



RESEARCH UPDATE

NEW INITIATIVES

U of S team helps develop tool to assess environmental risks of chemicals

A U of S Toxicology Centre research team led by **Markus Hecker** (SENS) in collaboration with **Natacha Hogan** (Animal and Poultry Science) will work with scientists from McGill University and Environment and Climate Change Canada on a \$9.6-million project to develop and commercialize *EcoToxChip*, a new genomics tool for assessing the risk of thousands of chemicals in the environment. Based on polymerase chain reaction (PCR) tools, *EcoToxChip* will contain more than 300 genes representing key biological functions that will enable rapid and economic prediction of the hazard a particular chemical poses.

The tool represents potential annual savings of \$27 million in conducting environmental risk assessments in Canada, a seven-fold decrease in the time required, and 90-per-cent reduction in testing in animals. U of S will receive \$3.8 million from various agencies including Genome Canada, Genome Quebec and Genome Prairie. The technology can also be applied to testing chemicals for regulatory agencies, industry, and in everyday life applications such as pharmaceuticals or personal care products. [For more information about *EcoToxChip*, read here.](#)

OVRP hosts CERC Research Café

Over 50 members of the university attended a Research Café hosted by OVRP on November 29. Attendees developed ideas for a U of S proposal for the recently announced third iteration of the Canada Excellence Research Chair (CERC) competition and learned of the internal expression of interest process.

DISCOVERIES WITH IMPACT

Study of 170-year-old thumbnail uncovers mystery of Franklin expedition

New research done at U of S in collaboration with researchers from the University of Ottawa, University of Victoria and industry partners has revealed crew members of the mid-1800s Franklin expedition died from zinc deficiency due to malnutrition, rather than principally from exposure to high levels of lead as previously thought.

Joyce McBeth (Geological Sciences) and **Nicole Sylvain** (Medicine) used synchrotron micro-XRF mapping at the CLS to assess environmental contamination in samples of the 170-year-old thumbnail of HMS Terror crew member John Hartnell. [The details of the research published in *The Journal of Archaeological Science: Reports* are available here.](#)

YOUNG INNOVATORS

Young Innovators, a series of articles written by U of S graduate students under the mentorship and supervision of University Research Profile and Impact about graduate student researchers, are running on a weekly basis in *The StarPhoenix*. [See the latest articles here, including one about PhD student Émilie Bouchard whose image is featured above.](#)

REPUTATIONAL SUCCESS

Saskatchewan Health Research Foundation 2016 Santé Awards

- **Daniel Chen** (Engineering) was awarded the 2016 *Achievement Award*, the top award for health research from the Saskatchewan Health



Research Foundation on December 2 for his internationally recognized efforts to drive collaboration across disciplines in leading-edge research in tissue engineering.

- ❖ **James (J.D.) Johnston** (Engineering) was awarded the *2016 Impact Award* for his work over the past five years as a SHRF Establishment Grant recipient who built capacity, advanced knowledge, informed decision making, and provided health, economic and social impacts in Saskatchewan.

Additionally, the following U of S researchers were awarded *SHRF Excellence* awards:

- ❖ **Jeffrey Chen** (VIDO-Intervac), Top Establishment Grant: Biomedical Research
- ❖ **Arash Panahifar** (Medicine), Top Research Fellowship: Biomedical Research
- ❖ **Serene Kerpan** (Medicine), Top Research Fellowship: Socio-Health Research
- ❖ **Donna Goodridge** (Medicine) and team, Top Strategy for Patient-Oriented Research Collaborative Innovation Development Grant
- ❖ **Janet Hill** (WCVN) and team, Top Collaborative Innovation Development Grant: Biomedical or Clinical Research
- ❖ **Michael Schwandt** (Medicine) and team, Top Collaborative Innovation Development Grant: Health Services and Population Health Research

[Details about the awards are available here.](#)

GRANT AND CONTRACT FUNDING SUCCESS

Grants

- ❖ **Lorna Butler** (Nursing), for the project *A Healthy workplace for A Healthy Workforce: Identifying Predictors of Health Impacting Workplace Productivity in the Mining Industry of*

Saskatchewan, was awarded

- ❖ \$60,000 over two years from MITACS Accelerate, and
 - ❖ a \$10,000 cash contribution from the International Minerals Innovation Institute (IMII).
- ❖ **Ralph Deters** (Computer Science) has been awarded \$30,000 one-year MITACS Accelerate funding for the project *Design & Implementation of a Database for IIBC Canada Based Online Applications*.
 - ❖ **Jill Hobbs** (Agricultural and Resource Economics) was awarded \$15,000 one-year MITACS Accelerate funding for the project *Adoption of new malt barley varieties by malt barley exporters*.
 - ❖ **Grant Ferguson** (Civil and Geological Engineering) with the U of S co-investigators **Bruce Eglinton** (Geological Sciences) and **Matthew Lindsay** (Geological Sciences), for the project *Deep Hydrogeological Research to Support Brine Management for Saskatchewan's Potash Industry*, have received
 - ❖ \$323,322 over two years from NSERC Collaborative Research and Development Grant funding, and
 - ❖ \$203,500 from industry partners Potash Corporation of Saskatchewan Inc., IMII, Agrium Potash, BHP Billiton Canada Inc. and Mosaic Canada ULC.

- ❖ **Ryan Brook** (Animal and Poultry Science) has been awarded \$41,000 in one-year funding from Prince Albert Model Forest Association Inc. for the project *Engaging Northern Saskatchewan Communities in Learning & Sharing about Woodland Caribou 2016-2017*.



Contracts

- ❖ **Curtis Pozniak** (Crop Development Centre, AgBio) has received an additional \$540,000 from Genome Prairie for the project *Canadian Triticum Applied Genomics (CTAG2)*. Total funding for the four-year project is now \$2.24 million.
- ❖ **Thomas Warkentin** (Crop Development Centre, AgBio) has received \$174,920 over five years from Scoular Canada Ltd. for the project *Marrowfat Pea Breeding Agreement 2016-2021*.

International Agreements

MOU Agreements:

- ❖ **National Forestry Service of Chile (CONAF), Chile** – signed November 18, 2016

MOU and Student Exchange Agreement:

- ❖ **Tsukuba University, Japan** – signed October 06, 2016

INTERNATIONAL

U of S Delegation to China

Karen Chad, Vice-President Research, spoke on board governance at the 11th *Global Confucius Institute (CI)* conference December 9 to 12 in Kunming, Yunnan province, China. The conference was attended by more than 2,000 academic leaders. Chad co-chairs the U of S CI board. Fellow board members **Darcy Marciniuk**, **Patti McDougall**, **Li Zong** and **Ning Liu** also attended.

Chad and U of S delegates also met with senior leaders of international exchange partner *Beijing Institute of Technology (BIT)*. Discussions will continue in 2017 on setting up a “science and society” grant competition to promote cross-disciplinary collaboration.

International Delegations to U of S

- ❖ **Consul General of Italy (Vancouver)** – November 15, 2016.
- ❖ **Ambassador of Turkey to Canada** – December 1, 2016.
- ❖ **Al Rayan College, Saudi Arabia** – December 5, 2016.
- ❖ **Sichuan Vocational & Technical College of Communications, China** – December 8, 2016.