information, call 306-966-6613.

NOMINATIONS

All members of the University of Saskatchewan community are invited to nominate an employee for the President’s Service Award. **Each nomination must include:**

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4. exactly three signed letters of support. These letters may be:
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 - from external supporters as they relate to the work of the nominee at the university; or
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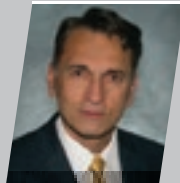
COLLEEN MACPHERSON

LUNCH

This female Merlin was spotted near the Education Building Feb. 12 enjoying the spoils of her morning hunt. Known in Medieval times as lady hawks, Merlins are small fierce falcons that use surprise attacks to bring down other birds. A couple of pairs are known to nest close to campus and live largely on a diet of pigeon but sightings with close are rare.



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Playing host to young, bright minds

LESLEY PORTER

The University of Saskatchewan has always played host to bright minds—some of them are just younger than others.

The Academic Research/Work Placement Program is an initiative between the Saskatoon Public School Division (SPSD) and several organizations in Saskatoon, including the U of S. A number of colleges participate in the program, which aims to place Grade 12 students in an area they are hoping to pursue after high school. The variety of programs for students to participate in is wide, from health sciences and engineering to law and the social sciences.

Over the course of 10 weeks, students from participating schools come to campus to work alongside faculty, staff and researchers for two hours a day, explained Marlene Flaman Dunn, career education co-ordinator for SPSPD.

“In their senior year, we like to get them on campus, in the area of their interest, where they get a chance to talk to people in the field—professors, researchers, grad students, undergrad students—and they get a feel for what may be in store for them,” she said.

Many of the students have completed the required senior-level courses well ahead of time and are facing spare periods in their schedule. “They have room in their timetable and they want to have something that’s challenging for them.”

More than 200 high achievers have participated in the program since its launch 12 years ago. In addition to getting hands-on experience and a taste of the real world, students earn credit for their grade 12 career and work education class.

One of the most sought-after placements at the U of S, according to Flaman Dunn, is in the Western College of Veterinary Medicine (WCVN); since 2003, 31 students have completed placements in the college.

Cathy Coghlin is a research technician in the Department of Veterinary Biomedical Sciences at WCVN and also co-ordinates the placement program for the college. She strives to give the



Cathy Coghlin co-ordinates the Academic Research/Work Placement Program in the WCVN.

LESLEY PORTER

students a well-rounded experience over their placement period, which can include classroom, lab and clinical work. By doing so, she hopes to expose them to the academic environment awaiting them if they pursue veterinary studies.

“When I was in school, to be a vet was to play with puppies and kitties. I had no clue what was involved in becoming a vet,” she said with a laugh. “It’s a total immersion for them to understand what’s expected of them, and what they are going to have to learn in order to become a DVM (doctor of veterinary medicine).”

The students participate in everything from lectures and assisting with lab set-up, to learning proper animal handling techniques and assisting with clinical procedures, she said. “They’re seeing how it all ties in. You see the lightbulbs going off.”

And faculty members in the college are keen to mentor and work directly with students in the lab and clinical environments.

“They get to see radiographs being done, they get to see ultrasounds being done,” said Coghlin. “If there’s an MRI being done that day, they don’t necessarily go right in but they can see what MRI scans look like

that the vets look at to determine a diagnosis.”

The program may also ease the sometimes-rocky transition from high school to university, a struggle for many students, said

Flaman Dunn. If they know what is expected of them academically and apply themselves, they are more likely to be successful in their studies, she added.

Students apply to partic-

ipate directly to the school division. This involves submitting recent transcripts, a questionnaire explaining why they want to take the program and two reference letters from teachers who can vouch for their academic ability as well as their level of maturity.

In the academic placements on campus, students are typically paired with a researcher or graduate student. There is usually a short period of time to allow the students to familiarize themselves with the subject, and once they do they fit in well, said Coghlin. A few have even had their names listed as a researcher in an academic journal article before they are officially a university student.

Hands-on experiences such as these are invaluable, said Flaman Dunn, for both student engagement and career exposure. “It is paramount to expose them to a potential career path. I would much rather see those students engaged in higher areas of learning than taking spares.” ■

“You see the lightbulbs going off.”

Cathy Coghlin

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Henry Peters, Dec. 19

Susan Dawson, English, Jan. 13

Liana Kinar, Veterinary Medicine, Jan. 15

Raina Wallace, Computer Science, Jan. 28

Low-cost fresh produce proving popular on campus

MARG SHERIDAN

Winter is no excuse to skimp on eating your greens, and thanks to a handful of Health and Science students you do not even have to venture out in the cold to stock-up on some fresh, and inexpensive, fruits and vegeta-

bles for the family. "The booth shares up-to-date health information while providing access to low-cost fresh produce for the Health Sciences and RUH communities," explained Tatiana Rac,

one of the food booth founders alongside fellow medical student Erin Beresh and Sarah Finch, a registered dietician and PhD candidate. "It brings us closer towards establishing a culture of health promotion, disease prevention and food security." Originally the group was hoping to set the booth up in the RUH, but now with the support of FLIP (Fostering Leadership through Innovative Programs) and the Saskatchewan Medical Association, they have decided to use the E-wing Atrium in the Health Sciences Building in the hopes of drawing staff, students and the families of RUH patients alike to the local table.

"In that building, we're supposed to be promoting health, but we have nothing but vending machines and Tim Hortons," explained Jennifer Peterson, a public health student who is part of the group of College of Medicine students hosting the booth. "People were pleased to see that they could just grab an apple or banana for a snack, and even stuff like spinach that went over really well!"

The produce is being purchased at wholesale prices from CHEP Good Food Inc., an organization that is working to help improve access to healthy food in the city, which means that when it is offered at the booth, the

prices are lower than the cost of buying fresh fruit elsewhere on campus. The produce available at their first booth in January was limited to apples, bananas, spinach and baby carrots but the response was so enthusiastic that organizers are hoping to have a broader selection at the February booth.

"We did a survey of what other produce people would like to see," Peterson continued. "Lots of answers were oranges, avocados and cucumbers so we're going to try to bring in more next time." The fruit was being sold at three pieces for \$1, allowing the students and staff to mix and match their own snack. But the biggest surprise, according to

Peterson, was the popularity of the spinach, which sold out.

"We were surprised it went over so well," Peterson said with a laugh. "It's not something someone's going to take back to their desk to eat, but a lot of people bought it to take home, and we were kind of surprised because we figured it was the grab-and-go stuff that would be most popular."

Moving forward, the group is hoping to increase the engagement at the booths by offering health-specific information as well as a venue for healthy snacking. ■

Marg Sheridan is the online communications co-ordinator in the College of Medicine.

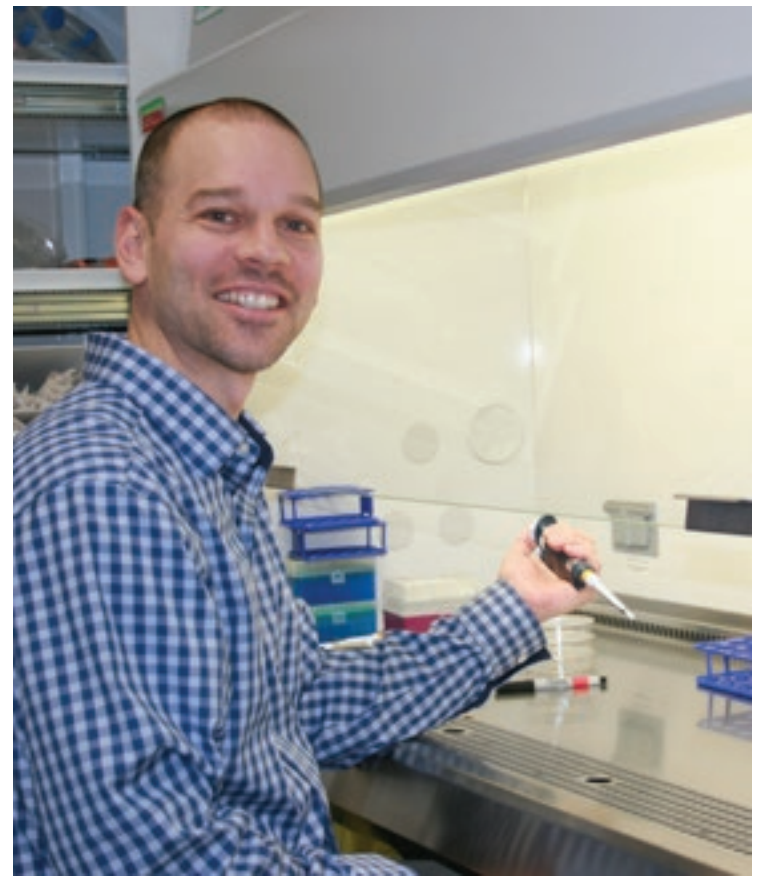


The healthy food booth in the E-wing atrium of Health Sciences.

COLLEEN MACPHERSON

Learning about the link between copper and human disease

MICHAEL ROBIN



Biochemist Scot Leary.

MICHAEL ROBIN

University of Saskatchewan researcher Scot Leary has begun to shed light on a little-understood process critical to life—how cells regulate copper.

"You have about 30 proteins in the cell that require copper," said Leary, a biochemist in the College of Medicine, adding that copper dysregulation is at the root of a multitude of illnesses, including Lou Gehrig's disease and dementia. The body's cells also use copper to fight off infections.

Changes in the way the

body handles copper, "be it acquisition, distribution or excretion, cause severe, fatal forms of human disease," Leary said, explaining that there are intricate mechanisms to move copper around the body. "However, we know shockingly little about these mechanisms."

Leary and his team demystified copper somewhat with their discovery that mitochondria, the power plants inside all living cells, help to balance

See *Copper*, Page 11

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ENERGY & WATER

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Dementia over distance

Meeting care needs in rural and remote areas

✍ MICHAEL ROBIN

Dementia is devastating to both patients and caregivers, but it is especially so for people living in rural and remote areas, said cognitive neurologist Dr. Andrew Kirk.

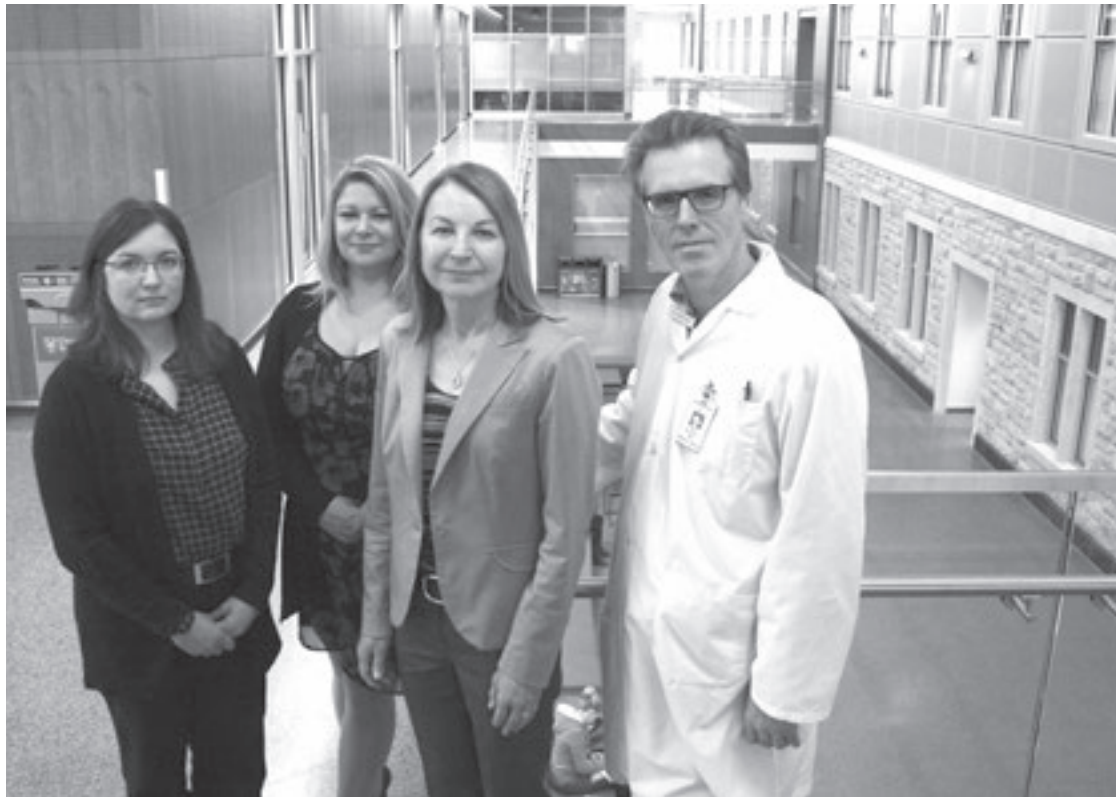
"If you live 40 kilometres from the nearest town and you have to go there to get groceries, it can be very difficult not to be able to drive, for example," he said. "Children of the patient are more likely to live elsewhere, so that can be difficult too. As well, these are often elderly folk, frail people, so it's hard to travel four hours to Saskatoon for a medical appointment."

Kirk is part of the Rural Dementia Care team at the College of Medicine. Formed in 2003 and led by rural health delivery specialist Debra Morgan, the team conducts research and shares knowledge around the province aimed at improving diagnosis, treatment and care of both people with dementia and their caregivers.

Morgan explained that rural people identify a whole spectrum of issues around dementia care, such as lack of awareness that prevents people from recognizing symptoms, diagnostic uncertainty among health-care providers, and difficulty accessing post-diagnostic supports and services.

"In rural settings the family physician might be the only health-care provider," she said. "Perhaps they don't want to be the one to tell the person they can't drive, for example, because it could affect their relationship. Patients and families need those relationships with their local health-care providers."

The Saskatchewan team is one of 20 involving 340 researchers across Canada working on dementia under



Rural Dementia Care team members, from l-r, Julie Kostiuk, Meagan O'Connell, Debra Morgan and Dr. Andrew Kirk.

✍ MICHAEL ROBIN

the Canadian Consortium on Neurodegeneration in Aging (CCNA). The goals are to prevent or delay the onset of dementia and related illnesses, advance treatments, and improve the quality of life of patients and caregivers.

One of the Saskatchewan team's achievements is the Rural and Remote Memory Clinic on campus, at the Canadian Centre for Health and Safety in Agriculture. For the last 10 years, rural patients have been able to access the specialists they and their families need to get a diagnosis. The one-stop clinic uses telehealth for pre-clinic assessment and follow up to reduce repeated travel over long distances.

"One of the things we have now are rural practitioners referring cases to us they couldn't diagnose themselves," Kirk said.

"It's a perennial problem and it's not just rural practitioners; it's hard to diagnose dementia. There are many, many reasons why people believe a specialist should do it."

Dementia is a collective term for diseases that affect the brain, interfering with the ability to think and to form and hold memories.

While the memory clinic has the expertise to diagnose the toughest cases, Morgan said there are simply not enough resources to serve the entire province. This means developing programs to empower local health-care professionals to recognize and diagnose dementia, and providing tools to set up support programs in rural communities.

"For the more typical, uncomplicated cases of

dementia, we want to be able to increase the capacity of rural health-care providers to do more diagnosis and support on their own," she said.

Kirk and colleague neuropsychologist Meagan O'Connell hope to develop ways to support family doctors to diagnose and treat patients with more confidence.

"When you actually have a patient in front of you, that's when you care," O'Connell said. "It's a strength of the family physician and one we want to build on."

This could take the form of specialist support via telepresence and professional development for rural doctors.

“ We want to be able to increase the capacity of rural health-care providers to do more diagnosis and support on their own

Debra Morgan


Morgan explained that the team's main project is to develop models for rural primary health care for dementia, a particular challenge for Saskatchewan.

"Compared to Canada as a whole, we have a larger rural population and rural populations are older in Saskatchewan," she said. "Where we have few specialists, where we have a small population in a large geographic area, how do you take existing best practices in dementia care and make them work in rural settings?"

The CCNA initiative could help this happen faster, said Morgan. Expertise is shared among groups—Kirk is a member of two other teams, for example. She also cites their work with a Quebec and Ontario team whose principal investigator wrote Quebec's provincial dementia plan.

"They already have a lot of primary health-care interventions developed, so we can learn from their experience," she said. "But we want to find out what works here rather than just applying a model from somewhere else. ■

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More pictures and info www.susank.ca

Great War commemoration

Join Interim President Gordon Barnhart for his talk, "E.H. Oliver: Prairie Pastor, U of S Academic and Front-Line Chaplain."

Tuesday, March 3
4 pm in Convocation Hall

For more information about commemorative events visit greatwar.usask.ca



UNIVERSITY OF SASKATCHEWAN | remember us



Career Options for English Majors

There is an opportunity March 3 starting at 3:30 pm in Arts 217 to explore career options for people with a major in English. There will be a job panel with U of S English grads, advice on skills and careers and information on grad schools. The event is sponsored by the Dept. of English, the Student Employment Career Centre and the English Undergraduate Society. For information, contact Wendy Roy at wendy.roy@usask.ca

International Women's Day

The Canadian Federation of University Women Saskatoon is among the sponsors of an evening of film and discussion to mark International Women's Day March 4 at 7pm at the Frances Morrison Library. The film *The Motherload*, which takes an in-depth look at the subject of working mothers, will be screened and a discussion will follow featuring Lisa Dutton of Global TV. There is no charge for the event.

2015 Juried Student Print Show and Sale

Taking place March 9-13, 10 am-4 pm in Place Louis Riel North Concourse, this exhibition and fundraising event features the juried artwork of students enrolled in printmaking courses at U of S. The original prints on display will include screen prints, lithographs, etchings, relief prints, collographs and monotypes.

ICCC Movie

Monsoon, presented by Paved Arts and ICCC, will show on March 10, 7 pm at the Broadway Theatre. Director Sturla Gunnarsson will be in attendance. General admission is \$7, and \$5 for students and seniors. For more information, contact Sabrina Kehoe sabrina.kehoe@usask.ca

Hot Friday

Eat a little or eat a lot on March 13 at the University Club. Appetizer and mini-food bars will feature mini beef bourgignon, mashed potato bar, nacho bar, build your own cobb salad, plus beer and wine features and more. Live music by Hot Club Saskatoon with Shelley Ewing and special guest B.J. Harris. For more information or to reserve your spot call 306-966-7775.

➤ SUBMIT
Coming Events
 Next OCN: **Friday, March 13**
 Deadline: **Thursday, March 5**
 Email ocn@usask.ca

Copper vital from birth to life's end

From Page 8

levels of the essential element to keep the cell healthy.

Specifically, they looked at the gene *Sco1*, and found a novel connection between it and a molecule responsible for importing copper into the cell. When they disrupted the gene in a mouse model, it caused a severe copper deficiency, and cells could not make the proteins they needed to make energy—a lethal condition. Their work is published in the journal *Cell Reports*.

According to Leary, copper is a Swiss Army knife of elements when it comes to the body's chemistry, beginning in the womb where it is critical to central nervous system development, to the end of life where its proper function is essential to cognition and retaining memory.

Rare genetic flaws involving copper metabolism cause Menkes disease, whose victims rarely live to see their 10th birthday, and Wilson disease,

where an excess of copper can be treated. More common is amyotrophic lateral sclerosis, better known as ALS or Lou Gehrig's disease, caused by dysfunction in an essential copper-related protein. Leary explained copper is also part of the immune system's arsenal used to attack invading bacteria, viruses or fungi.

“We know shockingly little about these mechanisms.”

Scot Leary

“Copper is turning out to be really big at the host-pathogen interface,” he said. “Pathogens are more virulent if they're able to kick copper out that the host throws at them. We don't really understand the interplay between host and pathogen in this context and how that may be manipulated in our favour.”

Leary said there is also a growing body of evidence that dysfunctional copper regulation is involved in some types of dementia in older adults.

“Copper is turning out to be important to brain physiology and there is clear and exciting evidence that late-onset, cognitive disorders with neurodegeneration involve dysregulation of copper homeostasis.” ■

STEM FEST

STEMfest is a festival of world-class conferences, meetings and events related to science, technology, engineering and mathematics, and it is coming to Saskatoon.

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discover US

This year's back-page feature explores the hidden treasures from University Library, University Archives and Special Collections, and the people who use them.

The Oliver letters

E. H. Oliver was an historian, theologian, founder of the Presbyterian Theological College (later St Andrew's College), leader in the formation of the United Church in 1925 and ultimately, its moderator. And, he delivered the first lecture at the University of Saskatchewan.

For his master's thesis, Gordon Barnhart, interim U of S president, wrote a biography of Oliver, and during his research, discovered the Oliver papers in the University Library, University Archives and Special Collections, a gold mine of information. In the fall of 1916, as Oliver left for the front in the First World War, he promised his wife Rita that he would write to her every day—and that is what he did. The letters that Rita wrote to Edmund were lost, but she kept all of the letters she received from him.

Oliver served as a chaplain in the army and worked with the soldiers, trying to help them avoid the evils of "demon rum" and the looser moral standards in wartime Europe. Oliver was also influential in establishing the University of Vimy Ridge. This began as a series of reading rooms and included lectures both in England and at the front in France. Oliver and 12 instructors travelled by bicycle to the troops at the front to educate the soldiers. There was an urgency to this effort because, as Oliver noted, "if we don't hurry, our pupils may get shot or killed before they are educated."



Barnhart

At the conclusion of the war, Oliver shared with Rita his relief that they had achieved some valiant goals. "The war is over and peace has been won. The world has been made safe for democracy and we'll all get home to our wives."

Without these letters in the U of S archives, such glimpses of life during the First World War would not have been possible.



Rita and E. H. Oliver

11th Reserve Bde., CEF, Army P.O., London, England
Feb. 2/17

My dearest Rita,
The 11th Reserve Bde. moved out this morning, everybody getting up at 3 am. As I was quarantined in there but I have been made some that time. I spent all morning getting my kit in shape. Now that I am comfortably settled in a room of my own, word comes that we are shifting a part of our Battalion to the line next to us. It is not far but it means that I must move again — the 6th time since I came to England.

I was at the Chaplains' meeting for a short time this morning. Major Pringle was not yet back from London so we heard no news. Pullinger is back from France and is here for a short time doing duty for the Chaplains. He does not think there is a very good chance of getting out for a while yet.

Today is my birthday — 35, which is 3 years and ten months by two. I feel good for the other 35. The Canadian mail is in yet — for a week now — so that I haven't got my boys picture "knock" it is the fault of the mail service, and of the standard.

Please write on both sides of this sheet.

ON ACTIVE SERVICE.
SOLDIERS' INSTITUTE.
CHAPLAIN SERVICE, CANADIAN CORPS.
3rd Cav. Division Wing, C.E.F., Dec. 27/16

My dearest Rita
and boys — I am leaving this afternoon for the advanced Divisional Head Quarters in order to work out our policy in regard to Divisions when in the line, and I shall be there for Christmas. Good Xmas I partook of John Mores' hospitality. Now he sleeps on the slope of a famous ridge. I was within half a mile of his grave on Saturday but did not know his name. I shall be back there some time within a few days. Gilman and I shall look it up, and if I find it I shall write his parents in Prince Albert. What a change from one Xmas to another.

I am going off from here for a few days. I cannot say how long. Possibly it will be for a week or ten days. It may be longer and it may be less. I cannot say. One