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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 achieves personal best in QS World University Rankings](#)

The University of Saskatchewan (USask) achieved its highest-ever performance in the QS World University Rankings (QS WUR) – an accomplishment that helped garner an award for the most improved university in Canada.

USask ranked 340th – a five-point improvement over last year's position of 345th – reflecting growth in areas such as employment outcomes, international research network, international faculty, and citations per faculty. This ranking also secured USask's spot in the top quartile of ranked universities from around the globe for the second year in a row.

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### [New USask initiative combines applied theatre, environmental science and social science](#)

Led by **Dr. Lori Bradford (PhD)** in the Ron and Jane Graham School of Professional Development in the College of Engineering and **Dr. Graham Strickert (PhD)** with the School of Environment of Sustainability (SENS), and Global Institute for Water Security at USask, the innovative project received nearly \$1.5 million through the New Frontiers In Research Fund (NFRF) International stream intended to support interdisciplinary, "high-risk, high-reward" research projects with



international collaborators.

The goal of this project is to help put the control of water security solutions firmly in the hands of affected communities by engaging them in design thinking and applied theatre.

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### [USask spearheads AI-driven detection of early Alzheimer's through eye screenings](#)

USask researchers **Dr. Changiz Taghibiglou (PhD)** and **Dr. Sara Mardanisamani (PhD)** with the College of Medicine are bridging biology and data science to develop a new, non-invasive AI screening tool for those at risk for Alzheimer's disease.

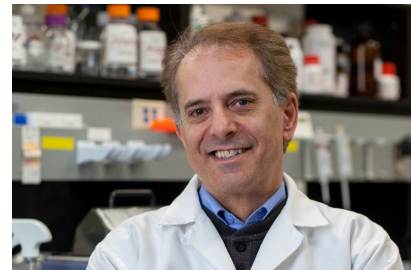
The project, "Screening eyes of people in Saskatchewan with non-invasive imaging technologies and artificial intelligence for early detection of Alzheimer's Disease," received a \$150,000 Impact Grant as part of the Saskatchewan Health Research Foundation (SHRF) Solutions Program. Supporting an interdisciplinary approach to research, the SHRF Solutions Program mobilizes researchers with diverse skills and expertise to help address Saskatchewan health challenges.

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### [USask researchers exploring pig possibilities for organ transplantation](#)

Researchers at USask are turning science fiction into science fact by exploring xenotransplantation – the transplantation of organs from one species to another.

"We are at the verge of a major change with how medicine is dealing with organ failure," said **Dr. Ali Honaramooz (DVM, PhD)** with the Western College of Veterinary Medicine (WCVN) at USask.



Honaramooz received \$250,000 through the New Frontiers in Research Fund (NFRF) Exploration program, designed to provide support to "high-risk, high-reward" research projects.

The funded project will explore methods for creating better transgenic pigs for organ xenotransplantation. As Honaramooz puts it, USask is "uniquely suited" to lead this area of research due to the diverse expertise and research centres on campus.

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### [USask researcher selected as the 2025 Darcy Distinguished Lecturer](#)

USask hydrogeology professor **Dr. Grant Ferguson (PhD)** will be traveling across the globe in 2025 to deliver lectures on innovative groundwater research after being named the



National Groundwater Association's (NGWA) Darcy Distinguished Lecturer.

Ferguson is an accomplished USask professor, holding joint positions in the School of Environment and Sustainability and the department of Civil Geological and Environmental Engineering in the College of Engineering. He is currently Saskatchewan Centennial Enhancement Chair in Groundwater-Energy-Food Nexus at USask, a member of the Global Institute for Water Security (GIWS) and an adjunct professor at the University of Arizona.

Ferguson's research examines groundwater resource issues related to energy, regional systems and deep hydrogeology.

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

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#### [USask doctor recognized for collaborative methods](#)

**Dr. Stuart Skinner (MD)**, the section lead for infectious diseases in Regina with the Department of Medicine at USask, is one of the recipients of the 2024 Publicly Engaged Scholarship Team Award (PESTA).



The award is presented annually to recognize the outstanding collaborative efforts of USask faculty members, post-doctoral fellows, graduate students and/or community partners to create social impacts in the community – at the local, national or international level.

"This one means a lot, a tremendous amount, for so many reasons," Skinner said. "This is a chance to reflect that we're doing the right things, making a difference ... that this community-based work is being acknowledged and recognized is really important."

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#### [Leading music director, scholar receives prestigious USask award](#)

The PESTA award is presented to a university scholar who, through a leadership position, excels in scholarship engaged with the community on the local, national or international level.

**Dr. Jennifer Lang (PhD)** is an associate professor in the Department of Music in USask's College of Arts and Science, the current acting vice-dean academic of her college, the director of numerous music ensembles, the co-lead of the USask Health and Wellness Signature Area of Research – and now the winner of a prestigious USask award.

For Lang, the award reflects the hard work in the arts and the intersections between art and science to connect and build the community.

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### **USask partners with PINQ<sup>2</sup> to access Canada's only IBM Quantum System One**

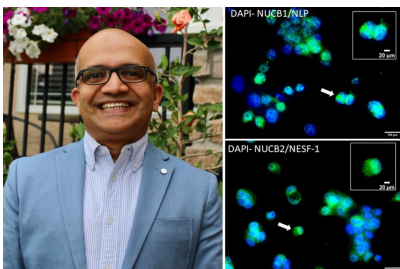
Scientists at USask are on the forefront of groundbreaking research thanks to a partnership with the PINQ<sup>2</sup> (Québec Digital and Quantum Innovation Platform), the sole administrator of Canada's only IBM Quantum System One, a utility-scale quantum computer located at IBM's research facility in Bromont, Quebec.



USask's three-year agreement with PINQ<sup>2</sup> enables faculty and students affiliated with USask's Centre for Quantum Topology and Its Applications (quanTA) to have access to the machine via PINQ<sup>2</sup>'s quantum computing platform. This collaboration significantly enhances the existing quantum computing research activities at USask.

"While still in its infancy, quantum computing promises to be the next indispensable tool in science. Some of the first real-world use cases for this technology will be developed right here at USask, thanks to this one-of-a-kind partnership with IBM and PINQ<sup>2</sup> and owing to the strong interdisciplinary culture on our campus," said **Dr. Steven Rayan (PhD)**.

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### **USask researchers identify promising protein candidate for metabolic disease treatment**

A USask research team's discovery of the additional health benefits of an appetite-suppressing protein has doubled the potential for scientists to find new avenues for treating obesity and metabolic disorders in animals and people.

The researchers' findings, which were recently published in *Nature Communications Biology*, highlight their discovery of the lipid-lowering effects of nesfatin-1-like peptide (NLP). This newly identified peptide—or small protein—is a close relative of nesfatin-1 (NESF-1), which regulates feed intake and body weight.

"We found that both NESF-1 and NLP lower lipid (fat) accumulation in human liver cells," said research team member **Dr. Suraj Unniappan (PhD)**, the university's Centennial Enhancement Chair in Comparative Endocrinology and a professor at the WCVI.

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### [Innovation Saskatchewan invests \\$600,000 in USask-led HAWC science mission through ISF program](#)

Innovation Saskatchewan is investing \$600,000 over three years through the Innovation and Science Fund (ISF) for a project supporting the HAWC (High-altitude Aerosol, Water vapor, and Cloud) satellite mission.



The program funding will help HAWC advance Canadian space science through the development of advanced technological space instruments. Co-led by a team of talented USask researchers, HAWC will deliver critical measurements to support extreme weather prediction, climate modelling and disaster monitoring. Further, it provides new data for scientists to better analyze, interpret and understand factors contributing to climate change.

This investment in HAWC not only recognizes the world-class research and scholarly work taking place at USask, but also exponentially benefits the province. The project is a catalyst for economic growth, developing a mission-critical national data centre in Saskatchewan, providing advanced training and employment opportunities and creating intellectual property and local investment opportunities.

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### [Innovation Saskatchewan provides \\$210,000 to USask's Opus to support start-up development](#)

Innovation Saskatchewan has announced a new partnership with Opus, the USask start-up incubator, which includes a \$210,000 investment over three years to support the organization's pre-accelerator programming.

The funding will support Opus programming streams that target different timelines in the entrepreneurship lifecycle to drive startup development.

Opus pre-accelerator programming focuses on commercializing deep tech innovations that are research-based, equipping founders with the necessary skills for startup development and facilitating their progression to other accelerators and incubators like Co.Labs and Cultivator.

"Through the support of Innovation Saskatchewan, Opus will continue to be able to provide support for our innovators. They will continue to access the tools, the networks, the connections and mentorship to help turn their discoveries into solutions the world needs," said **Alix Hayden**, director, Innovation, Mobilization and Partnerships.

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### [USask conference to provide practical strategies to address violence](#)

A USask symposium aims to provide frontline workers with strategies to identify and address potentially violent situations and support victims of violence.



“This symposium is premised on trying to highlight advancements in sciences that target the reduction of victimization,” said **Dr. Mansfield Mela (MBBS)**. “We have focused this time around at some of the hidden patterns of violence that don’t always come to the surface.”

The 20th Biennial Symposium on Violence and Aggression took place at USask from May 26 to 28 in the Health Sciences Building. The conference brought together academic researchers, public policy makers, government officials, clinicians and frontline workers to “translate research into practice” and share new ideas and techniques in the world of forensic mental health.

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### [USask honours Vatanparast, Donkers as top researchers](#)

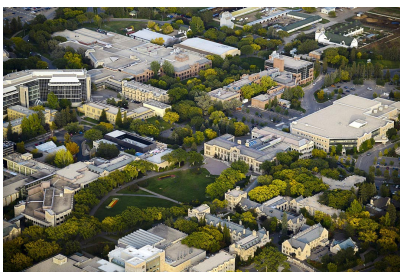
USask has recognized community health researcher **Dr. Hassan Vatanparast (MD, PhD)**, professor in the School of Public Health and the College of Pharmacy and Nutrition, with its top academic honour of Distinguished Researcher.

As well, USask has chosen **Dr. Sarah Donkers (PhD)**, assistant professor in the School of Rehabilitation Science in

USask’s College of Medicine, as the 2024 New Researcher awardee for her sustained and widely acclaimed contributions to neurorehabilitation and multiple sclerosis (MS) rehabilitation.

The annual awards, announced by USask Vice-President Research **Baljit Singh**, honour significant contributions to knowledge or artistic creativity by members of the university’s research community.

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### [USask researchers receive more than \\$8.3 million in NSERC funding](#)

### [USask researcher receives funding for Indigenous-led substance abuse research program](#)



### [USask choirs ready for Carnegie Hall performance](#)

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## Stay connected with USask research news



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 also follow [USask Research on LinkedIn](#), and [@VPR\\_USask](#) and [@USask](#) on Twitter for more of the latest research and university news.

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

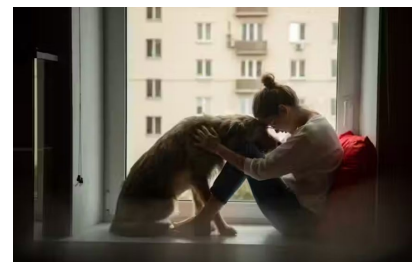
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## In *The Conversation*...

### [Studying violence toward women and animals can help us develop strategies to prevent both](#)

By: Dr. Laleh Dadgardoust (PhD), the Centre for Forensic Behavioural Science and Justice Studies (CFBSJS), Dr. Colleen Dell (PhD), Department of Sociology, Dr. Renata Roma (PhD), CFBSJS

Evidence suggests that some individuals who hurt animals likewise act violently toward women and girls. Exploring that overlap can help prevent gender-based violence and animal abuse.



### [Arts graduate education in Canada should be redesigned around students' and society's needs](#)

By: Dr. Loleen Berdahl (PhD), Johnson Shoyama Graduate School of Public Policy, Dr. Jonathan Malloy (PhD), Carleton University, Dr. Lisa Young (PhD), University of Calgary



Canada needs the arts, with its insights into human behaviour and thinking, more than ever. But governments and funding agencies should shift funding models for arts graduate education.

### Can marketing classes teach sustainability? 4 key insights

**By: Brooke Klassen, Edwards School of Business**

Resources from the United Nations Educational, Scientific and Cultural Organization can help marketing programs embed sustainability concerns into marketing education.



## Upcoming events



### **Opus Con: Unleashing AI**

Join Opus for an engaging fireside chat that will delve into the transformative influence Artificial Intelligence (AI) is having on our world. Attendees will discover how AI is revolutionizing the way we make critical choices and how it can impact our future strategies. Our expert speakers will discuss the opportunities, challenges and ethical considerations surrounding AI adoption. Don't forget to bring your questions for our panel to answer! Registration is free. Light food and beverages will be provided. Please register at [the link here](#).

- Opus Con: Unleashing AI – June 25, 2024, 5:00-7:30pm – Collider Hub

### **Canadian Pride Historical Society Sask. Education and Research Materials Launch**

Join us at the USask Murray Library for the Canadian Pride Historical Society's Saskatchewan Launch Event, a significant occasion dedicated to unveiling the latest research and education materials specifically designed for Saskatchewan.

Our presentation will delve into the historical journey of Pride, tracing its roots and evolution across Canada with a special focus on Saskatchewan. Attendees will gain a deeper understanding of the milestones and influential figures that have shaped the Pride movement, fostering a sense of community and shared heritage.

Following the presentation, we invite you to join us for a reception featuring light refreshments. This will be an excellent opportunity to network, discuss the materials presented, and connect with fellow attendees in a relaxed and welcoming atmosphere.



- Canadian Pride Historical Society Sask. Education and Research Materials Launch – June 21, 11:00am to 1:00pm – Murray Library
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## **NEW - Information for researchers**

### **USask renews customs broker agreement**

USask has extended its partnership with Thompson, Ahern & Co Ltd (TACO), to serve as the university's customs broker. This agreement will run until 2029, with an option to extend the contract until 2034. This renewed contract is a part of the Saskatchewan Advanced Education Collaborative (SAEC), a joint initiative where USask, Saskatchewan Polytech, and the University of Regina combined to maximize their collective purchasing power. USask employees who have goods imported/shipped to Canada where USask is the importer or record should follow the steps laid out in the Shipping/Importing Goods to Canada [Knowledge Base article](#). In particular, users should fill out and submit the [Customs Clearance Form](#) to TACO. This will help ensure that shipments are not delayed at the border for clearance information, which is vital for perishable shipments.

### **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](mailto: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***

- June 11 – MSN News, The Canadian Press – ['A bit of a Wild West': Navigating the changing rules on when to tip](#)
- June 10 – MSN News, Global News, Toronto Star – [Study probes racism reported by Black medical students at University of Saskatchewan](#)
- June 4 – CTV, Global News – [Here's how AI could aid in early Alzheimer's detection](#)
- June 3 – CBC Radio – [Saskatchewan research may make wine grapes hardier](#)
- June 3 – MSN News, Global News – [USask researchers use FBI technology to find unmarked graves at residential school sites](#)

- June 3 – CBC News, CBC Radio – [Agricultural antifreeze? Sask. researchers say spray could help wine grapes handle cold better](#)
  - June 2 – Global News – [Saskatchewan scientist fights brain disease with 'mini-brains'](#)
  - June 1 – Business Insider, CBC Radio – [Where Canada's 'super pigs' are most likely to invade the US](#)
  - May 28 – Reuters – [US, European nations consider vaccinating workers exposed to bird flu](#)
  - May 25 – CBC News – [Bird flu in U.S. cows caught scientists by surprise. Canadian research has seen it coming since 1953](#)
  - May 23 – Saskatoon StarPhoenix, Regina Leader-Post – ['NASA-style command centre' for virtual health care planned for Whitecap Dakota First Nation](#)
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Banner image photo credit: **Caribou and the Climate Calamity** - by **Dr. Kayla Buhler (PhD)**,  
alumnus, Department of Veterinary Microbiology, WCVM

Images of Research 2024 - *Runner-up, Best Description*

Whether it be the wild caribou herds across northern Canada or the large semi-domesticated reindeer herds in Fennoscandia, all face uncertainty as climate change rapidly alters their environment. These animals have significant cultural value for indigenous peoples. As the environment shifts, new viruses, bacteria, and parasites that impact their health move further north. Our lab partners with indigenous communities across Arctic Canada to collect hunter-harvested samples to identify the presence of food-borne and vector-borne diseases in wild caribou. Given that these animals already face significant challenges with their fitness (such as altered migration patterns and winter icing events that reduce their ability to forage), new pathogens are poised to overtake struggling herds.

Funding: ArcticNet, NSERC, Weston Family Foundation



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