

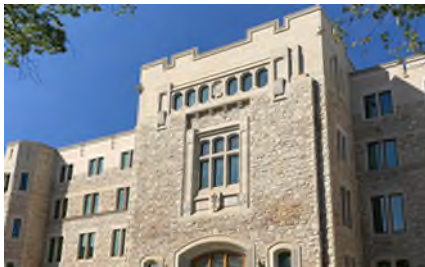


February 2023 - Issue 61

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 research income growth leads Canada's medical universities](#)

Canada's Top 50 Research Universities rankings for 2022 place the University of Saskatchewan (USask) first among the country's tier of 16 medical universities for research income growth from all grants, contracts, and contributions.

USask's sponsored research total of \$285.4 million— an increase of 27.8 per cent from last year, and the largest percentage increase among medical universities—is a record for the university, and includes increased government funding flowing to universities for pandemic-related research.

USask also achieved its highest-ever placement in the rankings—tenth among the 50 universities ranked—a jump of two spots from 2021.

USask awarded \$5.2 million for innovative research projects

Early detection of infectious diseases in chickens and developing regional influenza vaccines for pigs are among 28 innovative livestock and forage research projects at USask to be awarded a total of \$5.2 million in new funding announced Jan. 25. The money comes from Saskatchewan's Agriculture Development Fund (ADF), a program jointly funded by the provincial and federal governments.



Mela proud of forensics centre, own contribution to USask

Twenty-three years after joining USask, Dr. Mansfield Mela (MBBS) today is a professor of psychiatry in the College of Medicine and proud director of USask's Centre for Forensic Behavioural Science and Justice Studies. His research deals with understanding how people with mental health disorders intersect with the legal system and he is especially focused on fetal alcohol spectrum disorder (FASD). Nigeria-born Mela says he's been fortunate to work with colleagues to whom his colour mattered little, and he wants Black History Month to be a celebration of the many Black people at USask and in Saskatoon who are doing extremely well.

USask researcher and Nobel laureate Herzberg predicted source of comet's green hue in 1939

A comet from the outer solar system was visible from Earth for the first time in 50,000 years – and its green shine can be explained in part by a prediction made by Nobel laureate Gerhard Herzberg at USask almost a century ago. Comet 2022 E3 (ZTF), which was visible in early February, has been orbiting the outer solar system for tens of thousands of years and gives off a distinct green colour from its bright head as it arcs across the sky.



The puzzle of the exact cause of this green coloration has been solved in recent years, thanks in part to Herzberg, winner of the Nobel Prize in chemistry in 1971 and a groundbreaking researcher who conducted much of his foundational work at USask from 1935-1945.



Five USask researchers honoured with top provincial health awards

Dr. **Volker Gerdts** (DVM, PhD), director and CEO of the Vaccine and Infectious Disease Organization (VIDO) and professor in the Western College of Veterinary Medicine (WCVM) at USask, has been recognized with an Achievement Award by the Saskatchewan Health Research Foundation.

Cognitive scientist Dr. **Lloyd Balbuena** (PhD), researcher in the USask College of Medicine's psychiatry department, was awarded an Early Career Award for his work aiming to identify predictors of suicide in the general population.

Drs. **Jessica Sheldon** (PhD), **Ivar Mendez** (MD), and **Stuart Skinner** (MD) were each awarded Excellence awards for having the top-ranked applications in their respective funding competitions.

Clinical trial planned for novel Alzheimer's disease therapy at USask

A novel therapy developed for Alzheimer's disease — previously shown to significantly slow the progression of the disease and, in some instances, reverse cognitive decline — will be tested in a Phase II clinical trial at USask. Led by USask College of Medicine professors Dr. **Ron Geyer** (PhD) and Dr.

Andrew Kirk (MD), the trial will advance the development of NeuroEPO, a recombinant form of the naturally produced erythropoietin protein which prevents neuron cell death and promotes the growth and communication of neurons in the brain.



Pewaseskwan at USask supports Nehiyawak (Cree) language and culture revitalization on Saskatchewan First Nation

Pewaseskwan (the Indigenous Wellness Research Group) at the College of Medicine is working with researchers at Onion Lake Cree Nation to support Cree language and ceremony revitalization. Part of a CIHR-funded project, Miyo-pimâtisiwin, which loosely translates as "living the good life," communities lead research based on Indigenous ways of knowing, being, and doing.

For people in the community, regaining language and culture are important steps to improving health and wellness. The work is also supported by another Pewaseskwan project, Achimok (“Tell your stories”), which makes audio and video recordings to create databases of communities’ knowledge and stories.

[USask linguist works to sustain endangered Indigenous language](#)

Fewer than 50 speakers of Upper Tanana are left. USask linguistics researcher from the College of Arts and Science, Dr. **Olga Lovick** (PhD), is documenting their language for future learners. On Feb. 1, Lovick released the second volume of [A Grammar of Upper Tanana](#)—the result of nearly two decades of collaboration between Lovick and a small group of Northern Dene Elders, the book is the first complete grammatical description of any of the Alaskan Dene languages.



[ICYMI: Rethinking the Way We Farm featuring Dr. Bina Agarwal \(Video\)](#)

Hosted by the Canadian Centre for the Study of Co-operatives, the Johnson Shoyama Graduate School of Public Policy, and the Office of the Vice-President Research, globally renowned development economist Dr. **Bina Agarwal** (PhD) spoke about the storm brewing in the global agricultural community.

Agarwal proposes that we need to rethink the way we farm by moving away from unsustainable and unequal farm sectors towards alternatives that are technologically, environmentally, and institutionally different.

[Promising research for improving dialysis](#)

Innovative research by USask bioengineer Dr. **Amira Abdelrasoul** (PhD) on membranes used for hemodialysis has identified the key protein in blood that fouls the membranes and creates further health complications for kidney patients. The associate professor in the College of Engineering aims to use her findings to develop a new type of membrane more compatible with the human body and less susceptible to fouling



from blood proteins. Chronic kidney disease has no cure. Those with end-stage kidney disease who cannot get a transplant rely on hemodialysis to sustain life.

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[A DNA protein may be responsible for causing cancerous ‘stress balls’ in the body: USask research](#)

[USask research hopes to help developing countries conquer financial roadblocks to infrastructure](#)

[Canadian Light Source at USask announces appointment of new executive director](#)

[USask’s Terry Fonstad to lead GIWS as interim director](#)

[“We wrote that play, together”: USask research paints picture of lived experiences of Iranian women](#)

[Feeding the petroleum industry with plant-based fuel additives: USask research](#)

In THE CONVERSATION

[Canada is stuck with tipping — and we're worse off for it](#)

By Dr. **Mark Mentzer** (PhD)

Tipping isn't going to disappear anytime soon, but provinces can do more to protect servers.



[Why your company needs an innovation strategy in 2023](#)

By Dr. **Grant Alexander Wilson** (PhD) and Prof. **Tyler Case**

To improve firm performance and promote fiscal economic growth, corporations should strengthen and implement an innovation strategy.



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Use the hashtag **#USaskResearch** when sharing USask-related research findings, publications or achievements on social media.

From OVPR



Action 2025.

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

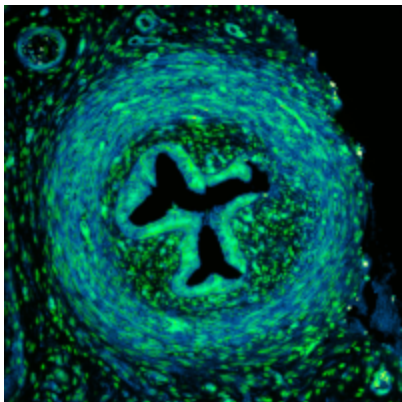
The J.W. George Ivany Internationalization Award, Global Research Leadership Award for Faculty, Global Research Leadership Award for Students, and International Engagement Service Award for Staff are open for nominations. In recognition of the achievements of faculty, staff and students who provide outstanding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



Energy and Mineral Resources for a Sustainable Future: Student conference travel awards

The leadership of the USask Energy and Mineral Resources for a Sustainable Future signature area will fund 10 awards of up to \$1,000 each to support graduate students attending conferences between May 1 and Aug. 31, 2023, to give presentations on topics that fall under this signature.

See if your presentation qualifies and find application instructions [here](#).



2023 Images of Research Photo Competition

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 Mar. 1 to Mar. 16 and vote for your favourite images and descriptions starting on Mar. 17. For details, visit <https://research.usask.ca/research-stories/images-of-research.php>

Upcoming events



Join Campus Conversations

Campus Conversations—conversations on research, scholarly, and artistic work at USask, hosted by the Office of the Vice-President Research—resumed 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 **12-12:45 p.m.** on:

- Mar. 22, at Convocation Hall;
- May 3, in HLTH GB06; and
- June 14, at Convocation Hall

In the news

- Feb. 14 – *CBC News* - [Northern, Indigenous communities need better access to organ transplants, say Sask. advocates](#)
- Feb. 2 – *CBC News* - [Rain after fog? Weather legend holds no water, say experts](#)
- Jan. 27 – *CBC News* - [Sask. rural, remote communities need better sexual violence education, more support: report](#)
- Jan. 26 – *CBC News* - [USask remote ultrasound machine opens up health-care opportunities in rural Saskatchewan](#)
- Jan. 25 – *CBC News* - [Just how risky is it to drink more alcohol than Canada's new guide advises?](#)
- Jan. 23 – *Global News* - [New USask human trafficking study asks for sweeping system changes](#)

- Jan. 13 – *CBC News and National Post* - [University of Saskatchewan chemist says it might be the time to let go of gas stoves](#)

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

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