

# Senate Research Report

January 29<sup>th</sup>, 2019



VICE-PRINCIPAL (RESEARCH)

## *News and Updates*

Nominations are now being accepted for the Queen's University Prizes for Excellence in Research. While the review of the program is ongoing, the Office of the Vice-Principal (Research) is holding the next round of competition with the following changes: the due date for nominations is January 31, 2019; recipients will receive their certificates at spring convocation; and unsuccessful nominations will *not* be carried forward to future competitions.

The 4<sup>th</sup> annual Art of Research Photo Contest is open for submissions until March 1, 2019. Hosted by the Office of the Vice-Principal (University Relations) and open to Queen's faculty, staff, students, and alumni, the Art of Research competition provides a unique and accessible method of sharing and celebrating ground-breaking research.

Queen's University Library and the Research Portfolio are hosting a brown bag lunchtime series entitled Resources for Research at Queen's (R4R@Q) to be held monthly in Stauffer 121 from 12:30-1:30 pm. The first session, *Building Your Research Engagement and Impact Profile*, was held on January 16.

## *Awards and Accolades*

Dr. Jean Hutchinson (Geological Sciences and Geological Engineering) was named the 2019 Glossop Medal Lecturer, sponsored by the Engineering Group of the Geological Society (UK), the highest distinction in Engineering Geology worldwide. Dr. Hutchinson will present the 20<sup>th</sup> Glossop Lecture in mid-November 2019 in London, England.

Dr. John Smol (Biology) has been elected President of the Academy of Science in the Royal Society of Canada, on an agenda focused on evidence-based policy and scientific literacy. He was also selected as this year's recipient of the 2018 Sandford Fleming Medal and Citation for outstanding communication of science to the public; this honour is bestowed by the Royal Canadian Institute for Science.

PREVNet (Promoting Relationships and Eliminating Violence Network), led by Dr. Wendy Craig (Psychology) and Dr. Debra Pepler (York U), has received the honour of patronage from her Excellency the Right Honourable Julie Payette, Governor General of Canada. This long-

standing practice of patronage is built on the tradition of recognizing exceptional contributions to Canadian society. PREVNet was recently awarded funding of \$2,198,158 over five years by Public Health Agency of Canada (PHAC) as part of its *Preventing Gender-Based Violence –The Health Perspective* program.

Dr. Elizabeth Eisenhauer (KGHRI, Professor Emeritus in Oncology) and Dr. R. Kerry Rowe (Civil Engineering) were invested as Officers of the Order of Canada in November. Dr. Eisenhauer was recognized as "an international leader in clinical cancer research.... ". Dr. Rowe was lauded as "... a pioneer in geoenvironmental engineering...".

Dr. Heather Stuart was named to the Order of Canada on December 27, 2018, for "her commitment to advancing the mental health conversation in Canada".

Dr. Susan Bartels (Emergency Medicine) was awarded the 2017/18 Faculty of Health Sciences Mihran and Mary Basmajian Award for Excellence in Biomedical/Health Research for Global Health Research to Improve Outcomes for Women and Girls in Humanitarian Settings.

Professor Stephen Hughes (Physics, Engineering Physics and Astronomy) has received a Humboldt Research Award. Award winners are invited to carry out research projects of their own choice in cooperation with specialist colleagues in Germany with the hope that, thereby, international scientific cooperation will be promoted further.

Dr. Vera Kettner (University Research Services) received a Queen's University Special Recognition for Staff Award for her integral role providing expert advice to faculty during the research grants application process.

## Funding

Principal investigator	Department	Project title	Amount
<b>AMERICAN CHEMICAL SOCIETY – Petroleum Research Fund</b>			
Cathy Crudden	Chemistry	Preparation of Novel Soluble Metal Nanoclusters Stabilized by N-Heterocyclic Carbene Ligands for the Oxidation of Methane to Methanol	\$110,000
<b>FREEMASON’S SOCIETY OF ONTARIO-Autism Spectrum Disorders Research Project of Grand Master Paul E. Todd 2017-2019</b>			
Elizabeth Kelley	Psychology	Multiple autism projects	\$50,000
<b>MITACS-Accelerate</b>			
Brian Amsden	Chemical Engineering	<i>In vitro</i> degradation of polymeric drug carrier for sustained release of therapeutics	\$37,500
Laurent Karim Beland	Mechanical and Materials Engineering	Artificial Neural Net for He nano-bubble identification in structural materials for nuclear power applications	\$47,000
Jeffrey Brison	History	Artistic Voices: An Oral History Community Heritage Project at the Tett Centre for Creativity and Learning, Kingston ON	\$15,000
Aristides Docoslis	Chemical Engineering	A nanostructured surface for ultrasensitive detection of illicit drugs in oral fluids	\$30,000
Georgia Fotopoulos (co-PI: Alexander Braun)	Geological Sciences and Geological Engineering	Unmanned Surface Vessel (USV) Magnetometry for Geophysical Exploration of Canadian Lakes	\$30,000
Li-Jun Ji	Psychology	Economic Impact of Tourism in Kingston	\$15,000

This research report is meant to be an illustration of research activity at Queen’s University and is based, on information provided to the Office of the Vice-Principal (Research) by University Research Services.

Xudong Liu	Psychiatry	Role of gut microbiome in neurodevelopmental and psychiatric disorders	\$90,000
<b>MITACS-Globalink Research Award (Abroad)</b>			
Ahmed Hassan	School of Computing	Bounties in Open Source Software on GitHub (Jiayuan Zhou)	\$6,000
<b>NSERC-Collaborative Research and Development Grant</b>			
Kinnor Chattopadhyay	The Robert M. Buchan Department of Mining	Experimental and modelling Studies of High Temperature HF Capture & Speciation on the Surface of SGA	\$187,001
Jurgen Dingel	School of Computing	Enabling Design and Architecture Support for the Development of Internet of Things Applications	\$86,000
Ahmad Ghahreman	The Robert M. Buchan Department of Mining	Improving the efficiency of the Albion leach process <sup>TM</sup> : the case for (1) elemental sulphur removal from residues, and (2) improved pyrite oxidation kinetics	\$253,332
<b>NSERC-ENGAGE</b>			
Dominik Barz	Chemical Engineering	Development of a process to lower the electrical conductivity of oils from biological feedstock	\$25,000
Ahmad Ghahreman	The Robert M. Buchan Department of Mining	Direct Hydro-oxidation of Pyrrhotite with full sulphide oxidation	\$25,000
Mark Green	Civil Engineering	The Use of Recycled Concrete Aggregate in the Production of Concrete Blocks	\$25,000
Chris Mechefske	Mechanical and Materials Engineering	Dynamic property characterization in gear rings made from powdered metal	\$25,000

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**NSERC-E.W.R. Steacie Memorial Fellowship**

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Ahmed Hassan	School of Computing	Software Analytics for Ultra Large Scale Software Systems	\$310,000
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**NSERC-Idea To Innovation**

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Cathy Crudden	Chemistry	Idea to Innovation Phase 1: Development of stable, field-deployable silver-based surface plasmon resonance biosensors	\$124,900
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**SSHRC-Indigenous Research Capacity and Reconciliation: Connection**

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Lucie Levesque	School of Kinesiology & Health Studies	Indigenous science: gathering a community of practice	\$50,000
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**SSHRC-Partnership Engage**

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Kathy Lahey	Faculty of Law	Economic Gender Equality, Childcare, and Pay Equity in Canada: Making the Case for Public Policies that can Matter	\$25,000
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**SSHRC-Sport Participation Research Initiative**

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Sam McKegney	English	Decolonizing sport: Indigeneity, hockey, and Canadian nationhood	\$20,000
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