



Discovery Digest

Highlights of U of S research news

In this issue: USask teams up with SSO to revive forgotten music, USask researcher tests shrimp for antibiotic resistance, ancient worm superhighway discovered, boosts for HIV, antibiotics, food research, *and much, much more!*

Every month, USask Research Profile and Impact highlights research from across campus. *Discovery Digest* is a glimpse into how U of S research, scholarly and artistic work is making a difference for Saskatchewan, Canada, and the world.

[USask and Saskatoon Symphony Orchestra collaborate on *Finding Heinz Moehn* project](#)



USask musicologist **Dr. Amanda Lalonde** (PhD) and her students are working with the Saskatoon Symphony Orchestra to bring to life a 'lost' 1938 concerto by a German music master—Heinz Moehn (1902-1992) —who was a leading editor of Mozart's works.

Lalonde has just received a \$25,000 Social Sciences and Humanities Research Council (SSHRC) grant, in collaboration with SSO conductor Eric Paetkau, to explore Moehn's place in the history of 20th century German music and engage in partnered research with the SSO.

Moehn's works were brought to light by the composer's grandson, USask Innovation Enterprise director **Dr. Johannes Dyring** (PhD), who had been storing them in his basement in hopes that they would one day be performed. [Read the full story and watch a video here.](#)

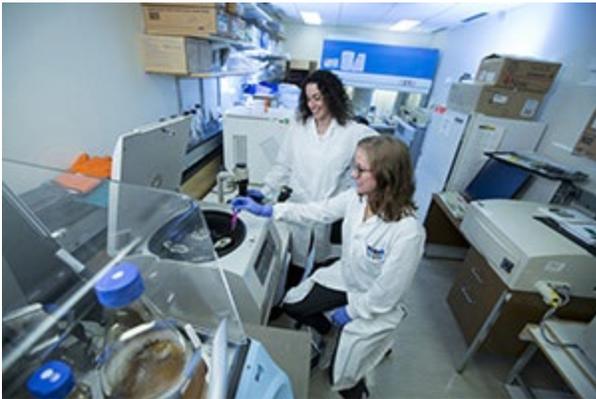
[USask researcher tests shrimp safety on *CBC's Marketplace*](#)



(Photocredit: CBC)

USask veterinary microbiologist **Dr. Joe Rubin** (DVM, PhD) tests imported shrimp bought from supermarket chains across the country for antibiotic resistant bacteria as part of *CBC's Marketplace* investigative program, tonight, Mar. 15. Watch at 8p.m. or stream the episode online. [Read the full story here.](#)

[USask scientist boosting natural bodyguards against HIV](#)



USask virologist and biochemist **Dr. Linda Chelico** (PhD) has been awarded close to \$900,000 by Canadian Institutes of Health Research (CIHR) to develop ways to fortify the body's natural defences against HIV. Chelico is leading an international research team working on how to boost the effectiveness of natural enzymes which are able to attack and destroy the HIV virus. The aim is to develop new therapies that will bolster the immune system's natural weapons against HIV.

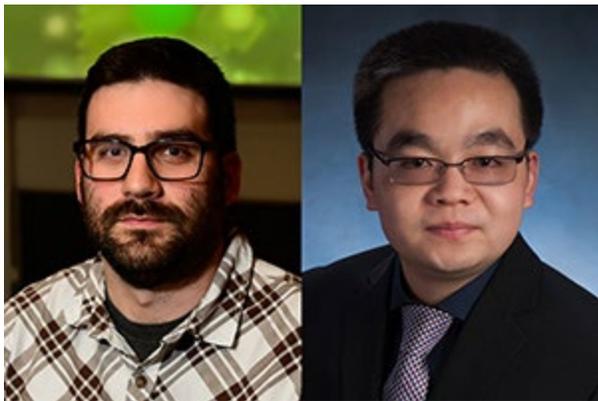
Saskatchewan has the highest rates of HIV in Canada, with more than 2,000 cases reported between 1985 and 2016. There are currently 37 million people worldwide living with HIV/AIDS.

[500-million-year-old worm 'superhighway' discovered in Canada](#)



USask professor **Dr. Brian Pratt** (PhD) discovered that the deep sea bed of the Cambrian period, 500 million years ago, thought uninhabitable due to lack of oxygen until now, was actually replete with worm tunnels—burrows where worms lived and munched through sediment. Pratt digitally enhanced images of rock samples from the remote Mackenzie Mountains of the Northwest Territories to make the discovery. The results were published in the journal [Geology](#).

[USask awarded CFI funding to research new antibiotics and food products](#)



USask researchers **Dr. Tony Ruzzini** (PhD) and **Dr. Yongfeng Ai** (PhD) have been awarded a total of \$274,119 by the Canada Foundation for Innovation (CFI) to buy equipment crucial to studies into antibiotics and novel food products.

The grants, from the CFI’s John R. Evans Leaders Fund (JELF), could lead to the development of new antibiotics and low-glycemic carbohydrates, which could benefit diabetics and the fight against obesity. [Read the full story.](#)

[USask researcher to present at World Water Day event in Washington, D.C.](#)



Dr. Jay Famiglietti (PhD), Canada 150 Research Chair in Hydrology and Remote Sensing and Global Institute for Water Security executive director, is a featured expert presenter at “The

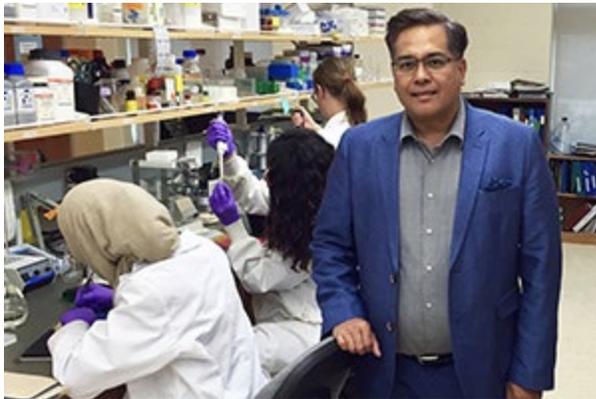
Future of Water,” a special World Water Day event being held Mar. 22, in Washington, D.C. Hosted by *The National Academies of Sciences, Engineering, and Medicine* and *The Pew Charitable Trusts*, [the event will be webcast live at 7 a.m. Saskatchewan time](#) (9 a.m. EDT).

[NSERC Discovery Launch Supplements awarded to 10 USask researchers](#)

Natural Sciences and Engineering Research Council (NSERC) has awarded a total of \$125,000 in Discovery Launch Supplements to 10 USask researchers. The supplements, awarded to Early Career Researchers in the first year of an NSERC Discovery Grant, provide timely resources as researchers establish their programs. [See a list of awardees.](#)

Health Research

[Shooting cancer’s messenger: new USask therapy disrupts communication inside malignant cells](#)



USask cancer research **Dr. Francisco Cayabyab** (PhD) is leading a team developing a new breast-cancer treatment which shoots the messenger within cancer cells and halts the growth of tumours. By interfering with intracellular messengers, Cayabyab was able to stop malignant lab-grown cells multiplying and, in early stage animal studies, to stop or shrink tumour growth. The project was awarded \$50,000 from Saskatchewan Health Research Foundation (SHRF) for the next phase: testing the treatment on other cancers. [Read the whole story.](#)

[Rehab dogs help children with cerebral palsy walk](#)



USask School of Rehabilitation Science physiotherapist **Prof. Sarah Donkers** is leading a

team of researchers, physiotherapists and veterinarians at USask studying how large rehabilitation dogs can help improve the mobility, balance and well-being of children living with cerebral palsy. The project is funded by a \$50,000 Saskatchewan Health Research Foundation (SHRF) Collaborative Innovation Development grant—one of 10 grants awarded to USask health research projects. [Read the details here.](#)

[USask researcher creates new medical imaging technology](#)



A USask research team led by **Dr. Brent Burbridge** (MD) has created a way of enabling medical students and other health care professionals to access high-quality diagnostic images and clinical information for teaching and learning, while protecting patient confidentiality. [Read the details.](#)

[USask launches training for health researchers engaging with Indigenous communities](#)



The Indigenous Peoples' Health Research Centre (IPHRC) is teaming up with the Saskatchewan Centre for Patient-Oriented Research (SCPOR) to offer free, monthly training modules, *Building Research Relationships with Indigenous Communities (BRRIC)*, for patient-oriented research teams seeking to engage Indigenous communities in their health research endeavours. The project, the first of its kind in Canada, seeks to provide researchers with the basic tools and knowledge to build meaningful research relationships in a good way with Indigenous peoples and their communities. The first module will be offered in Saskatoon, Mar. 22. [Register here.](#) [Read more.](#)

Telling your research story

[SUBMIT NOW](#): Images of Research 2019



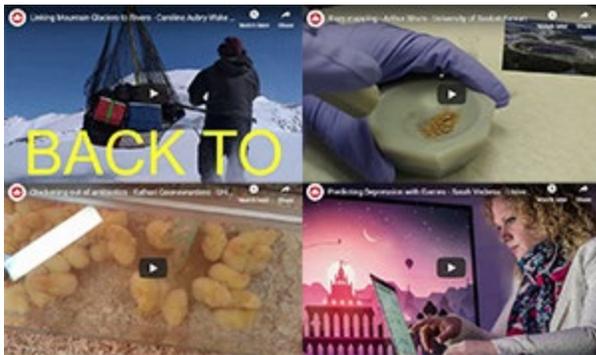
Submit now until Mar. 20! Get your shutters clicking—the USask *Images of Research Photo and Imaging Competition* is open. With cash prizes in four categories, plus prizes for *Best Description*, *Viewer's Choice*, and a grand prize of \$500, now is your chance to show the world what research looks like from your perspective.

It is said that a photo is worth 1,000 words, but how much is a one-minute video worth? Show us how your research has impact in a one-minute video and you could win a cash prize of \$300!

[Submit your photo and video NOW](#)

Mar. 21 until Apr. 3, vote for your favourites!

[USask students compete in NSERC's Science, Action! Video Contest](#)



USask students [Caroline Aubry-Wake](#) , [Kalhari Goonewardene](#) , [Arthur Situm](#) , and [Sarah Vedress](#) (working with Janelle Berscheid) are finalists in NSERC's *Science, Action! Video Contest* and are vying to win cash prizes. Currently ranked among the top 40 of all submissions, the 25 videos which have accrued the most “views” by March 27 go on to compete for 15 cash prizes. [Watch the videos now.](#)

Featured in **THE CONVERSATION**

[Monopoly was designed 100 years ago to teach the dangers of capitalism - Benjamin Hoy](#)



Many of the board games we play today were originally created in the last century and they impart many interesting lessons about life.

[Good nuclear policy should combine research, innovation and public engagement - Elizabeth Schwartz](#)



In Saskatchewan, nuclear research is being conducted with medical and energy applications. The public should be consulted when developing nuclear policy to apply and benefit from these discoveries.

[Write about your own research in The Conversation](#)

Articles written by USask researchers have been read 1.07 million times since the university entered into a partnership with the SSHRC-funded Conversation Canada in June 2017. USask is a founding member of The Conversation Canada, an online academic journalism hub/newswire where researchers write plain-language editorials and explainers articles about their research.

Recent articles by USask researchers have also been translated into French ([1,2](#)), and [Indonesian](#).

Want to reach a broad audience with your research? Consider submitting 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 Daniel Hallen](#).

Major Accolades

[USask historian an “outstanding Canadian,” appointed to national board](#)



USask professor emeritus **Dr. Bill Waiser** (PhD) has been appointed as the Saskatchewan representative on the Historic Sites and Monuments Board of Canada (HSMBC) for a five-year term. Since its creation in 1919, the board acts as the Government of Canada's expert advisory board on historical matters, designating people, places, and events that shaped Canada, and helping Canadians connect with their past.

A "Green and White" Globe

[USasks hosts planetary health conference](#)



On Mar. 12 and 13, the USask International Research and Partnership Office hosted the second annual People Around the World (PAW) conference, co-led by the School of Public Health, focused on the theme of planetary health – the interdependence of human health and the health of the planet. The two-day event brought together a diverse audience of health, environment, Indigenous, and policy researchers for panel discussions and a number of keynote presentations from experts. [Read the details.](#)

Commercialization

[International student to entrepreneur, via Innovation Enterprise](#)



PhD student **Patricia Tozatti** came to the University of Saskatchewan (USask) to study

wheat and improve the baking quality of flour. Through a series of experiences at USask's Innovation Enterprise (IE), Tozatti discovered a new recipe: success through entrepreneurship. [Read the story.](#)

[AimDay– Internet of Things](#)



The next AimDay event, hosted by USask Innovation Enterprise, will be held Mar. 27 at Innovation Place, in collaboration with University of Regina and Saskatchewan Polytechnic. The event, the fifth AIMday held in North America, will focus on specific challenges within Internet of Things (IoT) research. Questions will be divided among five main areas: connectivity, sensors, analytics, regulatory, and security and privacy.

AIMday -- Academic Industry Meeting day – is a series of workshops where questions submitted by industry partners are discussed by academics from diverse disciplines.

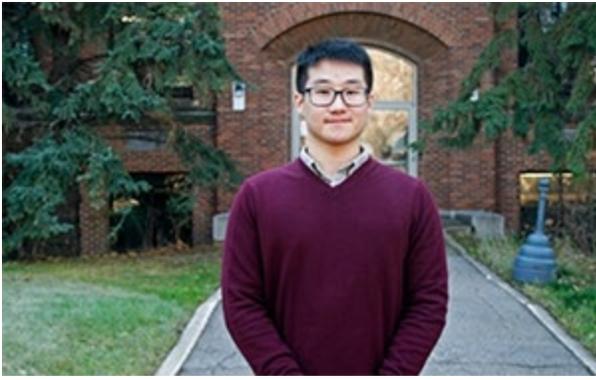
Undergraduate Research

[World Class Day: A Virtual Celebration of Students' Research](#)



On Mar. 24 and 25, USask hosts the first *World Class Day*, a virtual celebration of students' research. By [live video link](#), students from around the world will present snapshots of projects they have undertaken as part of their regular studies. The micro-conference will feature presentations by students from five universities. [Read the details.](#)

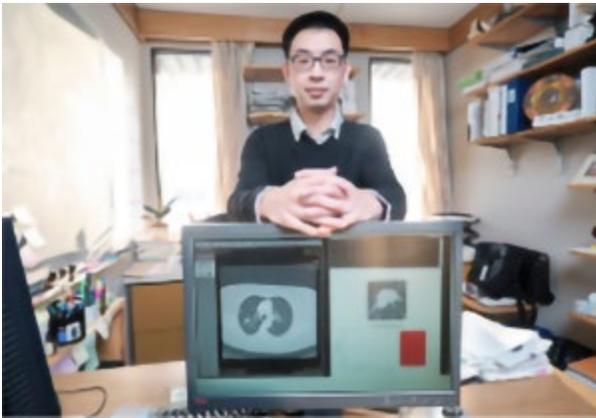
[Lecture, Lab, and Life](#)



Undergraduate **Mars Zhao** has worked as a summer research assistant in two different labs, most recently testing pH levels using electrodes to better understand how breathing affects airway surface liquid in the porcine trachea in **Dr. Juan Ianowski** (PhD)'s lab. Zhao's best advice for aspiring undergraduate researchers: "Just reach out to a professor." [Read about his experience in his own words.](#)

Young Innovators

[‘Deep learning’ software automatically detects diseases](#)



USask PhD student **Yi Wang** developed software that can get higher quality images and automatically detect signs of diabetes, heart disease and cancer from medical images, which could lead to patients getting faster and more accurate diagnoses.

Wang's software improves current computer-aided diagnosis (CADx) technology, which assists doctors to detect diseases from medical imaging scans such as ultrasound, computer tomography (CT) and retinal fundus imaging, which captures photos of the back of the eye.

[Read the full story.](#)

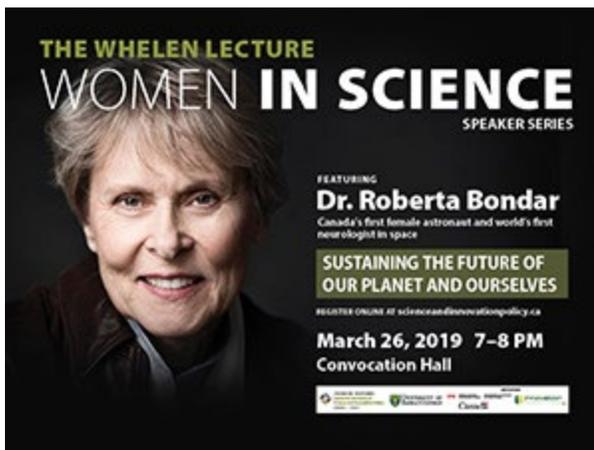
[Water predictions help restore oil sands](#)



USask engineering researchers **Dr. Lee Barbour** (PhD) and **Shahabul Alam** are helping to restore lands mined for oil sands through a better understanding of how climate change will affect water flow. They are the first to create computer models of water balance that include climate change projections. The models will help the oil industry design more secure covers at oil sands sites after mining is complete to prevent seepage. [Read more about the research.](#)

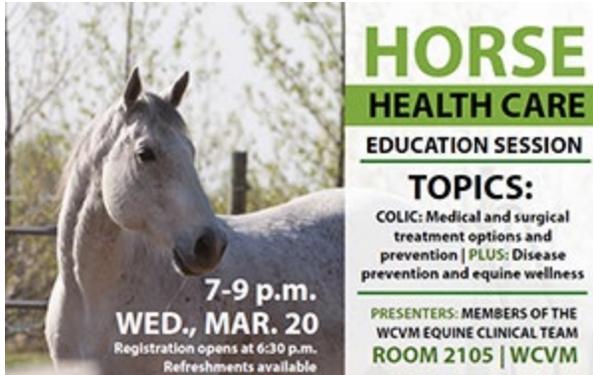
Upcoming events

[***Roberta Bondar - Sustaining the Future of Our Planet and Ourselves, March 26***](#)



Dr. Roberta Bondar (PhD, MD), Canada's first female astronaut and the world's first neurologist in space, will present a talk entitled, *Sustaining the Future of Our Planet and Ourselves*. The talk, presented by the Whelen Lecture and Women in Science Speaker Series, will be held Mar. 26, 7 p.m. – 8 p.m., in Convocation Hall. The event is free to the public. [Register here.](#)

[***Equine ED Talks - Horse Health Care: colic and disease prevention, March 20***](#)



**HORSE
HEALTH CARE**
EDUCATION SESSION

TOPICS:
COLIC: Medical and surgical treatment options and prevention | PLUS: Disease prevention and equine wellness

7-9 p.m.
WED., MAR. 20
Registration opens at 6:30 p.m.
Refreshments available

PRESENTERS: MEMBERS OF THE
WCVN EQUINE CLINICAL TEAM
ROOM 2105 | WCVN

WCVN Equine Clinical Team members will host a horse health care education session, specifically focused on medical and surgical treatment options for colic and disease prevention practices. WCVN room 2105, Mar. 20, 7p.m. – 9p.m. [Register by Mar. 18.](#)

[USask Life and Health Sciences Research Expo, May 2](#)



2019 LIFE AND HEALTH SCIENCES
RESEARCH EXPO

ACKNOWLEDGING EXEMPLARY RESEARCH AND LEARNING AT THE UNIVERSITY OF SASKATCHEWAN

Thursday, May 2, 2019

Deadline to submit abstracts, papers, and/or supervisor nominations is April 8.
healthsciences.usask.ca/expo

UNIVERSITY OF SASKATCHEWAN
Office of the Vice-Provost Health
www.usask.ca/health

The Office of the Vice-Provost Health is showcasing student research across the health science disciplines via the [2019 Life and Health Sciences Research Expo](#). Students are invited to enter their research in a poster competition, submit their research papers and nominate their supervisors for awards by *April 8, 2019*.

We want your feedback! [What do you think of Discovery Digest?](#)

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