

# Discovery Digest

BE WHAT THE WORLD NEEDS

May 2021 - Issue 40

*In this issue:* VIDO to become Centre for Pandemic Research, gets \$59.2M funding boost, tepary beans -- the key to hardier beans?, USask research chosen for prestigious Templeton World Charity prize, new LFCE director appointed, and more!

Every month, USask Research Profile and Impact highlights research from across campus. *Discovery Digest* is a glimpse into how USask research, scholarly and artistic work is making a difference for Saskatchewan, Canada, and the world. [Feedback welcome!](#)

## Top Stories



### Federal budget supports USask's VIDO with \$59.2M

The Government of Canada announced \$59.2 million to USask's Vaccine and Infectious Disease Organization (VIDO) as part of the most recent federal budget. The funding supports the development of its vaccine candidates and the expansion of its research facilities, including a National Centre for Pandemic Research. This is in addition to commitments made by the provincial government, City of Saskatoon, and private donors.

The centre will expand VIDO's research capacity and help strengthen Canada's response to emerging infectious diseases including future pandemics. The centre will leverage the more than \$225- million investment in specialized infrastructure at VIDO, including one of the largest and most advanced high containment facilities and a biomanufacturing facility which is expected to be completed by fall 2021.

[The details.](#) [Video of the official funding announcement.](#) [A virtual tour video of VIDO.](#)

### COVID-19 Research

USask researchers in a wide range of fields are undertaking critical research to help combat COVID-19. [Read other stories.](#)

[New USask research will make bean crops hardier, help improve global food security](#)



A new study published in *Nature Communications* examines the genetic potential of tepary beans to improve crop hardiness. The findings could play a vital role in improving global food security in changing climates.

Resistant to temperatures currently devastating to common bean plants, tepary beans could hold the key to developing bean crops increasingly tolerant of heat stress and drought conditions. USask researcher **Dr. Kirstin Bett** (PhD) and her team mapped the genetic information found in tepary beans, and are working to combine traits of the tepary bean with the common bean into a more sustainable crop variety. [The full story.](#)

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## International



**USask researcher works on project aimed at seeing adolescents flourish, awarded Templeton Foundation funding**

With a mission to discover what makes adolescent girls flourish in their communities, USask College of Pharmacy and Nutrition professor **Dr. Carol Henry** (PhD) and her international team have been awarded \$100,000 for their research focused on Northern Canada and Northern

Uganda.

The study aims to discover the determinants of physical, mental, social and spiritual well-being for adolescent girls, focusing on the girls' own perspectives on spirituality and experiences of resilience in the face of chronic adversity, such as the long-term impacts of COVID-19. The project was one of only 11 awarded inaugural Grand Challenges for Human Flourishing awards from the Templeton World Charity Foundation—more than 500 teams of scientists from 350 institutions submitted ideas. [The full story.](#)

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## Animal health and food security research



**USask Livestock and Forage Centre of Excellence hires new director**

**Dr. Scott Wright** (PhD) has been selected to lead USask's Livestock and Forage Centre of Excellence (LFCE), succeeding **Dr. Bruce Coulman** (PhD) beginning on May 19. LFCE plays a vital role in furthering world-class agricultural research, with a focus on innovation in raising livestock and produce on the Canadian Prairies.

With a master's degree in animal science and his PhD in plant breeding from USask,

Wright went on to hold numerous leadership positions in agriculture, serving as the executive director of the USask Feeds Innovation Institute, as vice president at the Star Group, and as a director of Agriculture and Agri-Food Canada. [Read the story.](#)



### **Uptick in Canada's Lyme disease cases: why we should care**

While health workers are caring for people infected with the novel coronavirus, veterinary researchers, including WCVM professor Dr. **Maarten Voordouw** (PhD), are helping to protect the public from illnesses spread by another health threat: ticks. WCVM researchers are

helping track ticks in Saskatchewan via the online **eTick** platform, helping to alleviate some of the burden on the provincial Roy Romanow Provincial Laboratory (RRPL), tasked with COVID-19 testing for the province. [The full story.](#)



### **Research team produces first female bison pregnancy with sex-sorted sperm**

When a wood bison cow calves at the USask Livestock and Forage Centre of Excellence in October, her female offspring will be the first bison calf produced with sex-sorted sperm — a significant development in the work to revitalize the threatened species.

**Dr. Eric Zwiefelhofer** (PhD), a postdoctoral fellow working with reproduction specialist Dr. **Gregg Adams** (DVM, PhD) at the Western College of Veterinary Medicine (WCVM), collaborated on this project with Dr. **Gabriela Mastromonaco** (PhD) of the Toronto Zoo and Dr. **Clara Gonzalez-Marin** (PhD) of STGenetics, a sperm sex-sorting technological firm.

Results confirm that sex-sorting technology can help to increase female wood bison numbers in conservation and zoological herds as well as in free-roaming herds. [The full story.](#)



### **Researchers' success in replicating poultry disease key to prevention**

A Western College of Veterinary Medicine (WCVM) team has successfully developed an animal model for necrotic enteritis, a devastating intestinal disease in broiler chickens that causes enormous financial losses for poultry producers worldwide.

PhD student **Hemlata Gautam** is working with **Dr. Susantha Gomis** (PhD), her supervisor at WCVM, to understand the mechanisms of necrotic enteritis so they can develop prevention strategies and establish cost-effective alternatives for producers. Now that they have been able to replicate the disease for research purposes, their next challenge lies in fully understanding how *Clostridium perfringens* (the bacterium that causes necrotic

enteritis) affects poultry and causes its devastating effects. [The full story.](#)

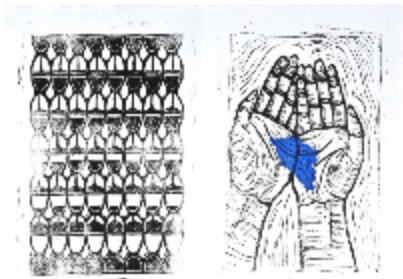


### Genome sequencing key to beef cattle specialist's antimicrobial research

Dr. **Emily Snyder** has joined WCVN as a beef cattle veterinary specialist in January applying her expertise in genome sequencing to address antimicrobial resistance — one of the most pervasive health issues in the beef cattle industry. By using genome sequencing, Snyder is trying to understand the role that emerging strains of antimicrobial-resistant bacteria have in reducing the effectiveness of antimicrobials. [The full story.](#)

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## Water security research



### Virtual Water Gallery brings together art and science

A team of USask researchers and others from around the world, are partnering with artists to launch a new online exhibit of art and science—the Virtual Water Gallery (VWG). Collated by multiple artists, water experts and knowledge keepers, the project funded by the USask-led Global Water Futures (GWF) research program aims to provide a free public space to inspire, inform and instigate action aimed at current global water challenges.

Twelve artists working alongside GWF water scientists were commissioned to co-create projects that represent various Canadian 'ecoregions'—including the Arctic, the mountains, boreal forests, prairies, farmlands, lakes, rivers, and communities. Lead curator **Dr. Louise Arnal** (PhD) says the project was established to enable the translation of scientific facts into digestible information for the public to consume and experience.

[The online gallery.](#) [The full story.](#)

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## Accolades



### OVPR announces winners of research awards

The Office of the Vice President of Research has announced the recipients of its annual awards, presented to faculty and research community members to recognize their significant contributions to knowledge or artistic creativity.

The USask Distinguished Researchers for 2021 are computer science professor Dr. **Julita Vassileva** (PhD), and Dr. **Safa Kasap** (PhD), distinguished professor in electrical, computer and biomedical engineering.

USask's New Researchers Award recipients this year are Dr. **Steven Rayan** (PhD), associate

professor in mathematics and statistics, and Dr. **Kerry McPhedran** (PhD), associate professor in civil, geological and environmental engineering.

This year there was a new category for Community-Engaged Team Scholarship, and the honourees are College of Medicine professor Dr. **Carrie Bourassa** (PhD) and Dr. **Pamela Downe** (PhD), professor, College of Arts and Science.

### The full story.



### USask joins in announcing Herzberg50 and 'NobelCanadian' commemoration projects

As part of a national initiative to mark the 50th anniversary of Dr. **Gerhard Herzberg** (PhD)'s Nobel Prize in Chemistry, USask is partnering with government-funded Canadian heritage education project *Defining Moments Canada*, Ministry of Canadian Heritage, and the National Research Council of Canada (NRC) on a major digital project. The project is called Herzberg50 and will highlight Herzberg's life and his longstanding impact on science and science policy. The project will be supported by archival and historical research at USask, Herzberg's academic home for 10 research-intensive years.

Herzberg50 will inaugurate a larger commemoration project—NobelCanadian—honouring all Canada's Nobel Laureates which will get underway in 2022-2023. USask has two Nobel Laureates, both in chemistry: Herzberg and Dr. **Henry Taube** (PhD). [The full story. The full partnered announcement.](#)



### USask researchers awarded SAGE Prize for Innovation and Excellence

Three researchers from USask are winners of the 2021 SAGE Prize for Innovation and Excellence from the British Sociological Association (BSA).

The SAGE Prize for Innovation and Excellence is awarded annually to one paper in each of the BSA's journals: *Cultural Sociology*, *Sociological Research Online*, *Sociology and Work*, *Employment and Society*.

**Dr. Elizabeth Quinlan** (PhD), a faculty member in the Department of Sociology in USask's College of Arts and Science, is the lead author on the award-winning paper "Ameliorating Workplace Harassment among Direct Caregivers in Canada's Healthcare System: A Theatre-Based Intervention," published in *Work, Employment and Society*.

Quinlan co-authored the paper with the late **Dr. Susan Robertson** (PhD), from the Department of Sociology; **Dr. Ann-Marie Urban** (PhD), from the University of Regina; and **Dr. Beth Bilson** (PhD), from USask's College of Law. [The full story.](#)



## Workshop: Social Media for Researchers – May 26, 12-1 pm

Researchers and research communicators are invited to join us for this Zoom workshop to learn more about the tools, techniques and benefits of using social media to engage audiences with your research.

Presented by USask and the Saskatchewan Health Research Foundation (SHRF), panelists will include: SHRF Engagement Specialist, **Nikki Desjardins**; USask Communications Specialist, **Chris Morin**; Vaccine and Infectious Disease Organization (VIDO) Research Scientist, Dr. **Angela Rasmussen** (PhD); and moderated by USask Research Profile and Impact Director, **Heather Persson**. Register: <https://www.shrf.ca/events>

### Follow USask Research Profile & Impact on LinkedIn



Stay in-the-know with exciting research news delivered right to your LinkedIn newsfeed by following the USask Research Profile & Impact page. As a unit of the Office of the Vice-President Research, our mission is to help share research stories with the world.

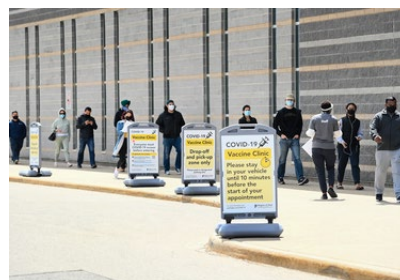
We will be sharing current research, exciting findings, new research directions and partnerships regularly. Come see what we're up to at USask by making us part of your professional network and check back often for updates!  
**RPI LinkedIn.**

## In THE CONVERSATION

### Confusing AstraZeneca warfare messaging: Destroy the COVID-19 enemy fast, but wait

USask marketing researcher Dr. Marjorie Delbaere (PhD)

Public officials are telling us simultaneously to move swiftly on vaccination and also to make thoughtful, reasoned choices about which vaccine we get. These messages are confusing...



### Write about your own research in The Conversation

USask is a founding member of The Conversation Canada, an online academic journalism hub/newswire where researchers write plain-language editorials and explainer articles about their research. Articles written by USask researchers have been read more than 2.3 million times since the university entered into a partnership with the SSHRC-funded Conversation Canada in June 2017.

Writing is easier than you think!

**Watch a video from Conversation Canada Editor-in-Chief Scott White.**



Want to reach a broad audience with your research? Consider pitching an item to the Conversation. **Wondering where to start? Read a short explainer on how to write for The Conversation Canada. Read previous USask articles here and get in touch with Research Profile and Impact.**

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## Commercialization



### **USask and Co.Labs join forces to foster tech innovation in Saskatchewan**

USask and Co.Labs have signed a new memorandum of understanding (MOU) aimed at creating a pipeline of innovative ideas, services, programs and talent.

Under the agreement, the university will provide an annual investment of \$60,000 for three years. This is an increase from the current support of \$30,000 per year used to run Co.Labs' Co.Launch program. The new funding will support two Co.Launch competitions as well as initiatives for Co.Learn. The agreement extends to Dec. 31, 2024.

Co.Labs is a non-profit organization helping build Saskatchewan tech startups. It offers support for founders and teams to navigate the path from idea to \$1M in annual revenue.

**More information on Co.Labs initiatives. The full story.**

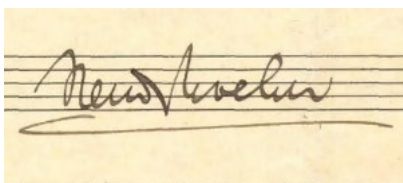


### **Canadian universities, professional associations, businesses licensing use of USask-developed pharmacy resource**

Since September 2020, a number of Canadian pharmacy schools, professional associations, and private companies have been paying licensing fees to USask to use a set of 27 prescribing guidelines. Created and maintained by medSask, a drug information service for Saskatchewan health-care professionals and residents located in USask's College of Pharmacy and Nutrition, the guidelines are a comprehensive resource for pharmacists that include treatment algorithms. MedSask is nationally recognized for being an independent, non-profit organization.

Until last fall, organizations outside the province enjoyed free access to the guidelines—to help ensure medSask can continue to maintain the prescribing guidelines and offset the cost of the upkeep, medSask Director **Dr. Charity Evans's** (PhD) worked with **John Mapletoft** of with USask's Research Excellence and Innovation (REI) group to create license agreements. **The full story.**

## Arts and humanities



### Finding Heinz Moehn short documentary launches

USask music professor Dr. **Amanda Lalonde**, working with the Saskatoon Symphony Orchestra and a team of USask students, researched the life and work of Heinz Moehn—a German music editor and composer who composed the majority of his forty or so works in the 1920s and 30s—and created a short documentary as well as the first recordings of his music. [The project website](#). [The short documentary](#).

## Undergraduate research



### High-achieving new graduate reflects on ‘amazing’ undergraduate research opportunities at USask

**Mahmud Azam** is set to graduate with a Bachelor of Science (double honours) degree in mathematics and computer science at USask’s 2021 Spring Convocation. Recently, Azam was the winner of the Best Thesis Prize in Mathematics and Statistics (for mathematics) for his thesis supervised by Dr. **Steven Rayan** (PhD).

“This was the most awe-inspiring event of my life,” said Azam. “Getting such a recognition from professors who I so deeply admire gave meaning to everything I had done so far.” This summer, Rayan and Azam will be working together to develop a novel approach to quantum computing and information theory using techniques from areas in mathematics such as geometry, topology and category theory

## Opportunities



### REDCap is available to USask researchers

REDCap - Research Electronic Data Capture tool – is a secure web-based tool designed and built to meet the data collection needs of the academic research community from secure online surveys, clinical trials, field and lab data entry, to custom databases.

Hosted at USask, REDCap has many helpful features for researchers, including a customizable iPhone/Android app, and is REB approved for collection of PHI and Restricted data (it’s also 21 CFR Part 11, FISMA, HIPAA, GDPR, Health Canada, and HIPA approved).

### Seeking Saskatchewan nominations

The Historic Sites and Monuments Board of Canada is seeking Saskatchewan nominations for people, places,





and events of national historic significance. In particular, the board is interested in designations in the following areas: diversity, environmental history, history of Indigenous people, and Canada and the world. Other recommendations, though, are welcome as well. **Learn more about current designations. Information on the nomination process, as well as criteria and guidelines surrounding nominations.**

If you find the idea of preparing a nomination intimidating, you don't need to carry out extensive historical research or analyses—just provide the necessary information to guide the research and Parks Canada's Archaeology and History Branch will conduct the work. Nominations and questions? **Email.**

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### **Upcoming events**

- **International Symposium: Lusophone Land Legacies in Comparative Perspective** - May 25, 9am - **Register**
- **Workshop: Social Media for Researchers** – May 26, 12-1 pm - **Register**
- **Music and Wellbeing Virtual Conference** - May 28-30 - **Register**

### **In the news**

- The story on the **uptick in Canada's Lyme disease cases and why we should care** was seen by 72.6 million people, and covered by *MSN English*, *Global News*, and *Yorkton This Week*
- The story on **Saskatoon's COVID-19 wastewater testing results being made available to the public** was covered by 74 outlets, including by *CBC News Network*, *Global News*, and *CTV News*, and seen by 42.8 million people.
- The announcement of **\$59.2M for USask's VIDO in the federal budget** was covered by 36 media outlets, including *Global News*, *the Saskatoon StarPhoenix*, *CBC/Radio-Canada*, *CTV*, and *University Affairs*, and seen by 6.6 million people.
- The article on funding for improved **beef research production with better biology approaches** was covered in the *Toronto Star*, *Regina LeaderPost*, and by *University Affairs*, as well as by 25 other outlets, and viewed by 2.5 million.
- **New USask partnership will use traditional Cree approaches to make communities safer** story was covered by the *Saskatoon StarPhoenix*, the *Prince Albert Daily Herald*, and by *Education News Canada*, and seen by 360,000



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