# Discovery Digest

**October 2025 - Issue 93**

***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's VIDO celebrates 50 years of protecting health, food security and vaccine sovereignty

Founded in 1975 as a Prairie-based livestock lab, USask's Vaccine and Infectious Disease Organization (VIDO) has since grown into one of the world's leading infectious disease research centres. Occupying nearly 10 acres on USask's campus, VIDO is recognized as Canada's Centre for Pandemic Research and a leading national science facility. The organization plays a pivotal role in combatting emerging infectious diseases.

"VIDO's 50 years reflect more than scientific achievement — they embody Canada's ability to protect people, animals and our future," said **Dr. Volker Gerdts**, VIDO director and CEO. "With our unique, integrated facilities that span discovery to manufacturing, we are building the capacity to respond swiftly, save lives and prevent the next global health crisis — not just for Canadians, but for the world."

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### USask researchers publish first Canadian guidelines for Spinal Bulbar Muscular Atrophy

Researchers at USask have published the first Canadian clinical guidelines for Spinal Bulbar Muscular Atrophy (SBMA), a rare hereditary neuromuscular disorder.

The guidelines, titled Best Practice Recommendations for the Clinical Care of Spinal Bulbar Muscular Atrophy, were published on September 22 in the Canadian Medical Association Journal.

SBMA, also known as Kennedy's Disease, is a slowly progressive condition affecting lower motor neurons, leading to muscle weakness, atrophy and fasciculations. While globally rare,

estimated at one to two cases per 100,000 — the highest known prevalence in the world is among Indigenous populations in Saskatchewan, reaching 14.7 per 100,000.

Led by **Dr. Kerri Schellenberg (MD)**, associate professor, neurology, in the Department of Medicine, the project represents a landmark in improving care for SBMA patients across Canada. Collaborators include **Dr. Alexandra King (MD)** and **Dr. Malcolm King (PhD)**, co-leads of Pewaseskwan (the Indigenous Wellness Research Group) at the USask College of Medicine, and **Dr. Gerald Pfeffer (MD)**, a clinician-scientist in the Department of Clinical Neurosciences and Hotchkiss Brain Institute.

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## Health and data at heart of USask congress

Now in its seventh year, USask's People Around the World (PAW) international congress will bring together community members, researchers, industry partners and students for data-driven discussions about global challenges.

This year's theme, Healthy people, healthy planet: driving innovation with data, highlights creative collaboration, data-informed decision making, and accessible solutions for a healthier world.

The 2025 PAW Congress runs October 22-24 and features well-known Canadian health and policy experts who will come together to discuss a diverse set of topics ranging from AI for health, to air quality and the importance of healthy communities.

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## New cell sorting technology primed to improve USask medical innovation

A joint proposal from USask's VIDO, College of Medicine, and Western College of Veterinary Medicine (WCVM) to acquire cutting-edge technology to sort biological samples by their cell type has received more than $460,000 from the Canada Foundation for Innovation (CFI) John R. Evans Leadership Fund (JELF).

"Research is accelerating at USask. We're doing state-of-the-art work that is nationally and internationally competitive," said **Dr. Volker Gerdts (DVM, PhD)**, director of VIDO and a professor in the WCVM.

The new cell sorting machine uses fluorescence-based technology to sort out different types of cells from a sample that is passed through the lasers.

Gerdts was one of three co-applicants on the project, alongside **Dr. Peter Pioli (PhD)** with the Department of Biochemistry, Microbiology and Immunology in the College of Medicine and **Dr. Gurpreet Aulakh (PhD)** with the WCVM.

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## USask researcher honoured with top pulse crop award

USask researcher **Dr. Tom Warkentin (PhD)** has been awarded the Canadian Pulse and Special Crops Trade Association (CPSC) Industry Appreciation Award for his significant contribution to Canada's pulse and special crops industry.

The award is presented annually to an individual, company or organization that has made significant

contribution to Canada's pulse and special crops industry.

Warkentin is a renowned plant breeder at the Crop Development Centre (CDC) within the USask's College of Agriculture and Bioresources.

With a strong foundation in both conventional and genomic breeding techniques, Warkentin aims to enhance crop resilience, disease resistance and end-use quality. His work is instrumental in meeting the evolving needs of the agricultural sector, particularly as demand for plant-based protein continues to rise globally. Through his breeding efforts, he ensures that farmers have access to varieties that are not only productive but aligned with industry standards for food processing and nutrition.

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**Looking for more research stories? Visit Discovery Digest online.**

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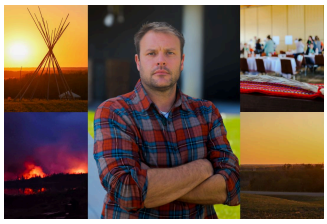
## USask researchers receive $1.5 million for rapid response wildfire research



Researchers from the nātawihowin First Nations Research Network / mamawiikikayaahk Métis Research Network (SK-NEIHR) and USask are leading a community-focused research initiative that examines the impacts of wildfire evacuations on Indigenous communities. The National Coordinating Centre of the Network Environments of Indigenous Health Research (NCC-NEIHR) recently received a $1.5 million investment from the Canadian Institutes of Health Research (CIHR) and the Institute of Indigenous Peoples Health (IIPH) to begin this rapid response research.

This grant will help **Dr. Robert Henry (PhD)**, an associate professor in the Department of Indigenous Studies in the College of Arts and Science, USask's Canada Research Chair in Indigenous Justice and Wellbeing, and the principal investigator of SK-NEIHR and lead of the NCC-NEIHR, and his team work with First Nations and Métis communities to develop research projects that evaluate the impacts of wildfires, evacuations, and develop rapid research approaches to address future disasters, emergencies and pandemics.

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## Signature Series research podcast: The future of wildfires with Dr. Colin Laroque

**Dr. Colin Laroque (PhD)** listens to what the trees tell him.

Laroque, a professor in USask's College of Agriculture and Bioresources and the head of the Department of Soil Sciences, is an expert dendrochronologist. In other words, he is an expert in "tree-ring analysis," which allows him to read the rings of trees to get a better understanding of our environment over years, decades and centuries.

For Laroque, the questions are not whether this more regular and severe wildfire season is here to stay, but whether we've reached the apex of what the future holds for this "new normal."

On this episode of the USask Signature Series podcast, we answer the question: "What will increasing wildfires do to our environment, and is there anything we can do about it?"

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## USask research explores the science of the bovine gut

**Dr. Gabriel Ribeiro (PhD)**, associate professor in USask's College of Agriculture and Bioresources (AgBio) and Saskatchewan Beef Industry Chair, set out to investigate what seems to be a relatively simple question — why do some cows digest fibre better than others — in a four-part study conducted with master's candidate **Megan Dubois**.

The results were far from simple. Indeed, they proved not just interesting but somewhat surprising.

Ribeiro and Dubois learned that cattle with higher digestible-fibre intake had better feed efficiency — an animal's ability to convert feed into body weight gain.

"When we started this project, we didn't have any focus on methane or greenhouse gases," Ribeiro said. "We were really focused on understanding why some animals digest fibre and do better on low-quality diets and high-forage diets than others."

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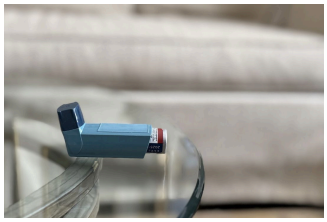

## USask researchers receive CIHR funding for cancer research

**Drs. Linda Chelico (PhD)** and **Franco Vizeacoumar (PhD)**, along with **Dr. Andrew Freywald (PhD)** and **Dr. Frederick Vizeacoumar (PhD)**, are grant recipients for their respective projects targeting breast and pancreatic cancer.

Chelico, a professor in the Department of Biochemistry, Microbiology and Immunology, received $1,029,202 for a five-year project, **Role of APOBEC3 single-stranded DNA cytosine deaminases in breast cancer**.

Franco Vizeacoumer, Freywald and Frederick Vizeacoumar's research looks at Pancreatic Ductal Adenocarcinoma (PDAC), a type of pancreatic cancer that has one of the highest mortality rates. Franco Vizeacoumar received $1,105,426 for a five-year project, Telomere-Directed Epigenetic Therapy: A Novel Approach for Treating Pancreatic Ductal Adenocarcinoma.

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## 3D-printed lungs could improve disease prevention and treatment

Lung diseases like tuberculosis and cystic fibrosis can be difficult to treat. In part, that's because the two-dimensional models researchers use to study the diseases don't accurately reflect the shape of human lungs — and animal models don't behave like humans do when they encounter disease.

USask researchers from VIDO and the College of Engineering are using the Canadian Light Source (CLS) to build a better model.

"We've realized that we're lacking a realistic model for lung diseases… and that means that we can't really plan a better strategy for lung therapies," says VIDO's **Dr. Nuraina Dahlan**, one of the scientists working to make a three-dimensional lung tissue model. A 3D model, she says, would provide a more accurate environment for studying new medicines and pathogens in the lab. Nuraina is studying under **Drs. Neeraj Dhar** and **Arinjay Banerjee** (both at VIDO), and **Dr. Daniel Chen** (College of Engineering).

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## USask scholars receive prestigious Fulbright Canada research placements

Two USask researchers have received special positions from an organization dedicated to fostering academic connections between Canada and the United States.

**Dr. Clinton Westman (PhD)**, a professor in USask's Department of Anthropology in the College of Arts and Science, was named a Fulbright Canada Special Foundation Fellow. The Fulbright Canada fellowship will take Westman to the Canadian Studies Centre at the University of Washington, where he hopes to connect with more researchers in the field and develop a better framework for understanding energy resource development with local communities.

**Dr. Matthew Neufeld (PhD)**, a professor in USask's Department of History in the College of Arts and Science, holds the Fulbright Canada Research Chair in Humanities and Social Sciences. His research into the treatment of prisoners of war in England in the late 17th and early 18th centuries has previously received support from SSHRC and the Canadian Department of National Defence and will now take him to The Citadel Military College of South Carolina.

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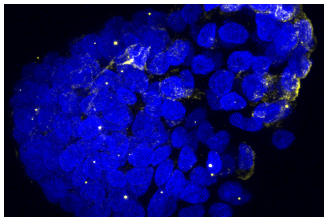
**CBRC commits $1.8 million to CDC barley breeding activities**

**SENS graduate's water security research combines climate and community connection**



**How lab-grown 'lungs' are helping fight infectious diseases**

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## Stay connected with USask research news

Make sure to follow the USask Research **Twitter/X page** to stay in-the-know, with exciting research news delivered right to your newsfeed. Don't forget to also follow USask Research

on **LinkedIn**, and **@VPR_USask** and **@USask** on Twitter/X for more of the latest research and university news.

**USask Research also has a new Instagram page!** Follow **@usaskresearch** for research-related news, features, events and more happening at USask.

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

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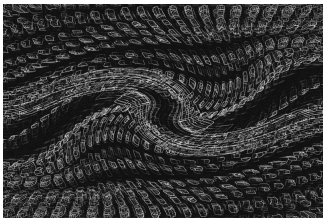
## In *The Conversation*



**Space-time doesn't exist — but it's a useful framework for understanding our reality**

By: **Dr. Daryl Janzen (PhD)**, USask Department of Physics and Engineering Physics, College of Arts and Science

Whether space-time exists should neither be controversial nor even conceptually challenging, given the definitions of "space-time," "events" and "instants." The idea that space-time exists is no more viable than the outdated belief that the celestial sphere exists: both are observer-centred models that are powerful and convenient for describing the world, but neither represents reality itself.

Yet from the standpoints of modern physics, philosophy, popular science communication and familiar themes in science fiction, stating that space-time does not exist is contentious.

But what would it mean for a world where everything that has ever happened or will happen somehow "exists" now as part of an interwoven fabric?

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**Pet guardians are increasingly worried about the mental health of their dogs and cats**

By: **Dr. Renata Roma (PhD)**, USask Centre for Forensic Behavioural Science and Justice Studies (CFBSJS)

When it comes to caring for pets, some people worry most about physical health, while others are more concerned about financing potential health problems. But what stands out in a recent survey is that many pet guardians are especially focused on their pets' emotional well-being, with separation anxiety at the top of the list.

The survey involved 600 pet guardians in the United States. Its results align with recent research highlighting shifts in the ways pets are perceived.

As a researcher who specializes in understanding the impact of the human-animal bond on people's mental health, I am particularly interested in what these findings reveal about how people's relationships with their pets shape both human well-being and animals' welfare.

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**Being involved in *The Conversation* is a unique and renowned avenue for sharing research and study with both colleagues and the public. We strongly encourage researchers to explore *The Conversation* as a way to share and distribute their expertise! Feel free to reach out to research.communications@usask.ca if you have questions.**

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## Upcoming events


**Campus Conversations with OVPR**

Join Associate Vice-President Research (Ethics and Infrastructure) **Dr. Terry Fonstad (PhD)** on Monday, October 27 at 12pm for the next Campus Conversations event!

Constructive discussions with members of the campus community and OVPR leadership to support research, scholarly and artistic works (RSAW) at USask.

All faculty, staff, postdoctoral fellows and students are welcome. No registration required.

- Campus Conversations – Oct. 27, 12pm – Administration Building C280

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**REACH Resident Research Day**

The annual REACH-Resident Research Day is Thursday, October 23, 2025 at the Royal University Hospital Mall Theatre from 9:00am to 3:30pm.

You are welcome to join in celebrating the accomplishments of our resident researchers and the positive impact of resident research. This session allows the College of Medicine to showcase the outstanding work undertaken by our residents and to recognize their significant contributions to the research endeavours at the College of Medicine.

Hosted by the Postgraduate Medical Education (PGME) office, Saskatchewan Centre for Patient-Oriented Research (SCPOR) and Office of the Vice Dean Research (OVDR).

- REACH Resident Research Day – Oct. 23, 2025 – Royal University Hospital Mall Theatre

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**Coming to Know Indigenous Research in the University**

Indigenous research is reshaping how we address today's biggest challenges. While these methodologies are gaining recognition, gaps remain in how their rigour and impact are understood. Join leading Indigenous scholars in a conversation about how universities can better support this work — and reflect on how you can help create spaces where Indigenous researchers can thrive.

Join **Drs. Margaret Kovach, Monty Montgomery, and Shawn Wilson** — visiting researchers from the University of British Columbia and leaders in the fields of Indigenous methodologies, education, social work and Indigenous studies — to shape the future of Indigenous Research in the University.

You can attend in-person or online. Find more information **here**.

- Coming to Know Indigenous Research in the University – Oct. 27, 2025 – Gordon Oakes Red Bear Student Centre OR online via Zoom

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**USask One Health Symposium**

One Health addresses the interconnectedness between human, animal and environmental health with an understanding that one cannot progress at the cost of others. Respecting these intersections, the USask One Health Signature Area of Research is working to combat global health threats at all levels through proactive, innovative and transdisciplinary approaches.

Combining expertise and resources from human and veterinary medicine, environmental sciences and agriculture, USask is driving responses to emerging health threats that the world needs. Through this symposium, we aim to connect trainees and faculty on campus who work on One Health-related research. This symposium is student-focused, providing trainees an

opportunity to present their research and to network with others involved in One Health Research.

Deadline for abstracts is Oct. 31, and the deadline to register is Nov. 10. Register at the **link here**.

- USask One Health Symposium – Nov. 15 – USask Health Sciences Building Room 1150


## Information and Community for Researchers

**OVPR Staff Awards**

This summer, USask's Office of the Vice President Research (OVPR) recognized excellence among its staff at the 2025 Research Facilitators Symposium.

The following are recipients of the OVPR recognition award,

- 2024-25 Distinguished Administrator Award – **Karen Mosier**
- 2024-25 Early Career Administrator Award – **Sanjukta Choudhury**
- 2024-25 Outstanding Individual Award – **Robin Thurmeier**
- 2024-25 Oustanding Team Award – **Le Li, Chantal Hanson, Leila Tang and Natalia Zakharchuk**

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**Call for Proposals – Fedoruk Centre**

The Call for Proposals at the Fedoruk Centre is looking for projects led by Saskatchewan researchers, helping to place Saskatchewan among global leaders of nuclear research, development and training.

The deadline for submissions is December 1. All information about submission guidelines can be found at the **link here**.

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**USask Library Open Access Week – October 20-24**

Discover how the library is advancing equity in scholarly publishing through new services and practical strategies. From launching a new Diamond Open Access Journal Hosting service to navigating the upcoming revisions to the Tri-Agency Open Access Policy on Publications, these short online sessions will empower you to publish openly, retain your rights, and increase the impact of your research — without breaking the bank. We are also hosting an in-person carnival: come by to learn more about the truly scary prices the library pays to access and publish research. There will be popcorn, buttons and stickers! **Register today**.

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**If you have any important information for USask researchers, please contact research.communications@usask.ca!**

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**Submitting to Discovery Digest**

If you would like to submit a research-focused event or news item for consideration for Discovery Digest, please submit a link and a description of no more than 150 words to research.communications@usask.ca with the subject line "Submission – Discovery Digest," along with the month and year you are submitting for.

Please indicate whether your submission is a recommendation for a news item, event or information for researchers. If you would also like to submit a photo, please make sure it is a 3:2 aspect ratio image.

The Discovery Digest goes out on or as close to the 15th of each month as possible. **Please ensure any submissions are sent in by at least the 8th of each month to be considered for inclusion.**

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### *In the news*

- Oct. 6 – Regina Leader-Post, Saskatoon StarPhoenix – **As Western Canada's grain market consolidates, farmers brace for impact**
- Oct. 3 – The Mirage – **Fossilized ear bones rewrite history of freshwater fish**
- Oct. 3 – The Cool Down, Yahoo! News – **Researchers make game-changing breakthrough that could solve urgent issue in construction industry: 'We want to give back to our society'**
- Sept. 26 – CBC News, MSN News – **B.C. ostrich cull: Answering your questions after Supreme Court of Canada's reprieve**
- Sept. 15 – Regina Leader-Post, Saskatoon StarPhoenix, MSN News – **As China tariffs Canadian peas, industry pitches other countries on its protein for snacks, pasta**
- Sept. 25 – CBC News, The Canadian Press, CTV News – **As VIDO turns 50, Sask. virus research hub has opportunity to fill global gaps**
- Sept. 25 – CTV News – **Alberta scientists seek high-tech solution to protect crops from pests**
- Sept. 19 – Regina Leader-Post, Saskatoon StarPhoenix – **'It's been devastating': Worm infestation wreaks havoc on northern Sask. wild rice crops**
- Sept. 16 – CBC News – **RFK Jr.'s vaccine advisers change guidance around COVID shots, MMRV vaccines for young kids**
- Sept. 15 – CBC News, Global News – **Sask. university researchers aim to develop new vaccines with quantum computing**

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Banner image photo credit: **A breath of protection! -** by **Mihiprabha Rathnayake,** PhD Student, Western College of Veterinary Medicine

Images of Research 2025 - *Winner, Viewers' Choice*

A delicate cloud of mist swirls inside the transparent chamber as a group of fluffy chicks curiously huddled together, receiving their first shield of protection. The soft golden down of the chicks glows under the light as the nebulizer gently disperse a synthetic DNA molecule called CpG-ODN, ensuring each tiny breath caries a promise of immunity. These young lives embark on their journey with a breath of protection, laying foundation for a healthier life in a world with challenging pathogenic bacteria like *E. coli* and *C. perfringens*.

UNIVERSITY OF SASKATCHEWAN

BE WHAT THE WORLD NEEDS

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