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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!](#)



This Month's Stories



New funding helps University of Saskatchewan researchers take aim at long COVID

University of Saskatchewan (USask) researchers are part of a Canada-wide consortium awarded \$20 million by the Government of Canada to pursue research into “long COVID,” also known as post-COVID-19 condition. The funding over five years will support the Post COVID-19 Condition Research Network (called **Long COVID Web**), to create tools to diagnose, treat, and rehabilitate people with all forms of long COVID. USask College of Medicine’s Dr. **Gary Groot** (MD, PhD) is co-leader of population health and modelling research for the network.

Simultaneously with the funding announcement, Canada’s Chief Science Advisor released a comprehensive report on long COVID, led by an expert task force including USask College of Medicine epidemiologist Dr. **Nazeem Muhajarine** (PhD).

USask project honours COVID-19 victims on third anniversary of pandemic

The **Remember Rebuild Saskatchewan** team at USask is working to help residents remember the lives lost to COVID-19 since the virus arrived in the province on March 12, 2020, and to memorialize the people behind the statistics. The team’s **Remember Lives Not**

Numbers project had College of Arts and Science researchers Dr. **Jim Clifford** (PhD), Dr.



Patrick Chassé (PhD), Canada Research Chair in the History of Medicine Dr. **Erika Dyck** (PhD), graduate student **Bethany Knowles**, and undergraduate research assistant **Domenica Medina Sanchez** scour news stories and obituaries for Saskatchewan individuals whose death was linked to COVID-19. The website identifies more than 80 individuals lost to COVID-19, and researchers are inviting more families and loved ones to come forward to add names.



USask-led research project receives more than \$1.3 million to study bone strength development in children with diabetes

USask researchers have received more than \$1.3 million for an unprecedented multi-year study of the development of bone structure, density and strength in children with Type 1 diabetes. Co-led by Dr. **Saija Kontulainen** (PhD) with the College of Kinesiology and Dr. **Munier Nour** (MD) with the College of Medicine, the project is one of several USask projects to receive a total of more than \$1,850,000 from the Canadian Institutes of Health Research (CIHR) Project Grant program.

JSGS awarded \$1.75 million to support municipalities in advancing sustainability in Saskatchewan

The Johnson Shoyama Graduate School of Public Policy (JSGS) has been awarded \$1.75 million by the Government of Canada's Future Skills Centre to strengthen the capacity of municipal governments to move towards a net zero future. Through the Governing Sustainable Municipalities project, JSGS faculty, executives-in-residence, and research associates will work with municipal governments to identify obstacles and opportunities for developing actionable, practical, and innovative solutions for meeting their sustainability objectives.



Research Junction projects benefit Saskatoon

If the findings of four recently completed projects funded through the Research Junction partnership between USask and the City of Saskatoon are adopted, they would add more renewable energy to Saskatoon's power grid, improve petrochemical contaminant removal from river water, reduce homelessness among 2SLGBTQ+ youth, and revamp the city's business tax incentive policies. This innovative Research Junction program promotes collaboration between USask researchers and city hall specialists to train students and address contemporary urban challenges for the benefit of Saskatoon residents.

Looking for more research stories? Visit [Discovery Digest online](#).

USask research team creates app to give patients better access to information



An interdisciplinary research team led by the USask College of Pharmacy and Nutrition's Dr. **Holly Mansell** (PhD) and College of Arts and Science's Dr. **Nathaniel Osgood** (PhD), and including colleagues from USask, the Saskatchewan Health Authority, and Saskatchewan patients, has come together to develop a mobile app that can improve the delivery of tailored information and patient stories for the benefit of kidney transplant patients in Saskatchewan.

The project is **one of many USask projects recently awarded funding by Saskatchewan Health Research Foundation.**

USask researchers discover new antimicrobial resistance gene associated with livestock disease treatment

Researchers at USask have discovered how a previously overlooked gene is involved in antimicrobial resistance—a growing global issue that threatens the health and welfare of both humans and animals. The gene encodes for an enzyme named EstT and is capable of “turning off” or inactivating macrolides, a class of antibiotic drugs commonly used to treat disease in cattle and other livestock.



The all-USask research team, led by Western College of Veterinary Medicine assistant professor Dr. **Tony Ruzzini** (PhD) and in collaboration with Dr. **Murray Jelinski** (DVM), made the discovery after analyzing bacteria collected from watering bowls at a western Canadian beef cattle feedlot. The results were **published** in *Proceedings of the National Academy of Sciences (PNAS)*.



Global Institute for Food Security partnership in Bangladesh produces first sequenced genome of year-round jackfruit

A partnership between the Global Institute for Food Security (GIFS) at USask, the Bangladesh Agricultural Research Council (BARC), and Bangabandhu Sheikh Mujibur Rahman Agricultural University, has sequenced a year-round jackfruit variety genome, making Bangladesh the only southeast Asian country other than China to sequence a genome entirely.

This technological feat is an important outcome of the partnership, which aims to improve sustainable food security in Bangladesh while strengthening trade ties between the fast-growing country and the province of Saskatchewan.

Global Institute for Food Security at USask partnership leads to inauguration of ag-tech centre in Bangladesh

As part of an ongoing partnership with the Bangladesh Agricultural Research Council (BARC) of the Bangladesh

Ministry of Agriculture, GIFS has helped launch an agricultural technology centre at the Bangladesh Rice Research Institute (BRRI) in Gazipur, Bangladesh.



USask collaborates with key partners in India



USask VP Research Dr. **Baljit Singh** (PhD) was one of several leaders on a Saskatchewan mission to India. As part of the trip led by Premier **Scott Moe**, USask signed memoranda of understanding (MOU) with Chandigarh University, the National Institute Technology Jalandhar, and Indian Institute of Technology Roorkee. The MOUs and the

resulting collaboration will help Saskatchewan and India share collective knowledge in areas related to food security, agriculture, and more.

Along with the MOU signings, Singh moderated several roundtable discussions with delegates from Canada and India, focused on the connection between food, water, and energy, the energy transition, and on critical minerals and the importance they will play in the future of Saskatchewan and India's economies. While in India, Singh also played a key role in the Shastri Indo-Canadian Institute (SICI's) Bi-national Cluster on One Health, of which he is the Canadian Chair.

USask scientist looks at link between zoonotic diseases and imported dogs

USask veterinary scientist Dr. **Tasha Epp** (DVM, PhD) is leading a Canadian surveillance study that looks at the link between zoonotic diseases and recently imported dogs.

Scientists estimate that 60 per cent of known infectious diseases and up to three-quarters of new or emerging infectious diseases are zoonotic (transmitted between animals and humans) in origin.



VIDO first non-U.S. organization invited to join high containment network

USask's Vaccine and Infectious Disease Organization (VIDO) has been unanimously accepted as the first and only international organization in the Research Alliance for Veterinary Science and Biodefense BSL-3 Network (RAV3N), a partnership of 18 United States-based large biocontainment facilities focused on veterinary infectious

diseases.

VIDO is the largest and most advanced Biosafety Level 3 Agriculture (BSL-3 Ag) facility in

Canada and the only Canadian non-government facility authorized to work with the foreign animal disease African swine fever.

Guiding USask to meet sustainability goals

Janelle Hutchinson, USask's first Chief Sustainability Officer, is working with three special advisers to operationalize the university's **Sustainability Strategy**. Hutchinson, **Robert Bierman**, USask's director of Planning, Design and Construction, Dr. **Nancy Turner** (PhD), senior director of Teaching and Learning Enhancement, and Dr. **Maureen Reed** (PhD), distinguished professor in the School of Environment and Sustainability and UNESCO Co-Chair in Biocultural Diversity, have a shared interest and desire to move the strategy forward and deliver on its five commitments: leveraging USask's place; modelling the way; empowering action; capitalizing on strengths; and crystallizing social change.



Baseline for hormone levels in western Canadian horses takes shape

Western College of Veterinary Medicine (WCV) scientists are developing a hormone baseline for western Canadian horses. This baseline allows Prairie Diagnostic Services (PDS), Saskatchewan's veterinary diagnostic laboratory, to offer equine metabolic testing—screening for endocrine disorders such as pituitary pars intermedia dysfunction (PPID) or equine metabolic syndrome (EMS). Previously, western Canadian veterinarians could only send horses' blood samples to veterinary diagnostic labs in Ontario or New York, adding delays to receiving test results and endangering affected horses' lives.

In THE CONVERSATION

USask is a founding partner of the national academic newswire, **The Conversation Canada**, which provides independent, high-quality journalism. Get in touch with **Research Profile and Impact** if you are interested in submitting a story or opinion piece.

To discover more research stories and past newsletter editions, visit **Discovery Digest online**.

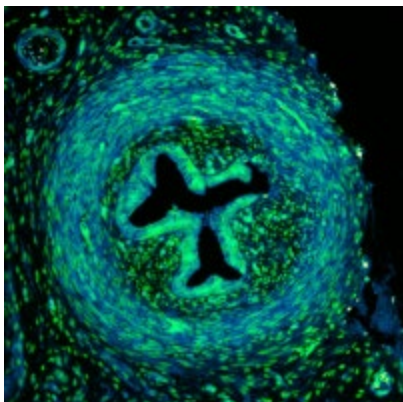
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Make sure to follow the USask Research **Twitter page** to stay in-the-know, with exciting research news delivered right to your newsfeed. Don't forget to follow **USask Research on LinkedIn**, **@VPR_USask** and **@USask** on Twitter for more of the latest research and university news.

Use the hashtag **#USaskResearch** when sharing USask-related research

From OVPR



LAST CHANCE TO SUBMIT to 2023 Images of Research Photo Competition – Mar. 16

What does research look like to you? Celebrate the diversity of research, scholarly, and artistic work on campus and beyond.

Enter the ninth annual USask **Images of Research** photography and imaging competition organized by Research Profile and Impact. Grand prize: \$500. Category winners awarded \$300, 1st runner-up, \$200, plus awards for overall Best Description and Viewer's Choice.

Enter from until Mar. 16. Vote for your favourite images and descriptions starting on Mar. 17. [Details.](#) [SUBMIT NOW.](#)



2023 TEDxUSask Videos Now Available

The wait is over! This year's TEDxUniversityofSaskatchewan videos are now available!

USask is home to pioneers in discovery who are improving lives, expanding opportunities, strengthening social cohesion and protecting the environment. In the spirit of ideas worth spreading, they took to the TEDx stage in January with compelling stories of ambition and achievements, sharing their voice and vision to be what the world needs.

Whether you missed the event or just want to re-watch the amazing talks, [find all the videos online.](#)

Learn more [about the event.](#)



USask Internationalization Recognition Awards – Nomination deadline Mar. 31, 4 pm

The J.W. George Ivany Internationalization Award, Global Research Leadership Award for Faculty, Global Research Leadership Award for Students, and International Engagement Service Award for Staff are open for nominations. In recognition of the achievements of faculty, staff and students who provide outstanding contributions to the internationalization of USask, the \$1,500 awards are part of the University of Saskatchewan Blueprint for Action

Upcoming events



College of Arts and Science Research Celebration Day – Mar. 22

To mark progress on the College of Arts and Science's plan to 2025, the college is celebrating researchers and their work. Throughout Wednesday, March 22, screens across campus will display videos and slides profiling researchers and research projects in the College of Arts and Science.



Women Plus Water: The Climate Crisis is a Water Crisis – Mar. 23

Global Institute for Water Security's *Women Plus Water* invites you to join an online conversation on the climate and water crisis. Host Dr. **Inonge Milupi** (PhD) and guests Dr. **Martina Angela Caretta** (PhD) and Dr. **Tahseen Jafry** (PhD.) will provide their expertise on climate justice, gender, poverty, environmental degradation, and the findings from the 2022 IPCC Assessment on Water. **Registration is open to all.**

Thurs. Mar. 23, 12:30 pm CST



Global Institute for Water Security (GIWS) Campus Engagement Sessions – Mar. 24

How can GIWS help you further your work and research? How does water connect all the campus community as we continue to be a world-leader in water resources research? What does the future hold for water research? These are some of the questions about which we would like to hear from you. Engagement sessions hosted by GIWS Interim Director Dr. Terry Fonstad (PhD) will be held in Admin C280 (Green Room) and also **on Zoom**.

(Not able to make the specific time outlined in the schedule? USask faculty and staff are invited to attend any of the sessions at their own convenience.)

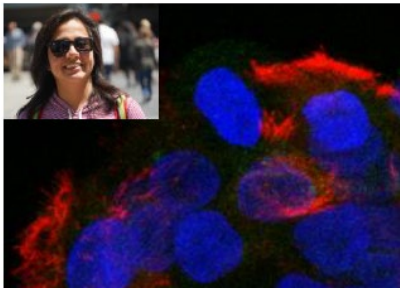
10:00 am - 11:00 am – Law, Edwards, JSJS and Education

11:15 am - 12:15 pm – SENS, Toxicology, VIDO, Fedoruk, and Vet Med

12:45 pm - 1:45 pm – Signature Areas and Open

SHRF Knowledge Translation Seminar – Mar. 24

USask Living Skies Postdoctoral Fellow Dr. **Kim Chiok** (DVM, PhD), co-supervised by Dr. **Arinjay Banerjee** (PhD) and Dr. **Neeraj Dhar** (PhD) will present a seminar titled “Developing organoid models for Mycobacterium tuberculosis and SARS-CoV-2 co-infection studies.” The event is part of World TB



Day.

12-2pm, Vivian K Asher Theatre, G763, Royal University Hospital.

Join Campus Conversations



Campus Conversations—conversations on research, scholarly, and artistic work at USask— 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 **12 - 12:45 p.m.** on:

- ~~Mar. 22, at Convocation Hall; (Cancelled)~~
- **May 3, in HLTH GB06;** and
- **June 14, at Convocation Hall**

In the news

- Mar. 13 – CBC News Network - **Historians hope to preserve COVID-19 pandemic stories as Sask. death toll creeps toward 2,000**
- Mar. 11 – CBC News Network - **Sask.'s Lake Diefenbaker irrigation project was announced 3 years ago. Where is it now?**
- Mar. 10 – MSN News Canada, Saskatoon StarPhoenix - **U of S getting part of \$20M to research long COVID**
- Mar. 10 – Yahoo! News, Sacramento Bee - **Gov. Gavin Newsom waives permits to put California floodwater underground**
- Mar. 9 – MSN Money, CBC, - **'It is simply not true': Grocery CEOs push back at price-gouging allegations**
- Mar. 8 – MSN Video, Global News - **USask Research on Avian Bird Flu**
- Mar. 7 – Washington Post, CBC News Network (Rosemary Barton Live) – **Opinion: Available evidence still points to covid originating from spillover**
- Mar. 7 – The Hill Times - **Is Canada ready to hear from a new wave of water leaders?**
- Mar. 5 – New York Magazine – **Mad Scientists**
- Feb. 25 – MSN News, MSN Health, MSN Money, Prevention.com, Yahoo! News, FOX News, New York Post Online - **Highly Intelligent and Possibly Invincible Super Pigs Are Invading America**

- Feb. 22 – MSN Health, Global News - **USask research could make kidney dialysis a lot more comfortable for patients**
 - Feb. 16 – Yahoo! Lifestyle/Time.com - **How to Best Treat Underserved IBD Patients**
 - Feb. 15 – CBC, MSN Health - **Norovirus, the culprit behind a nasty stomach bug, is rising again in Canada**
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Banner image photo credit: **A Lousy Problem - Literally!** - By Kayla Buhler, PhD student

Images of Research 2022 -- Community Impact (winner)

Funders: Natural Science and Engineering Research Council of Canada, Weston Family Foundation, ArcticNet and Polar Knowledge Canada

Description: Back in 2019, I noticed Arctic foxes at my field site with strange fur loss. When the pandemic hit, I was unable to travel to the Arctic, but scientists and trappers from both Nunavut and Norway (Svalbard) were observing similar fur loss. In 2021, I partnered with trappers in Cambridge Bay and Gjoa Haven to identify the reason for this fur loss, as it impacts the quality of pelts. Turns out that it was a lousy problem! Literally, lice were recovered from foxes in Canada and Norway, which turned out to be a brand-new cryptic species that travels with foxes as they disperse between continents across the Arctic sea ice. An important find for northern trappers!



BE WHAT THE WORLD NEEDS

We want your feedback! What do you think of Discovery Digest?

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