

RESEARCH UPDATE

NEW INITIATIVES

Saskatchewan Centre for Patient-Oriented Research formally launched

Canada's Minister of Health Jane Philpott came to U of S on April 18 to announce a total of \$62.7 million for the next five years has been awarded to the Saskatchewan Centre for Patient-Oriented Research (SCPOR), a partnership to support patient-oriented research in Saskatchewan health care. Half of the funding will come from the Canadian Institutes of Health Research (CIHR) and the other half through financial and in-kind support from the province and eight Saskatchewan health care partners.

What differentiates patient-oriented research is that patients take an active role in research planning, including helping to select the questions to ensure research is more in tune with patient needs. The current focus of SCPOR is on mental health and addictions, and improving indigenous health outcomes.

With administrative offices located at U of S, SCPOR has partnered with the Governments of Canada and Saskatchewan, as well as eight Saskatchewan organizations to support, streamline and increase patient-oriented research throughout Saskatchewan. These organizations contribute both funds and in-kind contributions: University of Saskatchewan, eHealth Saskatchewan, Saskatchewan Health Quality Council, Saskatchewan Health Research Foundation, Saskatoon Health Region, Regina Qu'Appelle Health Region, University of Regina, and Saskatchewan Polytechnic. [Read more details here.](#)

U of S hosts Western Regional 3MT competition

Sixteen graduate students from across western Canada descended upon U of S on April 28 to present their academic work succinctly - in three-

minutes or less - to a non-specialist audience, and vie for the top spot. Master's student **Renbo Xu** (Agriculture and Bioresources) represented U of S after besting 37 competitors at the university level competition.

All of the presentations were live-streamed and videorecorded, and the top three competitors had their presentations submitted to the National Canadian Competition. [The competition results are available online.](#)

U of S Science Ambassador Program connects northern SK communities in Rube Goldberg Challenge

As part of the NSERC-sponsored national celebration of science, technology, engineering and mathematics entitled *Science Odyssey*, U of S Science Ambassadors are working with grade 5-8 students in 12 northern Saskatchewan communities to build Rube Goldberg machines. Rube Goldberg machines are deliberately complicated contraptions, designed to link simple tasks in domino fashion, where one device triggers the next, in sequence. The machines will be used to highlight concepts such as force, friction, kinetic and potential energy, and engineering principles.

From May 13 to May 21, pictures and videos of the devices in action will be posted to the twitter account of the College of Arts and Science science outreach office (@usaskartsci_so) and the device with the most Twitter "likes" will win.

REPUTATIONAL SUCCESS

U of S researchers wins J. Tuzo Wilson Medal
John Pomeroy (Geography and Planning), CRC in Water Resources and Climate Change, and Director of the Centre for Hydrology, is the 2017 winner of the Canadian Geophysical Union's prestigious J. Tuzo Wilson Medal. This prize is given annually



to recognize outstanding contributions to the advancement of knowledge in the union's fields, including solid earth, biogeosciences, geodesy, hydrology, and Earth surface processes.

Kinesiology researcher comments on ibuprofen risks in *Time* magazine

Saija Kontulainen (Kinesiology) was recently cited in a *Time* magazine article on the risks of using non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen to treat injuries. Ibuprofen, in particular, reduces inflammation, but it can also affect a group of chemicals called prostaglandins, which assist in bone formation. Weight training is known to boost prostaglandin production, but taking an NSAID after training can cancel out that benefit. [Read the article here.](#)

SSHRC Impact: Insight Award

James Waldram (Department of Archaeology and Anthropology) has been awarded the \$50,000 SSHRC Insight: Impact Award for his work understanding the therapeutic process in a cultural context, especially notions of "healing" and "well-being," including a focus on Indigenous knowledge systems as they relate to healing. The award recognizes outstanding achievement by an individual or team whose project has made a significant contribution to knowledge and understanding about people, societies and the world. [Read more here.](#)

U of S student named one of Canada's top research storytellers

PhD student **Kathrina Mazurik** (Psychology) who studies the experiences of young Canadians continuing to live at home into adulthood, so-called "crowded-nest syndrome," has been named one of the top 25 finalists in the 2017 Social Sciences and Humanities Research Council (SSHRC) Storytellers competition. Statistics Canada reports that more than 40 per cent of young Canadians live at home,

taking about five years longer to achieve the same life milestones their parents hit in their respective mid-20s. As a finalist, Mazurik will attend the May 29 Storytellers Showcase at the 2017 Congress of the Humanities and Social Sciences at Ryerson University, where a panel of expert judges will select the final five Storytellers winners. [Read more here.](#)

DISCOVERIES WITH IMPACT

International team discovers ancient aquifers not immune to modern-era contamination

Jeff McDonnell (SENS, GIWS) and Grant Ferguson (Geological Engineering) are part of an international team that has discovered that global reserves of underground water once assumed to be pure are vulnerable to contamination. The findings, published April 25 in the prestigious journal *Nature Geosciences*, have implications for assessing water quality risks and sustainably managing groundwater reserves which supply about 40 per cent of the water for global irrigated agriculture and provide drinking water to billions of people around the world. [Read the release.](#)

U of S study first of its kind to quantify prevalence of groundwater use by plants

A study led by **Jaivime Evaristo** (post-doctoral fellow at SENS) and **Jeff McDonnell** (SENS, GIWS) published in the esteemed journal *Nature Scientific Reports* is the first to quantify the prevalence and magnitude of groundwater use by plants. By tracking specific stable isotopes of water within plants, the researchers were able to discover that 37 per cent of plants tested count groundwater as a source



ARTISTIC DISCOVERY

U of S graduate student wins RBC Taylor Emerging Writer Award

Cassi Smith, MFA student in writing, has been selected as the recipient of the prestigious \$10,000 RBC Taylor Emerging Writer Award. The prize is meant to recognize and assist a Canadian published author who is working on a significant writing project, preferably – but not limited to – the literary nonfiction genre.

Smith, who earned her bachelor's degree in English and political studies from U of S in 2013, is currently working on a project entitled *Kasayak: The Wise Ones*, a collection of nonfiction short stories based on her interviews with elders of Saskatchewan First Nations.

Smith, whose image is featured in the banner above, was selected for the prize by Saskatchewan-born writer Ross King, who himself was awarded the \$25,000 RBC Taylor Prize last month and will serve as Smith's mentor, as part of the prize. [More details can be found here.](#)

Immersive video installation bridges art and science

Jean-Sébastien Gauthier, Saskatoon-based new media artist, sculptor and artist-in-residence in Brian Eames' (Anatomy and Cell Biology) laboratory and at the Canadian Light Source synchrotron, launched an immersive video installation and experimental art-science exhibition on April 27.

The installation explores evolution, developmental biology, and the complexity of shared genetic heritage with other life forms through interactive representations of zebrafish, created using 3-D synchrotron radiation imaging techniques.

An artist being granted synchrotron beam time at the Canadian Light Source for artistic inquiry makes the exhibition the first of its kind.

Saskatchewan Arts Board awards Elixir Ensemble artistic director

Kathleen Solose (Music), artistic director and pianist of the Elixir Ensemble, was awarded \$10,000 by the Saskatchewan Arts Board for the production of the 2016-2017 season of the Elixir Ensemble Chamber Music series. The final concert of the season was held May 7 at Emmanuel Church, Saskatoon, featuring piano quartets by Saint-Saëns, Liebermann and Schubert's famous "Trout" Quintet.

Beyond Water: new art course bridges the gap between traditional knowledge, science and art

Susan Shantz (Art & Art history) and Graham Strickert (SENS) have launched ART 356: Beyond Water, a class designed to expose senior art students to artistic, physical, and scientific perspectives on water which will run May 10-31. Students will take field trips to Gardiner Dam, Buffalo Pound, and a trip Cumberland House accompanied by Metis guide Gary Carriere and international water artist and University of New Mexico professor emeritus Basia Irland. The Cumberland House trip will also be documented and made into a short film by producer/director Ian Toews, with support from the Office of the VP Research.

Irland will also be delivering a free public lecture at the Broadway Theatre on May 23 entitled *Reading the River: The ecological activist art of Basia Irland*. [Details of the lecture are available here.](#)



CONTRACT AND GRANT FUNDING SUCCESS

U of S, Apotex renew partnership with \$1.6M donation to the College of Pharmacy and Nutrition

U of S and Apotex Inc. have renewed their partnership with a \$1.6 million donation by the company to the College of Pharmacy and Nutrition. The gift, which is the largest donation in the college's history, will be received over eight years and will support college initiatives and activities. [Read more here.](#)

GRANTS

CIHR SPOR

- Researcher **Joanne Kappel** (Medicine) has been awarded \$500,000 in Chronic Disease CanSOLVE CKD funding for *Listening, Learning and Leading: Canadians Seeking Solutions and Innovations to Overcome Chronic Kidney Disease*, as well as \$500,000 matching cash funding from St. Paul's Hospital Foundation (Saskatoon) and \$4,292 in-kind contribution from Saskatchewan Centre for Patient-Oriented Research (SCPOR) under the theme "Improving Indigenous knowledge about treatment options for failing kidneys."
 - Krista Baerg** (Pediatrics) has been awarded \$250,000 via McMaster University and matching funding of \$125,000 from SHRF, \$75,000 from the U of S College of Medicine, and \$50,000 from the Children's Hospital Foundation of Saskatchewan for *The Chronic Pain Network*.
- NSERC College-University Idea to Innovation (I2I)**
- Derek Peak** (Soil Science) and **Steven Siciliano** (Toxicology) have been awarded \$750,000 for *Optimizing hydrochars as a hydrocarbon remediation amendment*, in partnership with

Northern Alberta Institute of Technology, Federated Co-operatives Ltd, UFA Co-operative Limited (\$75,000 cash and \$337,500 in-kind).

Children's Hospital of Saskatchewan

- Angela Bowen** (Nursing), with **Holly Graham-Marrs** (Nursing) and **Veronica McKinney** (Northern Medical Services Unit), \$150,000 for *Indigenous Women's Perspectives for Culturally Secure Birth Practices Project*.
- Tim Bradley** (Pediatrics), with **Ashok Kakadekar** (Pediatrics), **Corey Tomczak** (Kinesiology) and **Marta Erlandson** (Kinesiology), \$148,500 for *Children's Health-Heart & Activity Monitoring Program in Saskatchewan*.
- Tracie Risling** (Nursing), with **Krista Baerg** (Pediatrics), \$123,000 for *Connected to Care: Uniting Patients, Families, and Practitioners Through a Plan of Care Portal for the Children's Hospital of Saskatchewan*.
- Alan Rosenberg** (Pediatrics), with **Darryl Adamko** (Pediatrics), **Angela Bowen** (Nursing), **Roland Dyck** (Medicine), **John Gordon** (Medicine), **Mark Inman** (Pediatrics), **Anthony Kusalik** (Computer Science), **Munier Nour** (Pediatrics), **Lannae Strueby** (Pediatrics), **Hassanali Vatanparast** (Pharmacy and Nutrition), \$108,000 for *Intrauterine Inflammation as a Determinant of Pregnancy Outcome & Child Health*.
- Salah Almubarak** (Pediatrics), with **Darryl Adamko** (Pediatrics), **Sibasis Daspal** (Pediatrics), and **Laurentiu Givelichian** (Pediatrics), \$31,000 for *Early Recognition of Neonatal HIE Through Urine Metabolomics & EEG Analysis*.
- Munier Nour** (Pediatrics), \$50,000 for *Pre-Gain*



Bone Health Pilot Study.

- ❖ **Marie Dietrich Leurer** (Nursing), with **Janet McCabe** (Nursing), almost \$20,000 for *Lactation Expression: Mothers' Experiences, Information Needs and Recommendations.*

SSHRC Connection Grants

- ❖ **James Robson** with **Maureen Reed** (both of School of Environment and Sustainability) and also co-investigators from University of Manitoba, University of Quebec, and University of Michigan, \$46,250 for *Knowledge mobilization on the future of forest work and communities.*
- ❖ **Maureen Reed** (SENS), with co-investigators from Royal Roads University and Reserve mondiale de la biosphere Manicougan-Uapishka, \$25,000 for *Co-building sustainability and reconciliation.*
- ❖ **Greg Poelzer** (School of Environment and Sustainability), almost \$25,000 for *Renewing Indigenous relations through renewable energy.*
- ❖ **Shannon Lucky** (Library), more than \$15,000 for *Access 2017: a library technology conference.*

SSHRC Knowledge Synthesis Grants

- ❖ **Clint Westman** (Archaeology and Anthropology), \$25,000 for *Taking research off the shelf: synthesizing existing sources of knowledge about impacts, benefits, and participatory or consultative processes around extractive industry in Northern Alberta.*
- ❖ **Keith Carlson** (History), with **Maureen Reed** (SENS) and **Craig Harkema** (Library), has received nearly \$25,000 for *Toward an Indigenous Digital Asset Management System: Building reconciliation by responding to Indigenous requests for rapacity building.*

MITACS Accelerate

- ❖ **Ralph Deters** (Computer Science), with intern **Uurtsaikh Jamsrandorj**, has 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.

Biofuelnet Canada Network

- ❖ **Ajay Dalai** (Chemical and Biological Engineering), \$10,000 for *BioFuelNet knowledge translation initiative.*

RUHF Research Grant

Six of 16 applications to RUHF were awarded to U of S researchers:

- ❖ **Camelia Adams** (Psychiatry), with co-investigator **Lachlan McWilliams** (Psychology), \$21,000 for *The impact of adult attachment on treatment utilization and costs in outpatients with mood and anxiety disorders.*
- ❖ **Philip Chilibeck** (Kinesiology), with co-investigators **Gordon Zello** (Nutrition and Dietetics), **Corey Tomczak** (Kinesiology), and **Donna Chizen** (Obstetrics, Gynecology and Reproductive Sciences), \$25,000 for *A low glycemic index diet for prevention of glucose intolerance during bed-rest.*
- ❖ **Ekaterina Dadachova** (Pharmacy), with **Rajan Rakheja** (Medical Imaging), \$25,000 for *First in man study of 188Re-labeled 8C3 antibody as theranostic for patients with metastatic melanoma.*

- ❖ **Jonathan Gamble** (Anesthesiology,



Perioperative Medicine and Pain Management), with co-investigators **Rudy Bowen** (Psychiatry) and **Lloyd Balbuena** (Psychiatry), \$25,000 for *A prospective randomized double blinded control trial of electroconvulsive therapy with ketamine anesthesia (standard therapy) and high intensity ketamine with electroconvulsive therapy rescue for treatment-resistant depression – EAST HIKER trial.*

■ **Marilyn Kinloch** (Pathology and Laboratory Medicine) with co-investigator **John DeCoteau** (Pathology and Laboratory Medicine), almost \$11,000 for *Can molecular subtyping predict which endometrial cancer will recur.*

■ **Yigang Luo** (Surgery) with co-investigators **Chris Zhang** (Mechanical Engineering), **Barbara Ambros** (Small Animal Clinical Sciences), **Hyun Lim** (Community Health and Epidemiology), \$17,000 for *Innovative abdominal retractor for massive ventral hernia repair."*

Government of Saskatchewan

■ **Karl-Erich Lindenschmidt** (SENS, Global Institute for Water Security), \$10,000 from the Saskatchewan Water Security Agency for *A water quality modelling system of the Qu-Appelle river catch-man for long-term water management policy development."* This funding is in addition to previously announced \$309,500 contract funding from Environment and Climate Change Canada.

Polar Knowledge Canada

■ **David Natcher** (Agricultural and Resource Economics), with co-investigators **Karla Williamson** (Educational Foundations), **Angela Lieveise** (Archaeology and Anthropology), **Douglas Clark** (SENS), **Alec Aitken** (Geography and Planning), **Emily Jenkins** (Veterinary Microbiology), and **Philip Loring** (SENS), \$26,400 for *Northern Studies Training Program (NSTP) Award for 2017-2018.*



CONTRACTS

SK Ministry of Agriculture - Agriculture Development Fund

The Saskatchewan Ministry of Agriculture has provided \$6.1M for 39 projects:

- ❖ **Yongfeng Ai** (Department of Food and Bioproduct Sciences), with co-investigator **Phyllis Shand** (Food and Bioproduct Sciences), almost \$299,000 for *Enzymatic hydrolysis of pulse starches to produce maltodextrins and sweeteners for food use.*
- ❖ **Yongfeng Ai** (Food and Bioproduct Sciences) with **Supratim Ghosh** (Food and Bioproduct Sciences), \$193,500 for *Development of resistant starch and emulsifiers from pulse starches for food applications.*
- ❖ **Denise Beaulieu** (Animal and Poultry Science), \$241,000 for *Mitigating Saskatchewan GHG emissions by modifying swine diets.*
- ❖ **Bill Biligetu** (Crop Development Centre) with **Bruce Coulman** (Plant Sciences), **Eric Lamb** (Plant Sciences), and **Herbert Lardner** (Animal and Poultry Science), \$124,000 for *Development of NIR database and prediction equations for use in forage breeding, agronomy, and rangeland research.*
- ❖ **Bill Biligetu** (Crop Development Centre) with **Bruce Coulman** (Plant Sciences), more than \$85,000 for *Selection of clonal propagated alfalfa and sainfoin plants under grass or legume competition.*
- ❖ **Peta Bonham-Smith** (Department of
- Biology), with co-investigators **Christopher Todd** (Biology) and **Yangdou Wei** (Biology), \$276,750 for *Genome wide functional analysis of Plasmodiophora brassicae effectors and the management of clubroot disease.*
- ❖ **Helen Booker** (Crop Development Centre), with **Randy Kutcher** (Crop Development Centre), \$119,000 for *Characterization of rust resistance genes of flax.*
- ❖ **Helen Booker** (Crop Development Centre), \$52,000 for *Characterization of flax breeding lines for Northern adaptation and stability of yield and maturity.*
- ❖ **Ravindra Chibbar** (Plant Sciences) with **Pierre Hucl** (Crop Development Centre), \$170,800 for *Comparing wheat allergenicity in ancient and modern wheats.*
- ❖ **Arshud Dar** (VIDO) with co-investigator **Brenda Allan** (VIDO), \$115,000 for *Optimization of proven in ovo effective non-antibiotic agents for control of bacterial infection and mortality in young broilers.*
- ❖ **Nathan Erickson** (Large Animal Clinical Sciences), with co-investigators **John Campbell** (Large Animal Clinical Sciences), **John Ellis** (Veterinary Microbiology), and **Herbert Lardner** (Animal and Poultry Science), \$126,000 for *A field comparison of intranasal versus injectable BRD vaccination on beef calf titres, ADG, morbidity and mortality.*
- ❖ **Jim Fang** (Division of Pharmacy), \$195,000 for *Longer-term health effects of Saskatoon berries in the elderly – a placebo controlled study.*
- ❖ **Terry Fonstad** (Department of Civil and Geological



Engineering), with co-principal investigators **Richard Farrell** (Soil Science), **Diane Knight** (Soil Science), **Jeff Schoenau** (Soil Science), and **Huiqing Guo** (Mechanical Engineering), \$418,000 for *Research opportunities presented by the beef cattle research and teaching unit.*

■ **Supratim Ghosh** (Food and Bioproduct Sciences), with **Mike Nickerson** (Food and Bioproduct Sciences), \$95,000 for *Development of novel healthier plant-based shortening alternative without the presence of saturated and trans fats.*

■ **Pierre Hucl** (Crop Development Centre), \$148,500 for *Breeding spring spelt and emmer wheat for reduced lodging.*

■ **Pierre Hucl** (Crop Development Centre), with co-investigator **Randy Kutcher** (Crop Development Centre), \$112,000 for *Characterizing canary seed germplasm for Fusarium Blight and enhanced herbicide tolerance.*

■ **Pierre Hucl** (Crop Development Centre), with co-investigator **Curtis Pozniak** (Crop Development Centre), \$71,000 for *Assessment and deployment of a new dwarfing gene in red spring wheat.*

■ **Murray Jelinski** (Large Animal Clinical Sciences), with co-investigators **Tim McAllister** (Animal and Poultry Science) and **Janet Hill** (Veterinary Microbiology), \$77,000 for *Whole genome sequencing (WGS) of Mycoplasma bovis isolates derived from western Canadian feedlot cattle.*

■ **Darren Korber** (Food and Bioproduct Sciences), with co-investigators **Takuji Tanaka** (Food and Bioproduct Sciences), **Mike Nickerson** (Food and Bioproduct Sciences), and **Janitha Wanasundara** (Food and Bioproduct Sciences), \$100,500 for

Optimization of fermentation platforms (batch vs solid-state) for improving the value of pulse (pea and fava bean) fractions.

■ **John McKinnon** (Animal and Poultry Science), \$300,500 for *The economics of forage-based backgrounding programs in conventional and non-conventional beef production systems.*

■ **Rex Newkirk** (Animal and Poultry Science), \$49,000 for *Enhancing the nutritional value of byproducts through steam explosion.*

■ **Gregory Penner** (Animal and Poultry Science), with co-investigator **John McKinnon** (Animal and Poultry Science), \$165,000 for *Optimizing ruminal fermentation using silage and cereal grain inclusion strategies for backgrounding and finishing steers.*

■ **Martin Reaney** (Plant Sciences), with co-investigators **Ajay Dalai** (Chemical and Biological Engineering) and **Ken Van Rees** (Soil Science), \$225,750 for *Industrial products from vegetable oils.*

■ **Meena Sakharkar** (Pharmacy), with co-investigator **Jian Yang** (Pharmacy), \$91,000 for *Treatment of mastitis infections in dairy cattle.*

■ **Jeff Schoenau** (Soil Science), \$44,450 for *Tolerance of pulse crops to seed placed nitrogen fertilizer.*

■ **Yolande Seddon** (Department of Large Animal Clinical Sciences), with co-investigator **Jennifer Brown** (Animal and Poultry Science), \$146,000 for *The effects of long distance transport on the welfare of weaned piglets.*

■ **Yolande Seddon** (Department of Large Animal



Clinical Sciences), with co-investigators **Jennifer Brown** (Animal and Poultry Science), **Denise Beaulieu** (Animal and Poultry Science), **David Janz** (Veterinary Biomedical Sciences), **Gregg Adams** (Veterinary Biomedical Sciences), and **Daniel MacPhee** (Veterinary Biomedical Sciences), \$115,000 for *Motivated for movement? Exercise and the gestation environment on sow performance and welfare.*

■ **Elemir Simko** (Veterinary Pathology) with co-investigator **Colin Palmer** (Large Animal Clinical Sciences), \$60,000 for *Toxicopathological determination of safe dose ranges of neonicotinoids for honey bee colonies.*

■ **Jaswant Singh** (Veterinary Biomedical Sciences), \$112,000 for *Ergot pharmacokinetics and effects on male fertility.*

■ **Jafar Soltan** (Department of Chemical and Biological Engineering), with co-principal investigator **Mehdi Nemati** (Department of Chemical and Biological Engineering), and co-investigator **Bernardo Predicala** (Department of Chemical and Biological Engineering), \$70,000 for *Mitigation of antimicrobial resistance risk by removal of antibiotics from waste stream of animal production facilities.*

■ **Steve Shirliffe** (Plant Sciences), with co-investigators **Thomas Warkentin** (Crop Development Centre), and **Sabine Bannoza** (Crop Development Centre), \$53,000 for *Developing field pea varietal blends for higher yields and pest suppression.*

■ **Steve Shirliffe** (Plant Sciences), \$58,000 for *In-crop weed clipping for weed control.*

■ **Takuji Tanaka** (Food and Bioproduct Sciences),

with co-investigators **Daren Korber** (Food and Bioproduct Sciences), **Janita Wanasundara** (Food and Bioproduct Sciences), **Mike Nickerson** (Food and Bioproduct Sciences), and **Yongfeng Ai** (Food and Bioproduct Sciences), \$162,000 for *Enzymatic treatment of chickpea flour and air-classified fractions to improve their functionality for ingredient line extensions.*

■ **Karen Tanino** (Plant Sciences), with co-investigators **Yuguang Bai** (Plant Sciences), **Pierre Hucl** (Crop Development Centre), **Steve Shirliffe** (Plant Sciences), and **Bernard Laarveld** (Animal and Poultry Science), \$278,000 for *Field evaluation of one seed treatment inducing multiple agronomic responses from emergence to yield.*

■ **Karen Tanino** (Plant Sciences), with co-investigators **Curtis Pozniak** (Crop Development Centre) and **Scott Noble** (Mechanical Engineering), \$197,000 for *Development of physiological markers for high throughput field screening of drought tolerant wheat lines.*

■ **Bunyamin Tar'an** (Crop Development Centre), \$150,000 for *Genetic analysis of flowering genes and their associated effects on agronomic performance and stress tolerance in chickpea.*

■ **Vladimir Vujanovic** (Food and Bioproduct Sciences), \$273,000 for *Industrial production of beneficial plant endosymbionts for seed treatment and improved canola, soybean & pea.*

■ **Lee Wilson** (Department of Chemistry), with co-principal investigators **Carey Simonson** (Mechanical Engineering) and **Richard Evitts** (Chemical and Biological Engineering), \$376,500 for *Development of bio-desiccants materials from modified biopolymers and agricultural biomass.*



- **Yan Zhou** (VIDO), with co-investigator **Susan Detmer** (Veterinary Pathology), \$180,000 for *Universal vaccine development for influenza A virus in swine.*

Saskatchewan Pulse Crop Development Board

- **Bunyamin Tar'an** (Crop Development Centre), almost \$922,000 for *50K single nucleotide polymorphisms (SNP) chip development for genomic-enabling chickpea breeding.*
- **Bunyamin Tar'an** (Crop Development Centre), \$318,000 for *Development of metribuzin tolerant chickpea: proof of concept validation of CRISPR based gene editing tools in chickpea*
- **Bunyamin Tar'an** (Crop Development Centre), with co-principal investigator **Albert Vandenberg** (Crop Development Centre), \$675,000 for *Development of adapted high yielding faba bean for Saskatchewan.*
- **Bunyamin Tar'an** (Crop Development Centre), with **Reza Fotouhi** (Mechanical Engineering), \$172,000 for *Genetic analysis of flowering genes and their associated effects on agronomic performance and stress tolerance in chickpea.*
- **Diane Knight** (Soil Science), \$205,000 for *Canola grown before a pulse crop: is biological nitrogen fixation affected?*

Spray Lake Sawmills

- **John Pomeroy** (Geography and Planning) has received \$275,000 for *Mountain forest management for water.*

Canadian Space Agency

- **Glenn Hussey** (Physics and Engineering Physics), \$239,250 for *Trans-ionospheric Propagation Investigations of High Frequency Radio Waves in the Terrestrial Ionosphere by the ePOP Satellite Mission.*
- **Doug Degenstein** (Physics and Engineering Physics), with co-investigator **Adam Bourassa** (Physics and Engineering Physics), \$233,500 for *Ozone time series analysis using OSIRIS and ACE-FTS and MAESTRO satellite measurements, ozonesondes and the CMAM model.*
- **Adam Bourassa** (Physics and Engineering Physics), with **Doug Degenstein** (Physics and Engineering Physics), \$233,500 for *Advanced multi-instrument record of stratospheric aerosol and the climate impact.*
- **Chris McLinden** (Physics and Engineering Physics), with **Doug Degenstein** (Physics and Engineering Physics), and **Adam Bourassa** (Physics and Engineering Physics), \$213,600 for *Assessing the impact of limb sounding on the forecasting of surface pollution and the air quality health index.*

Western Grains Research Foundation

- **Pierre Hucl** (Crop Development Centre), \$129,000 for *Characterizing canary seed germplasm for Fusarium Blight and enhanced herbicide tolerance.*

Saskatchewan Canola Development Commission

- **Peta Bonham-Smith** (Biology), \$106,000 for *Genome wide functional analysis of Plasmodiophora Brassicae effectors and the management of clubroot Disease.*



INTERNATIONAL

International Research Success

U of S presents at AgTech forum

Johannes Dyring (Managing Director of Innovation Enterprise) presented as part of a Canadian panel at *The Seeds of our Future: AgTech & the Connected World* conference, hosted by Silicon Valley Forum on April 6 in Sunnyvale, California. Dyring highlighted the strength of the U of S and Saskatchewan producers for the agricultural technology sector. The other panelists were Tyler Whale, Ontario Agri-Food Technologies, Selena Basi, Ministry of Agriculture, British Columbia, and Brandon Lee, Consul General of Canada for Northern California and Hawaii. In total, there were 107 participants in attendance at the conference and 12 countries represented in panels.

A three-country approach for food security

Hassan Vatanparast (Pharmacy and Nutrition, Public Health) and **Pammla Petrucka** (Nursing) are bringing together partners from Guatemala, Tanzania and Canada for the project *Global Leaders Scholarship – Seeking Sustainable Solutions in Food Security and Nutrition for Women and Children: A Tri-Country Approach*, which has received almost \$450,000 from the Canadian Queen Elizabeth II Diamond Jubilee Advanced Scholars Program and \$217,000 cash and \$141,000 in-kind support from the Office of the Vice-President Research, College of Graduate and Postdoctoral Studies, College of Pharmacy and Nutrition, School of Public Health, and College of Nursing, for three years.

The partners involved are from:

- Guatemala:
 - Universidad de San Carlos and
 - ASDECOHUE (Guatemalan Agricultural

- Cooperative),
- from Tanzania:
 - Nelson Mandela African Institute of Science and Technology and
 - Green Hope Organisation,
- and from Canada:
 - All Rise, and
 - Regina and Saskatoon Food Banks.

Canadian Queen Elizabeth II Diamond Jubilee Advanced Scholars Program is jointly funded by the Community Foundations of Canada, Rideau Hall Foundation, International Development Research Centre, Social Sciences and Humanities Research Council, and Universities Canada.

International Delegations to U of S

- **Graduate School of Chinese Academy of Agricultural Sciences** – April 22 - Discussed potential academic collaborations in graduate studies.
- **Bangladesh Symposium – University of Dhaka** – April 24-25 - Explored areas of interests in collaboration between Bangladesh/University of Dhaka and Canada/ University of Saskatchewan. An MOU-renewal agreement was signed.

New agreements signed

- **Capital Normal University, China** - MOU and Visiting Student Agreement for four undergraduates from CNU to pursue up to 12 months of study in Arts and Science at U of S
- **University of Newcastle, Australia** - MOU - a framework for future collaborations between Newcastle Business School and Johnson-Shoyama Graduate School of Public Policy
- **Instituto Tecnológico de Santo Domingo (INTEC), Dominican Republic** - Renewed MOU and a university-wide bilateral student exchange agreement.