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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 USask research hits cancer with a “one-two punch”

After attacking a tumour with a targeted therapy, the cancer might stagger but often comes back fighting — usually even harder to defeat. Recently published in *Clinical Cancer Research*, the research has revealed a promising strategy to strike tumour cells and land a knockout blow by choosing the right combination of cellular mechanisms to target together.

Led by University of Saskatchewan (USask) College of Medicine researchers Dr. **Andrew Freywald** (PhD) and Dr. **Franco Vizeacoumar** (PhD), the study outlines a multi-sided approach to identify which molecular mechanisms in a tumour should be targeted together.

BMO's \$2 million donation to accelerate research critical to the future of food in Canada

Critical research into regenerative and digital agriculture at USask will be accelerated thanks to a \$2 million donation from BMO. The donation will support two initiatives within the College of Agriculture and Bioresources:



- the BMO Soil Analytical Laboratory (official name pending approval by USask's Board of Governors) and
- the Jarislowsky and BMO Research Chair in Regenerative Agriculture.

Promising solution for post-surgical pain

Three USask researchers are among a group that has published highly promising results of a groundbreaking



clinical trial that could provide a pharmaceutical solution to a problem that has plagued patients and surgeons alike since the early days of surgery—post-operative formation of rope-like bands of internal scar tissue in 70-90 per cent of cases. Known as adhesions, these cause excruciating pain in about one-third of patients. The unique technology can prevent adhesions in all types gynecological surgeries, and eventually extend to all surgeries, said Dr. **Roger Pierson** (PhD) of USask's College of Medicine, final author of the paper.

USask launches new University of Saskatchewan Insect Research Facility

USask has launched the University of Saskatchewan Insect Research Facility (USIRF), the first insect research facility with quarantine capabilities in a western Canadian university. Research conducted in the new facility will boost Canadian agriculture, protect the environment, reduce risk to food security, and provide fundamental insight into insect ecology. The 500-square-foot insect quarantine facility is designed to allow researchers to study non-native insects and pathogens that pose a potential threat to western Canadian crops. [Video explainer on the facility](#) and [on its security features](#).



Medieval monks' moon-watching sheds light on volcanoes and climate change

An international research team including USask College of Arts and Science researcher Dr. **Matthew Toohey** (PhD) has used meticulous medieval-era records scribed by monks about the colour of lunar eclipses to develop a new, deeper understanding of volcanoes and climate change.

The interdisciplinary research published in *Nature* examined astronomical records from monks and chroniclers across Europe, the Middle East, and Asia from the High Medieval Period (1100–1300 CE), a volcanically-active period. Of 64 lunar eclipses that occurred in Europe during that period, monks described 51, noting five were especially dark—something which can occur when dust from major eruptions peppers the stratosphere.

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

[Rethinking the global water cycle: research examines mystery behind ancient groundwater](#)



While groundwater is never completely separate from surface water, there are depths at which the groundwater is only weakly connected to the rest of the hydrological cycle, according to new research published in *Nature*

Communications Earth and Environment, and led by College of Engineering/Global Institute for Water Security researcher Dr. **Grant Ferguson** (PhD) and co-authored by Dr. **Jeffrey McDonnell** (PhD), School of Environment and Sustainability.



USask's QS rankings performance encouraging

Recently released Quacquarelli Symonds (QS) World University Rankings by Subject show USask was a strong performer among nearly 1,600 universities assessed by the British company specializing in analyzing higher education institutions globally. For the first time, USask received a ranking in three categories in a single year: a tie for 325 in life sciences and medicine, tie for 379 in natural sciences—a significant jump from the 451-500 tier last year—and placed 451-500 in engineering and technology.



USask team studies effects of sweeping in curling

What role does sweeping play in curling—how does it affect the ice and the behaviour of the stones? A research team from USask led by College of Engineering researcher Dr. **Sean Maw** (PhD), Jerry G. Huff Chair in Innovative Teaching, and **Eugene Hritzuk**, former world senior curling champion (2009), has been set up to carry out a sweeping, 18-month long scientific research project.



Government of Saskatchewan grants \$90K to support groundbreaking chronic wasting disease research at USask

USask College of Arts and Science Dr. **Phil McLoughlin** (PhD), has been awarded a \$90,000 grant to study the population dynamics of wildlife in the southeastern part of the caribou range. Using state-of-the-art radio collars and trail cameras, the team aims to better understand animal movements and develop a comprehensive model of the spread of chronic wasting disease and meningeal worm in woodland caribou and other boreal species.

Researchers snap, share the beauty of USask research

The ninth edition of the USask Images of Research competition concluded on April 6, with the winners being announced at an in-person reception, the first since the start



of the COVID-19 pandemic.

In total, faculty, staff, students, and alumni submitted 143 images to the competition—more than in any previous year.

Video slideshow of the winners.



VIDO virologist: Renowned researcher at USask leads pandemic fight

Dr. **Angela Rasmussen** (PhD) of the Vaccine and Infectious Disease Organization (VIDO) at USask has become a voice of reason in an online world corrupted by conspiracy theorists and anti-vaxxers, fighting back on social media and in major mainstream media publications. While her focus is on her work in the lab that has global impact and can help save millions of lives, the principal research scientist at VIDO and adjunct professor at USask is also dedicated to clearly communicating the science behind the research.



VIDO partners with four research hubs to strengthen Canada's infectious disease preparedness

USask's VIDO is a partner in four new research hubs established to strengthen Canada's biomanufacturing capacity and pandemic preparedness. The hubs are part of a two-stage, nearly-\$600-million investment made by the Government of Canada under the integrated Canada Biomedical Research Fund (CBRF) and the Biosciences Research Infrastructure Fund (BRIF).



Delegation to University of Bonn forges partnerships

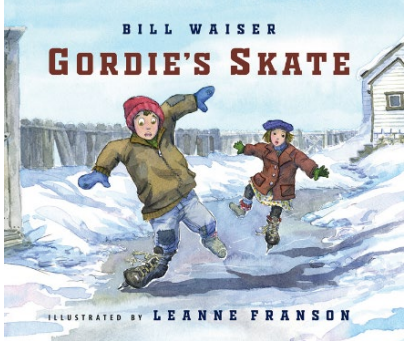
USask Vice-President Research Dr. **Baljit Singh** (PhD), Dr. **Markus Brinkmann** (PhD), special adviser on strategic partnerships with Germany, Dr. **Steven Webb** (PhD), CEO of the Global Institute for Food Security, Dr. **Trina Racine** (PhD), director of vaccine development at the Vaccine and Infectious Disease Organization, and Dr. **Steve Rayan** (PhD), director of the Centre for Quantum Topology and its Applications, formed a delegation that recently visited the University of Bonn in Germany for strategic discussions and to sign a memorandum of understanding on forging research partnerships and facilitating student mobility between the two institutions.

USask lecture theatre named for Nobel Laureate

A prominent USask lecture theatre is now named in honour



of Nobel Laureate Dr. **Gerhard Herzberg** (PhD), who spent 10 years as a faculty member in the physics department of USask's College of Arts and Science from 1935–45. The Dr. Gerhard Herzberg Lecture Theatre (Physics 107) is the first learning space on campus named in honour of Herzberg, who won the 1971 Nobel Prize in Chemistry and is considered the father of modern spectroscopy.



USask historian publishes first children's book

Distinguished history professor emeritus Dr. **Bill Waiser** (PhD), two-time Governor General's award winner, has just released his first children's book, *Gordie's Skate*. The Depression-era story tells how Saskatchewan's Gordie Howe acquired his first pair of skates thanks to his mother's generosity. *Gordie's Skate* is written by Bill Waiser with illustrations by Leanne Franson, and was published by ThistleDown Press on April 15, 2023.



Sustainability of high-mountain water sources focus of new UNESCO Chair



New USask researcher focuses on growing forage production



USask soil science student searches for a sustainable solution to crop disease



Collaborative research team teases out significance of stressors found in pigs' hair

Stay connected with USask research news



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

Upcoming events



Women+Water: Civil Society Action for Sustainable Water Futures – April 20

Join a conversation about taking action to raise awareness and working towards a more sustainable water future. Host Dr. **Louise Arnal** (PhD) and guests **Anita Collins** (Treaty 3 Women's Council) & **Makaśa Looking Horse** (host of Ohneganos: Let's Talk Water) will discuss their own experiences and initiatives, including their perspectives on

Indigenous leadership, activism, and applied conservation research. **12:30 - 1:30 CST, via Zoom**

[Register](#)



Workshop -- How to Write for *The Conversation Canada*, with **Scott White**, Editor-in-Chief. - May 4/5

Have you considered writing for *the Conversation Canada*, but weren't quite sure where to start? Come learn about how best to pitch to and write for *The Conversation Canada* from **Scott White**, Editor-in-Chief. What makes a good pitch? How do the editors choose which articles to accept?

All your (Conversation Canada-specific) questions answered!

To attend, to bring your curiosity, and a story idea that is in your area of expertise/research, might be interesting to someone you don't know. (Bonus points if it's relevant to something

happening now.)

Researchers (faculty, doctoral students, postdoctoral fellows) – Register for one of three 90-minute sessions, May 5

And – Exclusive session for campus communicators and research facilitators – Register for a 90-minute session, May 4



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:

- **May 3, in HLTH GB06** (Chaired by AVP Research Terry Fonstad); and
- **June 14, at Convocation Hall**

In the news

- April 15 – CBC Radio: Quirks & Quarks - **Medieval monks watching the moon provided valuable climate data**
- April 12 – CBC Radio: As It Happens - **People were using psychedelic drugs in Bronze Age Europe, study finds**
- April 11 - CBC: The National - **Sask. scientists developing avian flu vaccines**
- April 11 – CNN Online - **This California city’s newest police recruit, ‘Officer Hops,’ is a therapy bunny**
- April 10 - CBC News - **Sask. scientists developing vaccines to protect birds and humans from avian flu**
- April 6 – Global News/MSN Canada - **Home-like long-term care models said to improve quality of life: USask report**
- April 4 – Canadian Press/Globe and Mail/Toronto Star - **Saskatchewan community groups lead charge on safe consumption sites**
- April 4 – Business Insider/Yahoo! News - **A cross between domestic pigs and wild boars was intentionally bred in Canada. The resulting 'super pigs' escaped captivity and could be invading the US.**
- April 3 – Toronto Star - **Remember ozone-destroying CFCs? They’re on the rise again. And the source is a mystery**
- April 3 – RBC Disruptors Podcast - **Soil: An Unexpected Climate Change Champion**
- Mar. 31 – Forbes - **International Finance Dilemma: Excess Liquidity Versus Freshwater Shortage**
- Mar. 30 – Times of India - **Lung fibrosis may take a fatal turn post-Covid in Hyderabad**

- Mar. 30 – CBC Saskatchewan - **How the Saskatchewan agricultural industry is dealing with methane emissions**
 - Mar. 27 – Forbes - **Researcher Calls 1st Marburg Virus Outbreak A ‘Lab Leak,’ Here’s Why Experts Pushed Back**
 - Mar. 22 – Times of India - **'Arsenic major cause of gallbladder cancer in Bihar'**
 - Mar. 21 – Globe and Mail – **Opinion: The spring snowmelt is coming - where is our much-needed Canada Water Agency?**
 - Mar. 16 – Western Producer - **Pulse diseases continue their march across the Prairies**
 - Mar. 15 – Global News - **New magnetic material could make smartphones significantly cheaper**
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Banner image photo credit: **Treading on Thin Ice** - By Dr. **Kayla Buhler (PhD)**, recent graduate

Images of Research 2023 - *Grand Prize winner*

The Canadian Arctic is warming at four times the global average, creating many ecological changes for the far North. Our lab works on wildlife diseases that are influenced by the effects of climate change. Ironically, when we do fieldwork in the Arctic, we must also cope with the challenges that climate change creates for our efforts. Here, we form a single file line on our snowmobiles to safely cross large frozen lakes on the tundra in search of fox dens. Early spring and warming temperatures complicate our search, as the thaw makes transportation challenging on thin ice.



BE WHAT THE WORLD NEEDS

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

You are receiving this email because you are a student, faculty or staff at USask. Questions? Comments? Send an email to **Research Profile and Impact**.
