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!

USask research projects with the City of Saskatoon awarded nearly $150,000 to target urban issues

Measuring pharmaceuticals in Saskatoon’s wastewater, diverting food from the landfill to save money and the planet, and improving property assessment appeals are some of the first research projects of the new Research Junction collaboration between the City of Saskatoon (City) and University of Saskatchewan (USask) researchers.

Five projects have been awarded a total of $100,000 through the Research Junction Development Grant program, a jointly funded university-municipal research partnership announced in September of 2019.

Two additional collaborative projects have also been awarded nearly $50,000 for research relating to homelessness in Saskatoon through a related program, “Pathways to Equity,” funded by an anonymous donor. Read the details of the projects funded.

Applications are now open for the next round of applications. The deadline is May 15.

USask’s Office of the Vice-President Research will host Pathways to Equity: Housing and Homelessness in Saskatchewan on Mar. 16, a workshop for USask researchers,
USask and Remai Modern partner on May 21-22 Picasso Symposium

USask and Remai Modern are collaborating on a May 21-22 international symposium entitled Picasso & Company: The Collaborative Work of Pablo Picasso. The symposium will include authorities on Picasso, Modern art specialists, and art-market experts. The Remai holds the world’s largest collection of Picasso linocuts, providing a rare glimpse into one of the 20th century’s most prolific and innovative artists.

The symposium will launch with a special event featuring USask alumnus and U.K. art dealer Frederick Mulder (pictured above). Mulder, a world expert in 19th and 20th-century European prints, assembled the linocut collection over many years that the Remai Foundation purchased in 2012. Mulder, who donated Picasso ceramics to the Remai Modern, as well as six Picasso linocuts to USask in honor of his professors, will be interviewed by the British Museum’s curator of modern prints and drawings Stephen Coppel.

Discount rates are available for students, seniors, Remai Modern members, and early-bird registrants. Early-bird rates are available until April 21st. Register and read more.

USask research identifies potential cause of Minamata mercury poisoning

One of the world’s most horrific environmental disasters—the 1950s and ’60s mercury poisoning in Minamata, Japan which is the subject of a new film starring Johnny Depp—may have been caused by a previously unstudied form of mercury discharged directly from a chemical factory, USask PhD toxicology student Ashley James, Dr. Ingrid Pickering (PhD), Canada Research Chair in Molecular Environmental Science, and Dr. Graham George (DPhil), Canada Research Chair in X-ray Absorption Spectroscopy, have found.

The research re-examined a 60-year old sample of brain tissue from a cat fed industrial waste expelled from Minamata’s Chisso chemical plant to identify alpha-mercuriacetaldehyde as the likely culprit for the mass poisoning. The results were published in the journal Environmental Science & Technology. Read the full story which has been viewed by more than 2,600 registered journalists.

VIDO-InterVac coronavirus vaccine research

Researchers at VIDO-InterVac have been able to
Successfully grow in the lab in cell culture the SARS-CoV-2 virus, the virus which causes COVID-19 infection. Only a handful of labs in the world have access to the virus which will be shared with other research groups/labs around the world, including the Public Health Agency of Canada’s National Microbiology Laboratory (NML) in Winnipeg. Vaccine testing is underway in an animal model, and researchers anticipate having results by mid-March.

Canterbury Tales is first major literary work developed as an app

An international team led by USask English professor Dr. Peter Robinson has produced the first web and mobile phone app of Geoffrey Chaucer’s The Canterbury Tales—the first major literary work augmented by new scholarship, in any language, presented in an app. The app includes a new edited text of the General Prologue created by USask sessional lecturer Dr. Barbara Bordalejo (PhD), a 45-minute performance of the Prologue by former USask student Colin Gibbings, and new findings about the Tales by UCL (University College London) medievalist professor Dr. Richard North (PhD).

The app was downloaded more than 23,000 times within the first day of release. The story appeared in the British newspapers The Times, The Telegraph, The Daily Mail and the American Smithsonian Magazine, as well as on Global News. The story appeared on Phys.org with more than 5,000 Facebook shares.

The app can be downloaded for phone from the Google Play Store, the Apple App Store, and for web.

USask researcher featured in PBS NOVA online interactive game

USask geologist Jim Basinger (PhD) and his research on fossilized trees from Ellesmere Island have been featured in Polar Lab, a new online interactive videogame. The game produced for PBS’ NOVA science documentary series guides players on a journey where they uncover evidence at the poles that reveals the dramatic climatic history of our planet. Play the game here – Basinger is featured in chapter 1.

USask study reveals origin of endangered Colombian poison frog hybrids

The origin of an understudied hybrid population of poisonous frogs—highly endangered colourful animals
that live deep in the Colombian jungle—is the result of natural breeding and not caused by wildlife traffickers moving them, research by USask biologist Dr. Andrés Posso-Terranova (PhD) shows.

The study, recently published in the journal *Molecular Ecology*, shows that the hybrid frogs, interbreeding between two known “pure” species, do not pose a genetic threat to the other frog species but rather co-exist healthily with the parent populations.

The frogs benefit the ecosystem as a healthy addition to the genetic diversity of the tropical rainforest but are highly sought on the international black market—each frog is worth up to $2,000 and collectors love them for their amazing variation in colors and patterns. Read the full story

Agriculture Signature Area

USask livestock researchers awarded nearly $7M to improve food sustainability and safety

Twenty USask projects have been awarded nearly $7 million through a joint federal-provincial government funding program to advance cattle, swine, and poultry research. The funding includes a $3.2-million investment in the USask Livestock and Forage Centre of Excellence (LFCE) for the management and operations of the world-class centre. Investment from the province’s Agriculture Development Fund (ADF) supplemented by contributions from industry partners will help researchers improve health and safety for animals, reduce the environmental impact of livestock farming, and provide promising researchers of tomorrow with invaluable experience. Projects focused on animal health include:

- **Developing a universal vaccine for influenza A in swine**, USask molecular biologist Dr. Yan Zhou (PhD) at the Vaccine and Infectious Disease Organization - International Vaccine Centre (VIDO-InterVac).
- **Tracking antimicrobial resistant E. coli in chickens**, USask microbiologist and VIDO-InterVac scientist Dr. Aaron White (PhD). VIDO-InterVac scientist Jo-Anne Dillon (PhD) and veterinary microbiologist Dr. Joe Rubin (DVM, PhD) are part of the team.
- **Testing for Salmonella dublin in dairy herds**, USask cattle researchers Dr. Christopher Luby (VetMB, PhD) and Dr. Kamal Gabadage (BVSc).

Read more about all of the projects.

New $2.35M USask research chair targets improved health, productivity in beef herds
USask veterinary researcher Dr. Cheryl Waldner (DVM, PhD) will undertake a major five-year research program to advance beef cattle health and productivity, helping to sustain the profitability and competitiveness of Canada’s $17-billion-a-year beef industry. The $750,000 award from the federal Natural Sciences and Engineering Research Council (NSERC) is matched by $750,000 in producer check-off funding from the Beef Cattle Research Council (BCRC). USask is contributing $850,000.

As NSERC/BCRC Industrial Research Chair in One Health and Production-Limiting Diseases, Waldner will work with the industry to address priorities of Canada’s beef producers across the beef value chain—from improved herd health, to expanded surveillance of antibiotic use and resistance, to increased uptake of best practices for herd management. Read the full story.

Canadian scientists first to test novel diagnostic tool for TB in bison

To help protect Canada’s cattle and bison and maintain the country’s bovine tuberculosis (TB)-free status, scientists from USask Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac) and Parks Canada are conducting trials in bison of several diagnostic tools, including the innovative Actiphage® blood test. The test was developed by the U.K. diagnostics company PBD Biotech, which has a new Canadian subsidiary in Saskatoon. Read more.

International

Preventing stillbirths in world’s poorest countries

Community and population health PhD student Daniel Adeyinka and his supervisor Dr. Nazeem Muhajarine (PhD) have led the first comprehensive study, published in Nature Scientific Reports, that maps global patterns of stillbirth rates and the social factors that impact stillbirths. The researchers have found that pregnant women who are poor and have lower access to education and employment are more likely to experience a child’s death at delivery. Read more.

The story was featured on Global News, News Medical—one of the world’s leading open-access medical hubs, and several media outlets in India.

USask Global Institute for Food Security partners with
Bangladesh to promote sustainable food security

On Feb. 10, USask Global Institute for Food Security (GIFS) Chief Operating Officer Stephen Visscher signed a Memorandum of Understanding with the Bangladesh Agricultural Research Council (BARC) of the Bangladesh Ministry of Agriculture. The five-year partnership will help to promote sustainable food security in the country through multidisciplinary research, training and development. Read the full story.

USask international People Around the World (PAW2020) Conference featured on Global News

UN Assistant Secretary General Nikhil Seth, keynote speaker at the USask PAW2020 conference, sat down for an interview on Global News Morning Saskatoon to discuss the UN’s Sustainable Development Goals, Canada’s performance in achieving those goals, and challenges every person to take up the charge, individually. Take a look at photos from the event.

Accolades

History researcher awarded for internationalization efforts

USask history researcher Dr. Simonne Horwitz (D. Phil) has been awarded the USask J.W. George Ivany Internationalization Award for Faculty. The award recognizes the commitment of a USask faculty member to internationalization in teaching, developing global citizens, and enhancing global understanding at the university, with $1,500 to apply to activities promoting the university’s international reputation. Read more here.

“Quintessential student-focused professor” honoured

On Feb. 4, USask psychologist Dr. Ron Borowsky (PhD) was named the 2020 Distinguished Graduate Supervisor by the College of Graduate and Postdoctoral Studies. The $1,000 award is presented each year to recognize a supervisor who provides a stimulating learning environment and motivates graduate students to achieve success in their scholarship and careers. Borowsky’s graduate students described him as a caring, supportive and dedicated mentor who places a high value on accessibility and collaboration – the “quintessential student-focused professor.” Read the full story.
**Governor General’s Award for USask alumna**

USask alumna Ruth Cuthand is one of the 2020 winners of the prestigious Governor General’s Award in Visual and Media Arts (GGArts). Selected by a peer committee, Cuthand was one of eight winners. She will receive a $25,000 prize and a special-edition bronze medallion in recognition of her excellent work. The winners’ works will also be displayed at the Art Gallery of Alberta, in Edmonton, this summer. Watch a video profile about Cuthand. Read more.

---

**Your Research Profile**

**New: Visual toolkit for researchers now available**

Looking to add visual “pop” to your documents, posters, reports and presentations? USask’s Marketing and Communications department has developed a new set of templates for Microsoft Word and PowerPoint in USask’s official colour scheme. Make sure to read USask’s Visual Expression Guide first, then download the templates.

**Make your research stand out with ORCID**

Join the rapidly growing network of USask academics setting up their own ORCID (Open Researcher and Contributor ID) identifier. Open to faculty, lecturers, graduate students and post-doctoral fellows—who researches—it is free to use and takes less than a minute to set up. Your ORCID ID is a career-long, unique-to-you, 16-digit identifier that ensures you are more consistently and accurately credited for your work, and helps to advance the university's reputation.

With more than 1,000 member organizations worldwide including USask, ORCID is the international standard for making your work and research activities distinguishable from that of other academics.

Register now for your ID make sure to link it to your USask NSID.

For more information on ORCID and how to get started, visit library.usask.ca/orcid

---

**Telling your Research Story**

**USask Images of Research 2020** - Deadline March 1
USask’s Images of Research competition, organized by Research Profile and Impact, launches in March. Snap your research, scholarly, and artistic work and enter your images for the chance to win glory and cash prizes. Get those shutters clicking and check Research.USask.ca for past winners and contest details.

New category this year – Research Vision 20/20: what is your vision for the future of research at USask? Submit your creative, original visual artwork -- drawing, painting, mixed media or digital rendering—and include a short, engaging description and title of what research will be in 20 years.

Submit your photo and artwork March 1-16, vote on your favourites March 17-31, and celebrate the winners in April.

Young Innovators

“Pep talks secret to better sporting performance,” featuring Dr. Leah Ferguson (PhD) and Dr. Margo Adam’s research on female athletes’ belief that self-compassions is the go-to strategy for enhancing sport performance, was featured on the SSHRC (Social Sciences and Humanities Research Council) website this month. Read more.

USask research team developing app to read medicine labels

Undergraduate student Alexander Magnus and computer science professor Dr. Debajyoti Mondal (PhD), his supervisor, have developed a smartphone app that will help visualize and “translate” difficult information on over-the-counter drug labels in way that is accessible to everyone. Read more at Global News.

In the news

USask researchers giving new purpose to vegan egg replacement aquafaba

PhD student Yue He's research into a better egg replacement for making foods such as mayonnaise has been featured on CBC.

USask Research Drives Plant Protein Innovation

As global demand for plant protein increases, USask is on track to become a powerhouse for plant protein research and training to meet the needs of the expanding industry. A story in
Industry West Magazine by USask Research Profile and Impact features developments by USask’s College of Agriculture and Bioresources, the Global Institute for Food Security (GIFS), Plant Phenotyping and Imaging Research Centre (P2IRC) at GIFS, and the Canadian Feed Research Centre.

Canada’s little-known geological wonder (CBC Travel)

On the remote Purple Sands Beach, the sand can appear in a spectrum of chromatic hues, ranging from lavender to magenta and sometimes even pink. Geology professor Dr. Kevin Ansdell (PhD) talks about this geological phenomenon on CBC Travel.

Featured in THE CONVERSATION

Climate change, pollution and urbanization threaten water in Canada

USask water researcher Dr. Corinne Schuster-Wallace (PhD), United Nations University's Dr. Robert Sandford, and USask knowledge mobilization specialist Stephanie Merrill

The water that replenishes groundwater, rivers and lakes is under threat from climate change, pollution and aging infrastructure.

Write about your own research in The Conversation

Articles written by USask researchers have been read more than 1.7 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.

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 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 Research Profile and Impact.
Canadian drug delivery discovery

A new book edited by Drs. Kishor M. Wasan (PhD) and Ildiko Badea (PhD) highlights a series of drug delivery discoveries by Canadian researchers, including seven from USask. Drug delivery technologies modify how drugs are released, absorbed, distributed within the body, and eliminated. The USask technologies for which there are either patents granted or filed range from cancer treatments, to radiolabeling for antibodies, to drug formulations against fungal and parasitic infections. Read the details.

Innovation

Innovation Enterprise – Now hiring more Summer Entrepreneurs

USask Innovation Enterprise’s Summer Entrepreneur program is doubling in size and hiring 30 students—open to all USask students: graduate and undergraduate—to develop 10 USask innovations into viable companies. This year, the USask Global Institute for Food Security, Federated Co-Operatives Limited, and Ag-West Bio are new sponsors of the program. Apply now.

Humanities

USask project looks at Intertidal Polyphonies

English professor Dr. Joanne Leow (PhD) has designed a new website titled Intertidal Polyphonies that looks at the legacies of imperialism and colonialism in the urban intertidal zones of Singapore, Vancouver and Hong Kong. The project considers the laws that govern these areas, conceptions of nature, and what decolonial possibilities might lie in their futures. See the website.

Upcoming events

Feb. 27 – Have your say on the future of work and skills in Saskatchewan (Conference Board of Canada)

The Conference Board of Canada’s Future Skills Centre Saskatchewan Regional Sounding Tour is coming to Saskatoon Feb. 27. The Future Skills Centre aims to identify emerging in-demand skills across the country. People engaged or interested in the province’s skills, education, employment, and training community are invited to share
their expertise on the diverse future skills needs of the region. Held at the Delta Bessborough Hotel, there will be two sessions available. Learn more and register.

**Feb. 28 - Building Reconciliation Internal Forum**

On Feb. 28, the 3rd Annual Building Reconciliation Internal Forum, titled *māmowi ḥohtētān (Let’s Cross This Together)*, will be held in Marquis Hall from 8:30 a.m. to 4:30 p.m. This daylong event, open to the whole USask community, is a response to the *Truth and Reconciliation Commission of Canada: Calls to Action* and provides another opportunity to gather and to constructively and respectfully dialogue and plan for the university environment we need and want. Register for free here.

---

**University of Saskatchewan**

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

Looking for past issues of Discovery Digest or Research Update? Visit Research.usask.ca for more.

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