



A PERFECT UNION

U of S researchers Dionne Pohler, left, and Barb Phillips teamed up on a project to examine the effectiveness of the print advertising by Canadian unions. They discovered more than they thought they would, particularly about each other's respective area of expertise. Read the story on Page 2.

KRIS FOSTER

Mercury-free research

Dental students come up with novel filling material

KRIS FOSTER

Research by three students in the U of S College of Dentistry may lead to a new mercury-free material for filling teeth.

The novel amalgam that fourth-year students Anapaula Campos, Kellyana Quattrini and Jenna Schmitt have been working on since their first year in the college, replaces the mercury found in traditional amalgams with a silver solution and ceramic nanoparticles.

"When we started the research program we had to come up with a topic," said Campos. "We tossed around a few ideas and decided to look at mercury-free amalgam."

With the help Dr. Azita Zerehgar, assistant professor of pediatric dentistry, and Assem Hedayat, assistant professor of dental materials, the group set out to see if they could come up with a material that was long lasting and had amalgam's strength but was mercury free.

"Amalgam is tried, tested and true," said Campos. "It's been used for many years, but there is such a negative public perception of mercury-based amalgams even though there are no harmful side effects."

The group did a literature review and then used Hedayat's expertise in materials science to come up with potential mercury replacements.

"We helped him figure out what kind of material we needed and he came back to us with a silver solution and ceramic nanoparticles. We then had to figure out what the right mixture and consistency were that would work for a filling."

With that determined, Campos, Quattrini and Schmitt went to the college's tooth bank to get teeth on which to test their new material, using the standard dental filling practice.

Once the teeth were filled, they were "thermally cycled" to

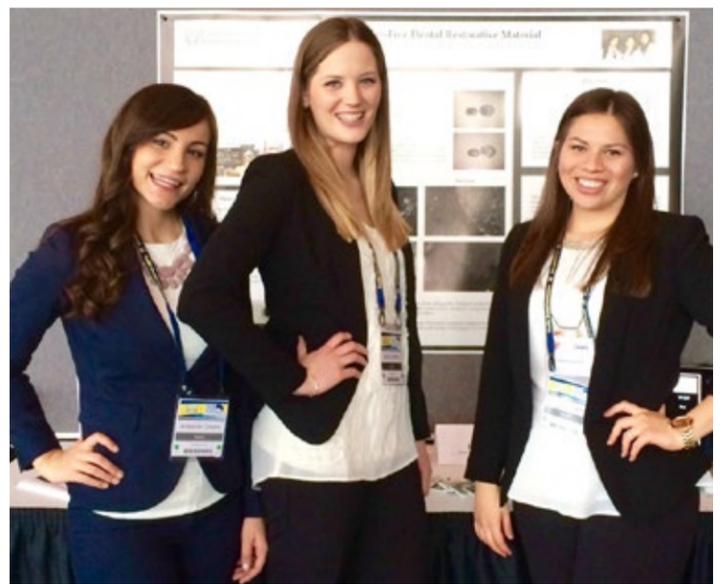
simulate the oral environment, explained Campos. This means they were repeatedly immersed in hot and cold water.

The tested teeth were then cross-sectioned and examined under an electron microscope. What the images revealed was surprising to the research team.

"The cross section image showed that the (new) material was a closer fit in the filling. There were no gaps showing between the fillings and the teeth compared to traditional amalgam which does show gaps along the margin of the filling," she said.

With these encouraging results, the group presented their findings at the college's research competition, which they won. They then presented their project at the national dental college competition in Vancouver.

"We competed against the other nine dental schools in



Left to right: Anapaula Campos, Jenna Schmitt and Kellyana Quattrini.

SUBMITTED

Canada and placed first there as well," said Campos, adding that first-place prize was a trip to San Antonio, Texas, to attend the American Dental Association's 2014 conference as international

guests.

The new material, Campos explained, still has to go through a number of tests before

See *Research*, Page 3

The good and bad of union ads

✍ KRIS FOSTER

Union membership has been on the decline over the past few decades and researchers have examined myriad reasons for this, from structure to public perception. But nobody, until recently, has considered the role visual marketing plays in the decline and in a potential revival.

U of S researchers Dionne Pohler and Barb Phillips decided it was time to see just exactly what unions in Canada were

doing with print advertising, particularly ads directed at external audiences rather than internal members.

“With permission, we looked at the ads of two national private-sector unions and one provincial public-sector union over approximately a five-year period,” said Pohler, assistant professor in the Johnson-Shoyama Graduate School of Public Policy. “Many non-business organizations do not do

“The ads, in general, were good at showing diversity of age and minorities. They were also good at using visuals and the soft-sell appeal of emotion.

Barb Phillips

marketing well. We wanted to see whether unions adopted best practices in visual advertising.”

The project, she continued, has filled a major void in the

research, as there “is very little literature on union marketing communications.”

Phillips, a marketing professor in the Edwards School of Business, said they studied 177 different ads to determine if unions followed advertising best practices such as including a call to action, using a catchy headline or engaging images, and being relevant to the intended audience.

“What we found were some good things and some things that could be improved,” she explained. “The ads, in general, were good at showing diversity of age and minorities. They were also good at using visuals and the soft-sell appeal of emotion.”

But Pohler and Phillips also found the ads were often far too text heavy, often did not have a call to action, and missed the mark on answering the “what-does-this-mean-for-me” question, particularly when it came to providing an understanding of what unions do for the general public. They also found that many union ads too frequently focused on strikes.

“Strike ads are often seen as attack ads, which the public does not like,” said Pohler. “Unions should use marketing communications aimed at external audiences to change public attitudes toward unions by focusing on what unions do for broader society.”

They need to move beyond advertisements about “wages, benefits and what’s good for the unionized worker, because the public may not see what’s in it for them, reducing broader public support for unions,” she continued.

“Unions should use marketing communications aimed at external audiences to change public attitudes toward unions.

Dionne Pohler

Contributing to a negative perception of unions, Phillips said, are media portrayals of unions. This happens mainly during strikes, and advertising by government and industry often hinges on negative stereotypes, even though most collective agreements in Canada are settled without a strike.

To counteract this, Phillips said, union marketing communications should shine a more positive light and focus on how unions assist in helping address broader social issues.

“They (unions) need to invest more advertising and focus on what they do for society to build good will with the public. Public attitudes impact the ability to get members or public support. Effective marketing has been shown to change public attitudes.”

Overall, Pohler and Phillips agreed on a couple things: unions are doing a better job on advertising than the researchers thought; and they really enjoyed taking on an interdisciplinary project because it offered them a glimpse into each others’ respective area of expertise.

“I knew nothing about marketing and now I have a great starting point after working with Barb,” said Pohler of Phillips, the Rawlco Scholar in Advertising.

“And I certainly know more about unions than ever before after doing this project with Dionne,” said Phillips of Pohler’s expertise in employment and labour policy. ■

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In Memoriam

Jerry B. Jellis, Psychology, Aug. 25

Alfredo Guerrero, FMD, Oct. 1

Peter R. Lane, Medicine, Oct. 5

James A. Brooke, Mathematics and Statistics, Oct. 12

Elsie York, Medicine, Oct. 18

Bruce van Goozen, CCDE, Oct. 21

Walter L. Mills, Drama, Nov. 1

Dr. Charles G. Baker, Dentistry, Nov. 8

CORRECTION

In the Nov. 21 issue of *On Campus News*, a photo of Peter Millard should have been credited to Ron Marken, professor emeritus in English. We apologize for this oversight.

Maximizing the spend

Project looks to improve procurement

COLLEEN MACPHERSON

Understanding how best to achieve efficiency, and ultimately savings, in the vast and complex area of procurement at the University of Saskatchewan first requires a close look at the experience of the people doing the buying.

“Generating a high level of customer satisfaction is absolutely a priority when we’re looking at changes and improvement to our procurement processes,” said Kenneth Tan, director of the new Office of Strategic Initiatives in Financial Services and the man overseeing a project called Maximizing the Value of University Spend (MVUS). “We’re trying to build better procurement procedures and a huge part of MVUS is understanding customer needs.”

The customers he is referring to are the people—hundreds of people—who make purchases on behalf of the U of S. It is a group that spends a significant amount

“When it works well for users and embeds all processes in a single system, it will be a dream.”

Kenneth Tan

of money; in 2013/14, the university’s total non-salary negotiable spend was worth about \$121 million. And, he said, those customers are currently dealing with policies and procedures that may not have been updated for some time, that may be difficult to access and may be cumbersome to use.

Although the MVUS name is relatively new, the project pre-dates Tan’s arrival at the U of S last April, he said. The first effort was to revamp the univer-



Kenneth Tan, director, Office of Strategic Initiatives.

COLLEEN MACPHERSON

sity’s travel and expense procedures but the project has since been expanded to include additional streams like inventory

control, e-procurement, strategic sourcing and even looking at possible consolidation of some of the stores operations and inventory located all over campus.

“The university is a massive organization that is very, very decentralized,” said Tan, who moved to the U of S from a position of chief financial officer with a government crown corporation in British Columbia. “Yes, we have policies and procedures (for procurement) but how transparent are they? How often are they reviewed?”

Because the answers to Tan’s questions are “not very” and “not often,” the result is a procurement process that is altered or adapted by customers “depending on where you are on campus.” The goal, he continued, “is to streamline procedures and that requires new thinking to try to find the right balance between prudent processes and having the flexibility to meet unique customer needs.”

Tan said one project underway is to adapt an inventory management software model being developed by the Facilities Management Division to other circumstances. “Ultimately, we would like to see everyone on the

same system.”

There is also work going on to develop an end-to-end system that will bring together all aspects of buying and replace the numerous systems currently in use.

Another stream is focusing on strategic sourcing, said Tan, “consolidating our buy to achieve the savings created by economies of scale. To do that, we have to know what we buy, from whom, who is doing the buying and how they are buying.”

In the current decentralized environment, many people may be sourcing the same product from different suppliers. By consolidating those purchases with a single supplier, the university’s significant buying power can be used to negotiate more favourable pricing. “What we’re trying to get to is a preferred supplier listing for more goods and services that our customers can benefit from using,” he said.

A lot of effort has already gone into gathering information and analyzing how goods and services are purchased, said Tan, “and I think we have a pretty good idea of what the situation is.” He estimates it will take a year to enhance existing policies and procedures, and two to three years for an end-to-end technological solution for procurement.

“When it works well for users and embeds all processes in a single system, it will be a dream. We’re past the information gathering and spend analysis stages and we’re now moving toward solutions.” ■

National honour for Miller



Miller

Jim Miller, professor emeritus of history at the University of Saskatchewan, was one of 13 people named as Officers of the Order of Canada Dec. 26 by the Right Honourable David Johnston, Governor General of

Canada.

The honour follows the April announcement naming Miller the recipient of the 2014 Killam Prize in the Humanities, only the second Saskatchewan person to receive the prestigious national award.

The citation accompanying the Order of Canada recognizes Miller’s “even-handed and definitive scholarship on the history of relations between Canada’s Aboriginal peoples and its settlers.”

Peter Stoicheff, dean of the U of S College of Arts and Science, noted the significance of the Order of Canada for Miller is that it takes into account “the tangent of his whole career and really assesses the meaningful impact

of his work on Canadians.”

Miller taught at the U of S from 1980 until his retirement in the spring of 2014. His 1996 book *Shingwauk’s Vision: A History of Native Residential Schools* marked the publication of Canada’s first comprehensive history of residential schools and in 2001, he was awarded the Canada Research Chair in Native-Newcomer Relations. ■

FROM THE ARCHIVES

Dairy men



PATRICK HAYES, UNIVERSITY LIBRARY, UNIVERSITY ARCHIVES AND SPECIAL COLLECTIONS

A-1831

Research experience invaluable

From Page 1

becoming a viable commercial option.

“Obviously there is more testing to do. We need to test strength, bio-compatibility, corrosion and wear. It’s a long process and we have applied for a research grant to keep the research going, but it has been a great experience.”

The group agreed that being

exposed to the research side in a practice-based college was invaluable.

“Going into dentistry, none of us considered research; you only think about the practical component. But now we know how important research is to dentistry. It is a dynamic field and to advance it and change to patient needs requires research. I would definitely do some research in my career. It is very rewarding.” ■

This issue we present an image of the staff of the Dairy Lab taken during the 1929-1930 academic year; the Crop Science and Engineering Buildings can be seen in the background. The Department of Dairying was established in 1914 in response to the needs

of the farming community. Among the department’s early work was the creation of a butter grading system and research into the problems associated with yeasts and molds on butter. The Food Quality Control Laboratory was established in 1930

to analyze milk samples for the Department of Health and the City of Saskatoon. Its role expanded to provide chemical microbiological analyses of dairy and other food samples for a variety of public sector and industrial clients. ■

Around the Bowl



Schmutz

Nature Saskatchewan has awarded **Josef Schmutz**, recently retired from the School of Environment and Sustainability, its Cliff Shaw Award for his article entitled "A hunter-naturalist's observations of sharp-tailed grouse trends in Saskatchewan" published in the organizations journal *The Blue Jay*. Schmutz's article applauds forward-looking ranchers who are using community pasture as a grass bank for drought proofing the family ranch with benefits for sharp-tailed grouse, Saskatchewan's provincial bird.

Karim Tharani has been appointed as head of Library Systems and Information Technology in the University Library. Tharani most recently served as an IT librarian at the U of S.

Jeff McDonnell with the Global Institute for Water Security has been elected president of the American Geophysical Union's Hydrology Section, which includes about 7,000 of the union's more than 60,000 members.

Karsten Liber, director of the Toxicology Centre, has begun his term as vice-president of the Society of Environmental Toxicology and Chemistry (SETAC) North America, and in November will assume the role of president. SETAC is the world's largest professional society in the field of environmental toxicology. In addition to his role with SETAC North America, Liber has a seat on SETAC's World Council.



Liber

The Canadian Society for Chemical Engineering has presented **Ajay Dalai**, professor of chemical and biological engineering, with the 2014 Bantrel Award in Design and Industrial Practice for innovative design or production activities accomplished in Canada.



Dalai

A group in the College of Medicine, including Dean's Project program student **Caitlin Hunter**, won a research poster award at the annual meeting of the North American Menopause Society in Washington,

DC. Other contributors to the research were **Heidi Vanden Brink** and **Kali Turner**. Faculty authors from the U of S include **Angela Baerwald** and **Donna Chizen**. The poster title was *Age-Related Changes in Ovarian Antral Follicular Dynamics: Associations with Endometrial Hyperplasia*.

The Ecumenical Chaplaincy Board has announced the appointment of **Rev. David Kim-Cragg** as ecumenical chaplain at U of S. He will begin his term July 1. Since

2009, Kim-Cragg has been minister at Grosvenor Park United Church in Saskatoon.



Thacker

The Saskatchewan Pork Industry late last year awarded **Phil Thacker** of the Dept. of Animal and Poultry Science its Lifetime Achievement Award. The award recognizes individuals and organizations that contribute significantly to the sustainability of the pork industry in the province.



Kim-Cragg



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The living lab

Students seek sustainability solutions for campus

✍️ MICHAEL ROBIN

Alanna Howell hopes to help the university deal more sustainably and cheaply with a bothersome byproduct of dairy research—cattle manure.

"As a biological engineering student, I'm quite interested in waste utilization; that is, to use wastes in a way that can actually be beneficial," she said.

The opportunity to find a way to better handle manure from the dairy barn is one of many offered under the auspices of the Sustainability Living Lab initiative, which attempts to find solutions for real-world challenges on campus.

"We've been doing this on an ad hoc basis for years, but last year we decided we're really going to formalize and expand it," said Margret Asmuss, sustainability co-ordinator for the U of S Office of Sustainability.

Howell's work is set up to emulate an actual biological engineering project, with clients and deliverables, research on best practices, a proposed design

and recommendations.

Currently, manure produced at the Rayner Dairy Facility is scraped into a pit, stirred into a slurry, pumped into a tank for storage, then hauled away to be spread on fields. Howell said it costs the university about \$65,000 a year for the service.

Howell is looking at a system that processes manure through a roller mill to separate the liquids from the solids. The solids can be composted and used to enrich soil. The dried compost could also be used for bedding,

See *Sustainability* Page 5



Biological engineering student Alanna Howell is designing a manure management system for the Rayner Dairy Research and Teaching Facility.

✍️ MICHAEL ROBIN

NEXT DEADLINE:
Thursday, January 15, 2015

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.

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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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Molecule discovery boosts knowledge about nerve repair

✍ MICHAEL ROBIN

A research team led by Valerie Verge at the University of Saskatchewan has discovered an important molecular worker in the repair shop of the body's nervous system, a finding that brings them a step closer to new treatments for debilitating nerve injuries.

The molecule is called Luman, a nerve cell protein discovered by Vikram Misra in the Western College of Veterinary Medicine while he was investigating the common cold sore virus. Verge and Misra, together with PhD student Zhengxin Ying, wondered if Luman had a more general role in informing sensory neurons about events such as nerve injury.

Luman acts like order sheets in a repair shop, explained Verge, a professor in the U of S College of Medicine and director of the Cameco MS Neuroscience Research Center at City Hospital in Saskatoon. When a nerve is injured, the order comes in to send out proteins to make repairs. Luman goes to the cell nucleus, gets the cell's DNA to generate templates for the proteins needed for repair, and then transfers those specs to the cell's protein factory to build what is needed.

She explained that in sensory neurons, Luman's role is complicated by distance.

Like other cells, neurons have a main body and axons—long, branching filaments that carry nerve impulses from the brain to the extremities and back. Verge said a series of experiments by Ying show Luman is not only an order taker, but also a messenger, shuttling back to the neuron information critical for re-growing the damaged axon.

"This is a brand-new concept, that all the way out in the axon there are molecules that can sense the stress of a nerve injury and send that signal back to the cell body to further regulate axon repair," she said. "This is another major piece of the puzzle (in understanding how nerves heal)."

The research is published in the *Proceedings of the National Academy of Sciences*.

Verge and her colleagues will now be looking to find out more about which Luman-regulated proteins are the active players in repairing injured nerves.

"We're now also in the lab looking at strategies and ways that might rev this (repair process) up," Verge said. "Can we then develop new therapeutics that target those, or find ways to boost this Luman response to make this repair even more effective?"

Another project in the Verge

lab approached nerve repair from a different angle: repairing the insulating sheath surrounding axons using direct electrical stimulation.

Like electrical wires, nerves have a form of insulation called myelin that protects them and allows more efficient signal conduction, she said. In diseases such as multiple sclerosis, myelin is destroyed, causing everything from physical disability to trouble thinking or chronic pain.

Verge said research has already shown that direct electrical stimulation helps nerves



Valerie Verge in her lab at Saskatoon City Hospital.

LIAM RICHARDS

re-grow after an injury, but could it help reinsulate nerves whose myelin has been damaged by disease?

In work conducted by her PhD student Nikki McLean and

colleagues from Alberta and Ontario recently published in the journal *PLOS ONE*, Verge said it was discovered that direct

See *Research*, Page 6

Sustainability challenge creates learning opportunity

From Page 4

allowing part of the manure to be recycled for the dairy barn.

"It might actually be better than straw which, coming from outside, might introduce microbes (into the barn) from a totally different ecosystem," she said.

While dealing with manure solids is fairly straightforward, liquids are more challenging.

"What isn't known is how much it will cost to treat the remaining effluent to the point where it can either be flushed into the sanitary sewer or recycled as grey water, to be used at the facility in some way," Howell said.

To this end, Howell is looking at systems used in dairy facilities across Canada and the United States, and developing a short list of possible solutions for the U of S.

"From those alternatives, I'll be choosing one that I'll do detailed design on, and then present to the Department of Animal and Poultry Science."

Asmuss explained this is a typical culmination of a Sustainability Living Lab project—a solution that can be imple-

mented by the university. The student projects can also provide valuable foundational information for university planners.

"A number of years ago, we had a group of mechanical engineering students look at (cooling and refrigeration) in Marquis Hall," she said. "When Marquis Hall came to do its renovations, they asked for that study because it provided a lot of the groundwork."

Sustainability Living Lab projects cover a broad spectrum, she said. Planning students are slated to tackle the challenge of making the campus more bicycle and pedestrian friendly, and how to make university lands more effective wildlife corridors. A pharmacy and nutrition student is working with Culinary Services to help offer more locally sourced foods in Marquis Hall, and a School of Environment and Sustainability student is examining ways to assess the sustainability of the university's various farm operations.

"We want to formally link students with sustainability challenges we have on our campus so they can use those as learning opportunities," Asmuss said. ■

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Freeman reappointed WCVM dean

Dr. Douglas Freeman has accepted a second five-year term as dean of the Western

College of Veterinary Medicine (WCVM). The Board of Governors

approved the reappointment based on the recommendation of the interim president and a

review committee that noted Freeman's strong record for building relationships and his leadership in moving forward the college's teaching and research agenda.

Freeman joined the U of S March 1, 2010 from North Dakota State University where he headed up two departments—Veterinary Diagnostic Services and Veterinary and Microbiological Sciences. He also served as director of that institution's Great Plains Institute of Food Safety for two years, and led multi-disciplinary research programs in disease surveillance, public health and food safety. Freeman completed his Doctor of Veterinary Medicine degree, clinical residency and Master of Science degree in theriogenology at the



Freeman

University of Minnesota, and received a PhD in reproductive physiology from the University of Idaho. ■

Research shows promise for future treatments

From Page 5

electrical stimulation of the nerve not only helped it rebuild its myelin, but the stimulation also revved up the associated immune system response.

"The results in the paper are really stunning in that a single one-hour bout of electrical nerve stimulation helped both the repair of the myelin, as well as helped the axon protect itself against destruction," Verge said.

She cautions that the results are promising but there is still much work to be done. The experiments used a rat model and surgical intervention, which is impractical in humans, especially if the damaged nerves are in the brain or spinal cord.

"The one thing I don't want to do is create false hope, but I can say there are a number of

different strategies that we're testing," she said. "If we can electrically activate the neurons and their damaged axons, make them more active, will they remyelinate (re-insulate) better? And the answer appears to be yes."

Verge explained one strategy might be to stimulate more nerve activity naturally through exercise. Physical rehabilitation programs designed to deliver just the right amount of stimulation could be part of the solution.

"This holds tremendous promise, because we already know from past studies that (electrical stimulation) helps injured neurons to regenerate," she said. "Now we know it can also help axons ... to remyelinate. So the big challenge is on: can we do this with less-invasive approaches or approaches that will stimulate larger areas?" ■

UNIVERSITY Club

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Coming Events

■ Conferences

2015 Leadership Conference

The Edwards School of Business presents the 2015 Leadership Conference: Sustainable Leadership – From Cliché to Crucial at TCU Place March 18. The conference will showcase Saskatchewan leaders' knowledge and expertise, as well as celebrate Canadian perspectives and practices on sustainable leadership. More information and early bird registration is available at leadershipconference.usask.ca

Health Conference

The Pediatrics, Obstetrics and Gynecology (POGO) Women's and Children's Health Conference takes place Feb. 5-6 at the Saskatoon Inn. The event will provide recent development and issues in women's and children's health, evidence-based management strategies and a multidisciplinary approach to improving care. For more information, visit usask.ca/cme

2015 Winter Refresher

St. Andrew's College presents its annual Winter Refresher March 5-7 with the theme The Holy Spirit and the Environmental Crisis. The guest speaker is Mark Wallace, professor of religion and interpretation theory co-ordinator at Swarthmore College, Swarthmore, Pennsylvania. More information is available at standrews.ca or at 306-966-8970.

■ Seminars/Lectures

Veterinary Microbiology Seminar Series

Fridays at 12:30pm

- Jan. 16, Room 2105 WCVM, Rajnish Sharma, PhD graduate student, Dept. of Veterinary Microbiology, presents Trichinosis in wolverines in Yukon Territory, and Jason Perez, MSc graduate student, Dept. of Veterinary Microbiology, presents Attenuation and characterization of *Brachyspira hamptonii* clade II strain 30446.
- Jan. 23, Room 2302 WCVM, Lisa Johnson, MSc graduate student, Dept. of Veterinary Microbiology, presents Detection and characterization of pathogenic and non-pathogenic *Brachyspira*.

College of Law Speaker Series

- Jan. 12, noon, Room 150, MacPherson Leslie and Tyerman LLP Lecture Theatre, Marlys Edwarth, CM, Sack Goldblatt Mitchell LLP, presents the Silas E. Halyk, QC Visiting Scholar in Advocacy Lecture entitled Advocacy Challenges in Test Case Litigation.
- Jan. 19, noon, Room 150, MacPherson Leslie and Tyerman LLP Lecture Theatre, Michele Hollins, president, Canadian Bar Association, presents Numbers Matter: The Retention and Advancement of Women in Law, Business and the Professions.

Islam Awareness Week

- Jan. 26-30, the U of S Muslim Students' Association presents a series of seminars from 6-8 pm each day of Islam Awareness Week in Room 241 Arts. The events will explore issues such as the media's presentation of Islam and what Islam has to say about women's rights, environmental sustainability and war.

Public History Lecture

- Jan. 20, 6-8:30 pm, Hose and Hydrant Brewing Company, Geoff Cunfer presents The Day We Learned How to Feed 7 Billion People (And Kill Millions), part of the History Department's 7 Days that Transformed the World lecture series.

Classical, Medieval and Renaissance Series

- Jan. 15, 4:30 pm, Room 200, St. Thomas More (STM) College, Zachary Yuzwa, Dept. of History at STM, presents Learning by Example: Roman Modes of Exemplarity in the Christian Literature of Late Antiquity, a public talk that is part of the Classical, Medieval and Renaissance Studies colloquium series.

Veterinary Microbiology Seminars

Fridays at 12:30pm, Room 2105 WCVM

- Jan. 9 - Arinjay Banerjee, PhD graduate student, Department of Veterinary

Microbiology, presents The dynamics of Bat-Coronavirus interaction: Role of innate antiviral response, and Ruwini Gamage, PhD Graduate Student, Department of Veterinary Microbiology presents: Antimicrobial susceptibility of *Brachyspira* spp.

■ Courses/Workshops

Edwards School of Business Executive Education

For information call 306-966-8686, email execed@edwards.usask.ca or visit edwards.usask.ca/execed

- Jan. 13-April 14, Introduction to Transportation
- Jan. 31-Feb. 6, The Effective Executive Leadership Program - Elk Ridge Resort, Waskesiu

Centre for Continuing and Distance Education

For more information, visit www.ccde.usask.ca or call 306-966-5539

U of S Language Centre

Multilingual Conversational Language Classes Jan. 19-March 28

- French levels 1 to 7: \$210.00 (GST exempt)
- Italian level 1: \$220.50 (GST included)
- Portuguese level 1: \$220.50 (GST included)
- Spanish levels 1 to 7: \$220.50 (GST included)
- German level 1 and 2: \$220.50 (GST included)
- Japanese for the Traveller: \$241.50 (textbook and GST included)
- Cree level 1: \$232.00 (class materials and GST included)
- Textbooks and workbooks are extra (excluding Japanese for the Traveller and Cree 1).
- Spanish Weekender for Real Beginners for the traveller who has little or no Spanish-speaking skills Feb. 6-8 or Feb. 27-March 1, 20 hours over 2.5 days; Cost: \$294.00 (GST, textbook and workbooks included)
- One-Week Intensive French Immersion for those who wish to advance their language skills Feb. 16-21, 35 hours over 5.5 days; Cost: \$550.00 (GST exempt), materials and final luncheon provided
- Part-Time ESL Program winter term begins Jan. 12: spoken English, writing and grammar, reading skills, listening and note taking skills, pronunciation, graduate-level writing.

Nature and Ecology

Call 306-966-5539 to register

- Southern Africa: 21-Day Northern Explorer Ecological Safari (Feb. 1-21, 2015) includes South Africa, Namibia, Botswana and Victoria Falls; two spots available, fee: \$5,668 plus airfare. For itinerary go to ccde.usask.ca/edtours

Community Arts, USCAD/AYAP

- Visual Arts Survey I, Jan. 19-April 20
- 2D Design I, Jan. 22-April 23
- Drawing I (morning), Jan. 19-April 20
- Drawing I (evening), Jan. 22-April 23
- Drawing II, Jan. 19-April 20
- Drawing in Soft Pastel I, Jan. 20-April 21
- Life Drawing I, Jan. 21-April 22
- Life Drawing II, Jan. 21-April 22
- Advanced Drawing for Illustration III, Jan. 20-April 21
- Painting I, Jan. 19-April 20
- Painting II (morning), Jan. 20-April 21
- Painting III, Jan. 20-April 21
- Developing Design in Painting/Mixed Media II, Jan. 21-April 22
- Open Project Painting II/III Critique and Advice, Jan. 17-April 25
- Open Project Painting II/III, Jan. 20-April 21
- Open Project Painting II/III, Jan. 22-April 23
- 3D Design I, Jan. 22-April 23
- 3D Design I, Jan. 21-April 22
- Sculpture I, Jan. 22-April 23
- Sculpture I, Jan. 21-April 22
- Sculpture II, Jan. 21-April 22
- Welding in Sculpture II, Feb. 26, March 7, 28, 29
- Photography I, Jan. 20-April 21
- Photography I, Jan. 21-April 22
- Advanced Photography II, Jan. 21-April 22

- Black and White Darkroom Photography, Jan. 20-April 21
- Intro to Computer Mac, Jan. 14-15
- Photoshop I, Jan. 21-April 22
- Photoshop II, Jan. 22-April 23
- Art Spaces and You, Feb. 7

Community Music Education

The Community Music Education Program offers classes in Music in Early Childhood, Suzuki Early Childhood and Parenting with Music. Private lessons are also available. For more information call 306-966-5625 or visit ccde.usask.ca/community-music.

Gwenna Moss Centre Courses

For more details and to register go to usask.ca/gmcte/events or call 306-966-2231

- Jan. 13, 1-3:30 pm, Introduction to Learning Technologies mini course (four sessions)
- Jan. 13, 1-4 pm, Shared Ground: Indigenous Voices event
- Jan. 19, 1:15-2:15 pm, Outstanding Graduate Student Teachers: Past Winners Discuss Their Portfolios; Graduate Students Discussion Group with Leah Ferguson, Jan Gelech and Serene Kerpan
- Jan. 21, 12:30-4 pm, Colonial Impact on the Roles of Indigenous Women
- Jan. 23, 1-2:30 pm, Relevant and Efficient Assessment: Make your Assessments C.O.U.N.T.! mini course with Carolyn Hoessler and Barb Schindelka
- Jan. 28, 11:30 am-1 pm, Community Organizations 101: An introduction to working together with Lisa Erickson
- Jan. 29, 1-4 pm, White Settler Identity, Indigenous Voices event with Sheelah McLean
- Jan. 30, noon-1 pm, Critical Incidents in Teaching and Learning with Stella Xu

University Library Workshops

The University Library is offering two workshop series this term. All sessions are free and no registration is required. For more information go to libguides.usask.ca/LibraryResearcherSeries

Library Researcher Series

- Jan. 20, Why and How to Do a Comprehensive Literature Review Part A, 12-1 pm, Murray Library, Room 161
- Jan. 22, Why and How to Do a Comprehensive Literature Review Part B, 12-1 pm, Murray Library, Room 161
- Jan. 29, Beware of Predatory Publishers! 12-1 pm, Murray Library, Room 102
- Feb. 5, Keeping Current with the Literature, 12-1pm, Murray Library, Room 102
- Feb. 12, Searching for Grey Literature, 12-1 pm, Murray Library, Room 102
- Feb. 26, Why and How to Do a Comprehensive Literature Review Part A, 12-1 pm, Murray Library, Room 161
- March 5, Why and How to Do a Comprehensive Literature Review Part B, 12-1 pm, Murray Library, Room 161
- March 12, 10 Government Research Tips You Need to Know, 12-1 pm, Murray Library, Room 102
- March 19, Using the DiRT (Digital Research Tools) Directory in your Research, 12-1 pm, Murray Library, Room 102
- March 26, Research Data Management, 12-1 pm, Murray Library, Room 102

Managing References Series

- Jan. 27, Citation Manager Overview: Which One is Right For You?, 12-1 pm, Murray Library Collaborative Learning Lab, Room 145
- Feb. 3, EndNote Web, 12-1 pm, Murray Library, Room 161
- Feb. 10, EndNote Desktop, 12-1 pm, Health Sciences Library, Room 1430
- Feb. 24, Mendeley, 12-1 pm, Murray Library Collaborative Learning Lab, Room 145
- March 3, Zotero, 12-1 pm, Murray Library Collaborative Learning Lab, Room 145
- March 10, RefWorks, 12-1 pm, Murray Library, Room 161
- March 17, EndNote Overview, 12-1pm, Health Sciences Library, Room 1430
- March 24, RefWorks, 12-1 pm, Murray Library, Room 161

Confucius Institute Classes

For information, email confucius.institute@usask.ca or call 306-966-1200

- Jan. 12-April 6, Mondays, 6-8 pm, beginner Chinese, Arts 203

- Jan. 13-April 7, Tuesdays, 6-8 pm, intermediate Chinese, Arts 203
- Jan. 12-April 6, Mondays, 6-8 pm, advanced Chinese, PAC 323
- Jan. 14-April 8, Wednesdays, 3:40-5:40 pm, business Chinese, Arts 203
- Jan. 14-April 8, Wednesdays, 6-8 pm, The Great Wall Chinese, Arts 203
- Jan. 16-April 10, Fridays, 7:30-8:30, Tai Chi class, Williams Building

- Jan. 14, 2:30 pm in Arts 100, *The Square: The People Demand the Downfall of the Regime*. Maurice Labelle, ICCC post-doctoral fellow, Alan Guenther and Naqaa Abbas will lead a discussion following the film.
- Jan. 21, 6:30 pm, Broadway Theatre, *Ascenseur pour l'échafaud*. Anne-Marie Wheeler, associate professor of French, will lead a discussion following the film.

St. Thomas More Gallery

Showing in the gallery until Feb. 28 is *imPRESS*, an exhibition of work by current U of S intermediate printmaking students. There will be an opening reception Jan. 9 from 7-9 pm.

■ Miscellany

USSU Young Alumni Excellence Award nominations

Nominees must have graduated from the U of S in the past five years (class of 2009 or later), be 35 years old or younger, be actively involved in their community, and have maintained a strong connection with the U of S and/or the U of S Alumni Association. Deadline for nominations is Feb. 6. Visit alumni.usask.ca/ussuaward for more information.

Coming Events

Next OCN: **Friday, Jan. 23, 2015**
Deadline: **Thursday, Jan. 15, 2015**

Email ocn@usask.ca

■ The Arts

ICCC Movies

The Interdisciplinary Centre for Culture and Creativity (ICCC) will screen two films in January. For more information, email sabrina.kehoo@usask.ca

CALL FOR NOMINATIONS

U OF S MASTER TEACHER AWARD

DEADLINE TO SUBMIT NOMINATIONS TO THE GMCTE IS FEBRUARY 15, 2015

For further details please visit

usask.ca/gmcte/awards/u-s-master-teacher-award

SYLVIA WALLACE SESSIONAL LECTURER AWARD

DEADLINE TO SUBMIT NOMINATIONS TO THE GMCTE IS FEBRUARY 15, 2015

For further details please visit

usask.ca/gmcte/awards/sylviawallace

PROVOST'S COLLEGE AWARDS

DEADLINE TO SUBMIT NOMINATIONS TO THE COLLEGES IS FEBRUARY 1, 2015

For further details please visit

usask.ca/gmcte/awards/provost

PROVOST'S THEMED AWARDS

DEADLINE TO SUBMIT NOMINATIONS TO THE GMCTE IS FEBRUARY 15, 2015

- Provost's Award for Excellence in Aboriginal Education
- Provost's Award for Excellence in International Teaching
- Provost's Award for Outstanding Innovation in Learning
- Provost's Outstanding New Teacher Award
- Provost's Outstanding Graduate Teaching Award (for Faculty)
- Provost's Outstanding Graduate Student Teacher Award (for Graduate Students)

For further details please visit

usask.ca/gmcte/awards/provost

The Gwenna Moss Centre for Teaching Effectiveness
Room 50 Murray Building, 306-966-2231

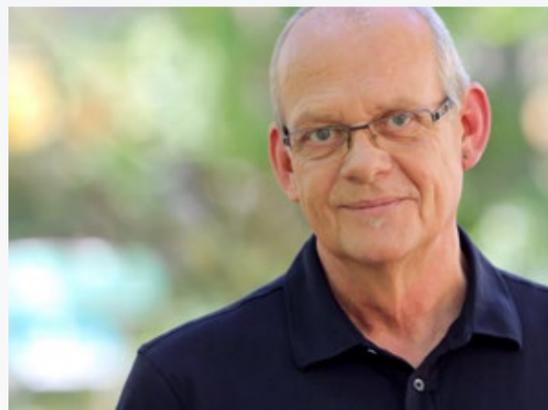
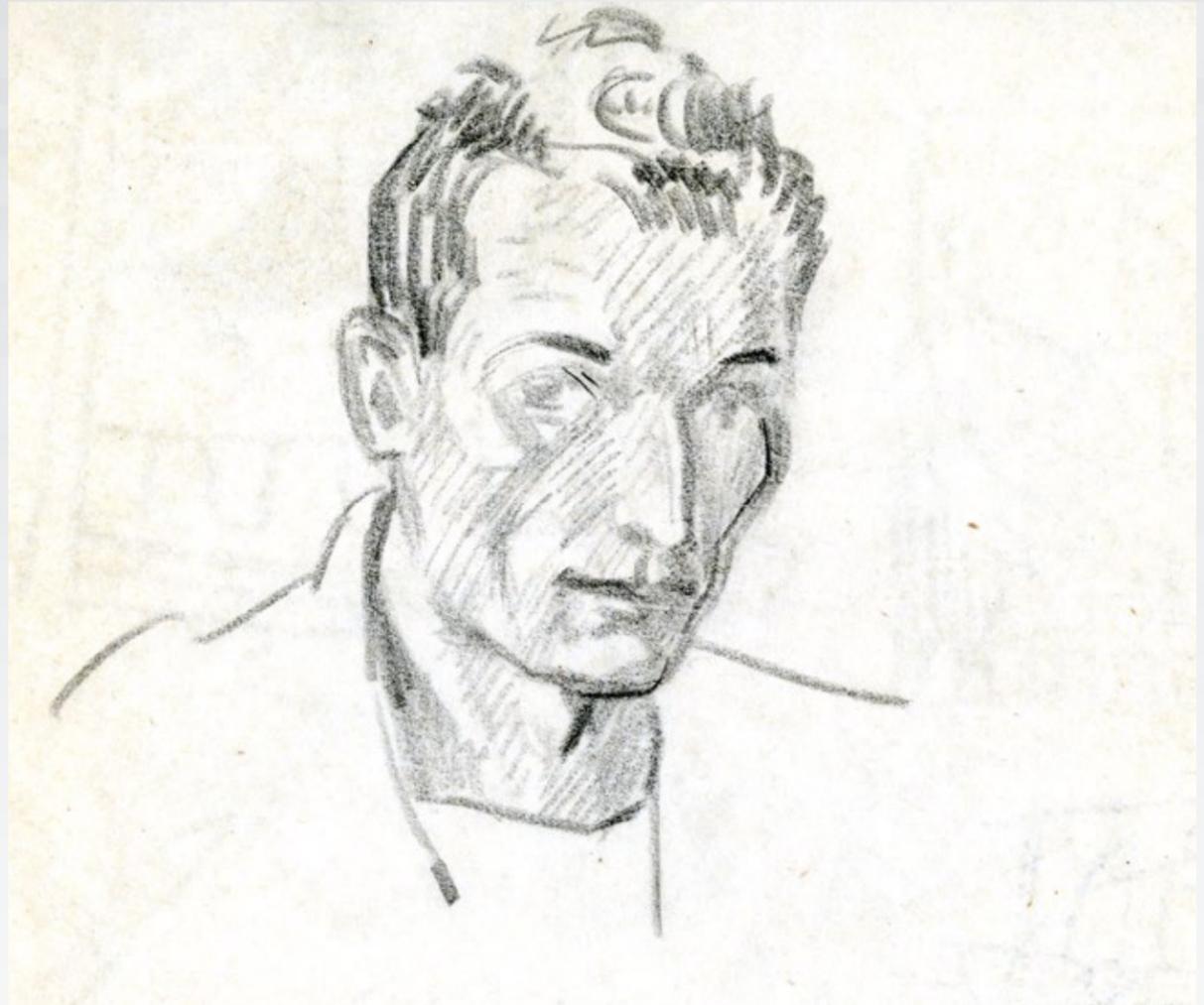
discover US

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

Drawing on the past

A curious thing happens when students view Mac Hone's sketchbooks: they become better artists. Professor Tim Nowlin has been incorporating the Hone sketchbooks into his studio art classes ever since they were donated to the University Library, University Archives and Special Collections over a decade ago. Hone was a master at capturing great detail, particularly in his quick character sketches.

"In my figure drawing classes, I often include a sketchbook assignment to promote the idea of drawing from life as an ongoing regular study practice," explained Nowlin. "I like showing my students the Mac Hone sketchbooks as they are an intimate record of an ongoing sketching practice by a serious artist. As you can see from the examples, Mac's small drawings ... reveal beautifully fluid, gestural lines that capture both the relationship of forms and the vital life energy, movements and personalities of its everyday subjects. My students are always amazed and that inspiration really incites students to pursue their own sketching practice more seriously."



Professor Tim Nowlin

DAVID BINDLE



A variety of sketches from the Mac and Beth Hone fonds in University Archives and Special Collections.