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Discovery Digest is a glimpse into how University of Saskatchewan research, scholarly and artistic work is making a difference for Saskatchewan, Canada, and the world. Curated by the Research Profile and Impact unit, Office of the Vice-President Research. [Feedback](#) welcome!

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This Month's Stories



USask researchers named to list of world's most highly cited researchers

University of Saskatchewan (USask) researchers Dr. **Martyn Clark** (PhD), Dr. **Jay Famiglietti** (PhD), Dr. **Yongfeng Hu** (PhD), and Dr. **Zhou Jigang** (PhD) have been named to *Clarivate's 2022 Highly Cited Researchers* list. The list honours researchers who have published multiple scientific papers that rank in the top one per cent of citations in their field in that year.

USask co-leader in establishing Neutrons Canada

USask and McMaster University are co-leading the Canadian Neutron Initiative that saw 15 member universities coming together to form a not-for-profit research organization, Neutrons Canada. Its purpose is to govern, manage, and represent Canada's infrastructure program for research and development with neutron beams, and secure access to world-leading neutron labs and guide national initiatives on future neutron sources. Access to neutrons is vital for researchers to make better batteries for storing clean energy for vehicles and the electricity grid, among other things.



USask researchers co-lead climate science satellite mission with Canadian Space Agency and NASA

Two University of Saskatchewan (USask) researchers, Department of Physics and Engineering Physics and Institute of Space and Atmospheric Studies professors Dr. **Adam**



Bourassa (PhD) and Dr. **Doug Degenstein** (PhD), are leaders of a national team developing three new climate science satellite instruments that will be launched into space as part of a large NASA satellite mission designed to deliver key data for improved forecasts of weather, air quality, and climate.

USask researcher aims for strategies to prevent youth evictions

Led by USask College of Law Prof. **Sarah Buhler**, new research with a focus on human rights and access to justice has been awarded \$140,000 for a project that aims to find alternatives to child and youth evictions in Canada. Co-led by the *Canadian Observatory on Homelessness* and *A Way Home Canada*, the grant is funded by *Making the Shift*, an organization that funds research to prevent and end youth homelessness in Canada.



New USask post-doctoral fellows initiative to enhance interdisciplinary research activity

USask has allocated \$2 million in one-time funding provided by the Government of Saskatchewan, as well as \$400,000 from the Vaccine and Infectious Disease Organization (VIDO), for the new *Living Skies Post-Doctoral Fellows Program*—now accepting applications for the second phase of a new program that aims to increase interdisciplinary research activity by recruiting outstanding post-doctoral fellows from around the world.

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USask No. 9 in Canada, in top 100 universities globally in new sustainability ranking

USask is among the top tier of all universities in tackling the world's biggest environmental, social, and governance challenges, according to the Quacquarelli Symonds (QS) World University Rankings: Sustainability.



In Canada, USask placed fourth in environmental impact and No. 14 in social impact, with a combined rank of ninth among 26 Canadian universities as well as Canada's U15 group of research-intensive universities.

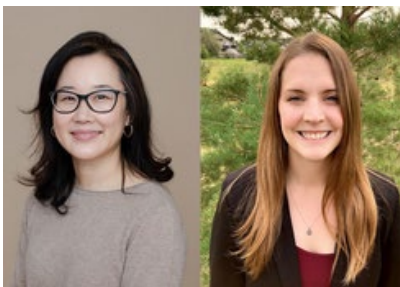
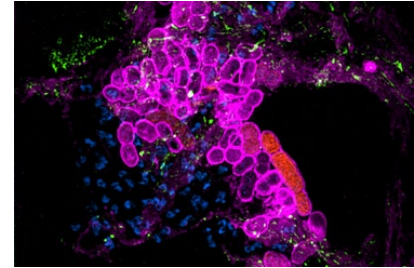


Signature areas of research help USask highlight its strengths

As part of the signature areas renewal process, USask has provided \$360,000 to nine teams--\$40,000 for each signature area team—to assist in developing and showcasing innovative interdisciplinary research, scholarly, and artistic work.

Winning ‘battle for metals’ key to defeating antibiotic-resistant bacterium: USask research

Lock up the silverware! According to new research from USask researcher Dr. **Jessica Sheldon** (PhD), microbiologist in USask’s College of Medicine, that’s how the body responds to *Acinetobacter baumannii*, a nasty pathogen commonly found in hospitals across the globe. The results were published in *PLOS Pathogens*.

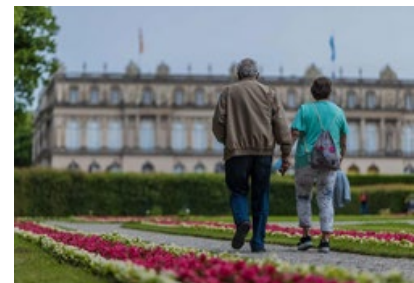


Breast cancer reconstructive surgery changes limb movement

A study by USask researchers Dr. **Angelica Lang** (PhD) and Dr. **Soo Kim** (PhD), both from the College of Medicine, shows that reconstructive surgery after breast cancer treatment has a demonstrable impact on arm and shoulder function. Their findings could improve post-surgery rehabilitation methods, or even influence the type of reconstructive surgery breast cancer survivors choose. Their paper was published in *Plastic and Reconstructive Surgery*, the Journal of the American Society of Plastic Surgeons.

New bone imaging technique could lead to improved osteoporosis treatment

Using the BMIT beamline of USask’s Canadian Light Source, a research team led by Dr. **David Cooper** (PhD) from the USask College of Medicine has developed a new approach to imaging that detects changes in bone tissue far more quickly than bone densitometry scans, the method currently used in health care.



While the study was done using a rabbit model, the results could lead to improved drug treatment in humans with osteoporosis. More than 2.3 million Canadians are affected by osteoporosis, resulting in billions of dollars in economic burden and incalculable suffering.

Improving therapy dog handlers’ skills

USask researcher Dr. **Colleen Dell** (PhD) and her team have partnered with St. John Ambulance in Saskatchewan to offer a unique eight-hour, self-paced online certificate course to



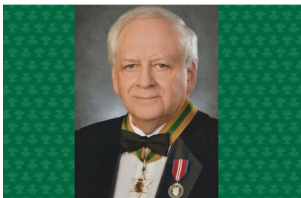
improve therapy dog handlers' abilities to prepare and support their interactions with people who use their services.

The course is based on research as well what's been learned from experiences that range from responding to community needs after the Humboldt Broncos bus tragedy through to weekly visits with people at addictions treatment facilities.

P2IRC symposium highlights latest digital agriculture advances

A sold-out audience explored the latest advances in imaging, phenomics, genomics, machine learning and more at the 7th Annual Plant Phenotyping and Imaging Research Centre (P2IRC) Symposium on Oct. 25. The full-day event addressed the theme, "Growing the Future with Digital Agriculture," and featured almost 40 one-minute Poster Competition presentations.

Congratulations to the winners: **Phuntsho Norbu, Travis Gray, Sara Mardanisamani, Keyhan Najafian and Thulani Hewavithana.** **Presentations from researchers representing USask and other leading institutions are available online.**



Distinguished professor Rosenberg recognized with Saskatchewan Order of Merit



Abdelrasoul honoured with two research awards



USask ag research looks to stop 'cereal killer' in its tracks



USask student's wheat pathology research helps producers in practical ways



USask researcher investigates human-reindeer relationships by examining animals' teeth



Education, arts and humanities strong USask performers in THE subject rankings



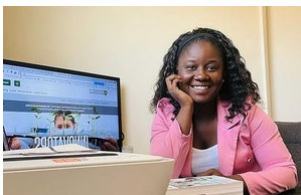
Riverbank stability, social implications of dental health at centre of new USask—City of Saskatoon project



Food bank use highest on Prairies as grocery prices skyrocket: USask national poll



Chewing up the competition



Calculating the value of a wetland certification program

In THE CONVERSATION

The use of natural outdoor laboratories can reduce threats to freshwater biodiversity

By **Alyssa Murdoch**, (*Carleton University*) and USask's Dr. **Chrystal Mantyka-Pringle** (PhD)

Governments, industrial and development companies and scientists need to take a leading role in finding strategic solutions to the cumulative threats impacting our freshwater ecosystems.



Convicted murderer Colin Thatcher's invitation to the Saskatchewan legislature diminishes us all

By USask researchers Dr. **Kathy Walker** (PhD), and Dr. **Susan Gingell** (PhD)

What does it say to victims of intimate partner violence when a convicted wife beater and murderer is invited to a public event by the ruling government?



Unruly provinces? That's what the Fathers of Confederation expected — and planned for

By USask Post-doctoral fellow Dr. **James Forbes** (PhD)

Our country can only remain united if we allow space for regional differences to flourish rather than trying to impose one-size-fits-all solutions.



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Undergraduate Research



NSERC Undergraduate Student Research Awards (USRA) now open for applications

New this year: in addition to the forms due to NSERC, USask is requesting students complete a one-page Statement of Interest to describe their research interests, to be emailed to undergraduate.research@usask.ca by the due date, January 17th, 2023. **More information and eligibility criteria.**

Upcoming events



Tri-Council Research Event – Nov. 22

Strengthening Indigenous Research Capacity and Research Data Management: Intersections, Boundaries, and Possibilities

Join AVPR Engagement and USask SSHRC Lead Dr. **Dawn Wallin**, SSHRC Vice-President Stakeholder Engagement and Advancement of Society **Ursula Gobel**, and **Matthew Lucas**, Executive Director, Corporate Strategy and Performance, for a campus-wide research event, sharing Tri-Council developments related to two important initiatives: the Strengthening Indigenous Research Capacity (SIRC) efforts for supporting Indigenous research and training, and the Research Data Management policy.

The event will also feature a panel session led by USask faculty Dr. **Bobby Henry** (PhD), Dr. **Erika Penz** (MD), and Dr. **Amanda Froehlich Chow** (PhD).

Register by Nov. 18. Event: Nov. 22, 10am to 1pm, HLTH 1B11.



Join Campus Conversations

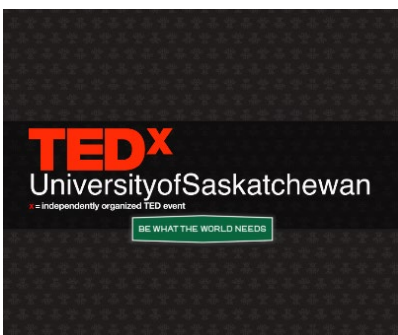
Campus Conversations—conversations on research, scholarly, and artistic work at USask, hosted by the Office of the Vice-President Research—resumes for 2022-2023, starting Oct. 20.

The events are an opportunity for VP Research Baljit Singh and the OVPR leadership to connect with and hear from staff, students, and especially researchers at USask.

Mark your calendars. Everyone is welcome.

The 2022-23 Campus Conversations will be held in person from **noon to 12:45 p.m.** on:

- Dec. 8, at Convocation Hall;
- Jan. 25, 2023 at Convocation Hall;
- Mar. 22, at Convocation Hall;
- May 3, in HLTH GB06; and
- June 14, at Convocation Hall



Mark your calendars: TEDxUniversityofSaskatchewan happening Jan. 22, 2023

TEDxUniversityofSaskatchewan is an event filled with a suite of short, carefully prepared talks, demonstrations and performances that engages those with the bold ambition to be what the world needs by fostering learning and wonder, sparking conversations that matter and stimulating courageous curiosity, boundless collaboration and inspired communities.

Plans are underway for an exciting line up of speakers, performers and activities. Stay tuned for more details and visit research.usask.ca/tedx.

Elements of Research Storytelling

This three-part "How to tell your research story" series will highlight effective ways to mix media and pull together key storytelling elements to effectively share your research story.



- Nov. 30 – **Video Content**
- Dec. 14 – **Written Content**

In the news

- Nov. 14 – MSN Health, Slice - **Dogs Can Help People Through the Grieving Process: Research**
- Nov. 11 – CBC, MSN Health, MSN Canada, MSN New Zealand - **Canada is seeing an early rise in flu cases. Is a 'tidal wave' of infection coming?**
- Nov. 11 – CNN - **It feels like dogs know just when we need them most. Well, they might, experts say**
- Nov. 7 – Globe and Mail - **Droughts a major challenge for hydroelectric utilities**
- Nov. 6 – Global News - **University of Saskatchewan and VIDO lab virologist Angela Rasmussen also clarifies what the many new COVID-19 subvariants could mean for the winter**
- Nov. 4 – Globe and Mail - **University of Saskatchewan report offers guidance on how to define Indigenous identity**
- Nov. 3 – GrainsWest - **Insect lab expands possibilities**
- Nov. 2 – Canola Watch Podcast - **Ep. 76 - Aster yellow phytoplasma**
- Oct. 31 – Global News, CTV News, National Post, Toronto Star, CP24, Vancouver Sun, - **USask survey looks at how people deal with rising food costs**
- Oct. 22 – New York Times, Washington Post, LA Times - **Senate GOP report argues lab-leak theory is most likely origin of covid**
- Oct. 19 – Global News, Canadian Geographic, Yahoo! Online, CBC News, Vietnam Online - **USask researchers help NASA with climate science satellite mission**



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