

RESEARCH UPDATE

NEW INITIATIVES

Provincial policy school launches science and innovation research centre

The Johnson-Shoyama Graduate School of Public Policy (JSGS), a joint venture between the universities of Saskatchewan and Regina, has launched a new research centre, the Centre for the Study of Science and Innovation Policy (CSIP), aimed at increasing understanding of the policy and governance dimensions of science and innovation. To date, CSIP has secured \$7M in grants, including private donations in excess of \$500,000, from Regina philanthropist Bev Robertson, to tackle problems of bioscience and food policy, digital governance and policy analytics, energy policy, and health innovation policy. [Read more here.](#)

U of S VIDO-InterVac helping to fight Zika virus

VIDO-InterVac at the U of S—the first place in the world to develop a swine model for the study of Zika virus infection—has secured \$700,000 for a three-year research program using that swine model to investigate how the virus causes disease and to test new drugs and vaccines for prevention. The funding was provided by Innovation Saskatchewan, Genome Prairie, through Genome Canada's emerging issues program, the Public Health Agency of Canada, and VIDO-InterVac. [More details here.](#)

U of S partners with mining industry to tackle absenteeism

U of S College of Nursing, together with the International Centre for Northern Governance and Development, are teaming up to address the province's mining industry absenteeism rates - by linking health and wellness to productivity. **Lorna Butler** (Nursing, ICNGD) and her team aim to address this issue through a research partnership with the International Mineral Innovation Institute (IMII) and Mitacs' Accelerate program.

Innovation Enterprise hosts AIMday™ Minerals 2017

Innovation Enterprise at U of S hosted [AIMday Minerals 2017](#), the first AIMday meeting (intentionally connecting academics and industry) in North America on March 22. Twenty industry representatives from five major mining companies met with 39 researchers to find pathways to specific research and development challenges. Focused around questions submitted by industry before the event, the event was jointly hosted by Innovation Enterprise and the International Minerals Innovation Institute (IMII) in collaboration with the University of Regina and Saskatchewan Polytechnic.

As a result of the workshops, researchers submitted 55 applications to explore research collaboration opportunities: 17 of those applications were awarded \$1,000 each towards submitting a more developed proposal. Innovation Enterprise plans to host an AIMday periodically targeting different sectors.

Upcoming NSERC Discovery/RTI Grants Workshop and Celebration Luncheon

Current NSERC Discovery/RTI grant awardees and applicants are invited to attend the annual NSERC workshop on **Thursday, May 18, 2017, 8:30 am to 12:00 pm** in Health Sciences E1150. There will be overview of the NSERC Evaluation Group (EG) process, panel discussions with experienced NSERC EG and RTI members, and networking opportunities for applicants and awardees by EG. The workshop will be followed by a celebration luncheon in Marquis Hall. [Register by April 30.](#)



Images of Research and Making a Difference Videos

The third annual Images of Research competition received 88 photo and image submissions across four different categories, and the Making a Difference Video competition received 12 one-minute research pitch videos. During the competition, the competition website saw more than 40,000 page views, 6,200 votes, and 34,000 pageviews on the website for the Making a Difference videos. Once the votes were tallied and judging panels complete, winners were announced and feted on April 7 during an exhibition and reception. The grand prize winning photo, "Two pigs. Two nations. One health," is featured in this month's banner, above. [Click here to see the winning images](#) and [videos](#).

U of S hosts Sanofi Biogenius high school student science competition

U of S hosted some of Saskatchewan's most advanced high school students on April 5th as they presented their research projects and competed for cash prizes at the regional competition of the Sanofi Biogenius Canada biotechnology research competition. Students presented 1-minute "elevator speeches" to a panel of judges, toured campus, and were celebrated during a reception that evening. The winners of the competition will compete at a national competition in Toronto on May 9. [Read the details here](#).

REPUTATIONAL SUCCESS

New Centennial Enhancement Chair

Safa Kasap (Engineering) has been named the University of Saskatchewan Centennial Enhancement Chair in Photonics, a five-year appointment, which recognizes Prof. Kasap's innovative work in studying x-ray photoconductive materials in digital mammographic detectors, his work researching detector plates made from rare-earth-metal-filled glass to accurately measure doses of radiation from microbeam radiation therapy at the Canadian Lightsource synchrotron, and his dedicated and effective teaching. The Centennial Enhancement Chair includes \$50,000 of funding. Prof. Kasap has also held a Tier 1 Canada Research Chair for multiple terms and was recently recognized by U of S with a Distinguished Professorship.

CONTRACT AND GRANT FUNDING SUCCESS

GRANTS

Canadian Cancer Society

- **Ron Geyer** (Pathology and Laboratory Medicine) and **Humphrey Fonge** (Medical Imaging) have been awarded \$195,968 from a Canadian Cancer Society Innovation grant / Brain Canada Foundation, for the project *Using synthetic antibody parts to construct antibody-based imaging devices: anti-EGFR molecular targeted imaging probes for diagnosing and monitoring glioblastoma*.

Gwich'in Council International

- **David Natcher** (Agricultural and Resource Economics) was awarded \$198,000 Gwich'in Council International for *Arctic as a food-producing region*.



Saskatchewan Cancer Agency Operating Grant

- ❖ **Keith Bonham** (Oncology) and **Franco Vizeacoumar** (Oncology) were awarded \$200,000 for *Identifying targets for combination therapy with Entinostat in triple negative breast cancer.*
- ❖ **Julie Stakiw** (Oncology) and **John DeCoteau** (Pathology and Laboratory Medicine) were awarded \$199,200 for *Role of the bone marrow microenvironment in multiple myeloma development and progression.*
- ❖ **Sunil Yadav** (Oncology), **Franco Vizeacoumar** (Oncology), **Andrew Freywald** (Pathology and Laboratory Medicine), and **Deborah Anderson** (Oncology) have been awarded \$163,350 for *Identifying EphB6-deficient breast cancer tumors for clinical trials.*
- ❖ **David Blackburn** (Pharmacy) has been awarded \$38,288 for *Adherence to oral chemotherapies among pediatric oncology patients using medication event monitoring systems (MEMS).*

Saskatchewan Cancer Agency Post-Doctoral Fellowship

- ❖ **Deborah Anderson** (Oncology) and post-doctoral fellow **Shari Smith** have been awarded \$60,000 for *Targeting cancer progression genes upregulated in CREB3L1-deficient breast cancer cells.*
- ❖ **Franco Vizeacoumar** (Oncology) and post-doctoral fellow **Annan Sudarsan** were awarded \$83,000 for *Identifying Biomarkers and Developing Molecular Probes for Radioimmunotherapy of Breast Cancer.*

MITACS Accelerate

- ❖ **Cindy Feng** (School of Public Health), **Catherine Trask** (Canadian Centre for Health and Safety in Agriculture), and intern **Roya Gavanji** have been awarded \$45,000 for *Modeling fatal and non-fatal occupational injuries in Saskatchewan: identifying the leading risk factors*, in partnership with the Worker's Compensation Board of Saskatchewan.
- ❖ **Katherine Stewart** (Soil Science) and intern **Chelsea Voinorosky** were awarded \$30,000 for *Developing strategies for informed collaborative decision making for vegetation management on northern Rights-of-Way*, in partnership with SaskPower.
- ❖ **Maureen Reed** (School of Environment and Sustainability) and intern **Tegan Brock** were awarded \$30,000 for *Developing strategies for informed collaborative decision making for vegetation management on northern Rights-of-Way*, in partnership with SaskPower.
- ❖ **Ralph Deters** (Computer Science) with intern **Mayra Samaniego** have been awarded \$15,000 for *Building scalable business transaction and data mining systems for insurance workloads*, in partnership with Farmers of North America and FNA Strategic Agriculture Institute.
- ❖ **Michael Horsch** (Computer Science) with intern **Aydin Teyhouee** were awarded \$15,000 for *Identifying transportation mode based on smartphone sensor using machine learning tools and statistical methods*, in partnership with Ethica Data Services, Inc.



Kelsey Trail Health Region

- **Mark Eramian** (Computer Science) has been awarded \$32,344 for *3D Models of the spinal cord and nerves to study structural abnormalities in patients with muscle strength imbalance.*

NSERC Engage

- **Mary Buhr** (Agriculture and Bioresources) was awarded \$25,000 for *Identifying fertility markers in boars*, in partnership with Topigs Norsvin.
- **Francis Bui** (Electrical and Computer Engineering) was awarded \$25,000 for *Scalable big data analytics in the cloud*, in partnership with ESTI Consulting Services.
- **Karl-Erich Lindenschmidt** (School of Environment and Sustainability) was awarded \$24,750 for *Reinforcing river and lake ice covers to maintain their load-bearing capacity in warming climate*, in partnership with NOR-EX Ice Engineering Inc.
- **Kerry McPhedran** (Department of Civil and Geological Engineering) was awarded \$20,950 for *Characterization of the production and depletion of iodinated and oxidative species in the AOS reactor*, in partnership with BioLargo Inc.
- **Li Chen** (Electrical and Computer Engineering) was awarded \$25,000 for *Characterize and mitigate radiation effects in mixed signal circuits*, in partnership with Microsemi Corporation.

NSERC Engage Plus

- **Dwight Makaroff** (Computer Science) has been awarded \$11,800 funding for the project *Packet processing on CPU and FPGA using software-defined networking*, in partnership with Vecoma Networks Inc., which contributed an additional \$12,500 and \$7,200 in-kind resources to the project.

■ CONTRACTS

Western Grains Research Foundation

- **Curtis Pozniak** (Crop Development Centre) has received \$500,000 for *Ten Wheat Genomes.*

Saskatchewan Flax Development Commission

- **Adil Nazarali** (Pharmacy) has received \$287,500 for *Are components of flax neuroprotective against myelin degeneration? Impact of dietary ALA in an animal model of multiple sclerosis.*

Government of Yukon

- **John Pomeroy** (Geography and Planning) has received \$270,400 for *Yukon Hydrological Modelling MESH Streamflow Forecast.*

Genome Prairie

- **Uladzimir Karniyuchuk** (VIDO-InterVac) and **Volker Gerdts** (VIDO-InterVac) have received over \$237,000 for *In vivo and ex vivo models for Zika virus infection.*
- **Diane Knight** (Soil Science) has also been awarded \$146,000 for the project *Enhancing the long-term sustainability of pulse cultivation using system approaches.*

Saskatchewan Wheat Development Commission

- **Ravindra Chibbar** (Plant Sciences) has received over \$196,000 for *Characterize new sources of Fusarium Head Blight (FHB) resistance and introgress it into Saskatchewan elite wheat cultivars.*

U.S. Defense Threat Reduction Agency

- Ekaterina Dadachova (Pharmacy) has received \$175,000 for *Melanized fungi as discriminators for nuclear fallout radionuclides*.

Korean Institute of Energy Research awards Global Research Collaboration Project to U of S researchers

Only two projects were selected from Canada for funding under the Korea Institute of Energy Research (KIER) *Global Research Collaboration Project*. One such project, *Development of biodegradable organic solar cells based on new eco-friendly metal/cyclolinopeptide biosemiconductors*, led by **Gap Soo Chang** (Physics & Engineering Physics) and co-applicant **Martin Reaney** (Agriculture and Bioresources), has been awarded KRW 100,000,000 (approximately CAD\$118,000) for a one-year term.

INTERNATIONAL

International Research Success

Scholarship for talent-training in soil and water resources

Northwest Agriculture and Forestry University (NWAUFU) in China and U of S have secured \$1.08 million CAD from the China Scholarship Council for a *Joint Programme for Innovative Talent Training in Leading-edge Soil and Water Resources* to support 18 highly qualified personnel (HQP), including nine PhD students, six visiting PhD students, and three postdoctoral fellows to study and research at the U of S till December 2023.

The NWAUFU team is led by **Hao Feng** (Associate Director, Institute of Soil and Water Conservation & Institute of Dryland Water-Saving Agriculture). The U of S team is led by **Bingcheng Si** (Soil Science). These HQPs could potentially be hosted in the College of Agriculture and Bioresources, Global Institute for Food Security, School of Environment and Sustainability, Global Institute for Water Security, and Toxicology Centre.

International Delegations to U of S

- Iwate University, Japan – March 9-10, 2017**
Delegates had meetings with representatives from across campus and toured the Mohyla Institute.
- The High Commissioner of Bangladesh to Canada – March 14**
The delegation met with President Stoicheff, VP Research Karen Chad, diabetes researchers/faculty members, and representatives from the GIFS, GIWS, Ag-West Bio and Crop Development Centre. The delegation toured the Canadian Lightsource synchrotron.
- The Ambassador of Kazakhstan to Canada – March 15**
The delegation met with representatives from the GIFS and took a tour of the U of S Plant Phenotyping and Imaging Research Centre.