

Senate Research Report

October 3, 2017

ultrasound machine. Using volunteer student models, Dr. Johri, a Queen's professor, cardiologist and ultrasound specialist scanned and explained the different parts of the human heart. Each year, Queen's partners with the Heart and Stroke Foundation to engage the public in an event promoting heart health.

The *New Eyes on the Universe* exhibit — featuring the groundbreaking work of Queen's Professor Emeritus and Nobel Laureate Art McDonald, and his team at SNOLAB — was on display at the Agnes Etherington Art Centre from May 27 – July 7. The interactive exhibit highlighted the

Nicolle Domnik (Medicine) and Sarah Yakimowski (Biology) received Banting Postdoctoral Fellowships. Seventy fellowships were offered across Canada this year.

Four Queen's National Scholars (QNS) have been recruited to Queen's:

Dr. Thohahoken Michael Doxtater, QNS in Indigenous Studies: Land and Language based Pedagogies and Practices (Languages, Literatures and Cultures; Global Development Studies)

Dr. Lisa Guenther, QNS in Political Philosophy and Critical Prison Studies (Philosophy)

Dr. Anna Harrison, QNS in Environmental Geochemistry (Geological Sciences and Geological Engineering; School of Environmental Studies)

Dr. Isabelle St-Amand, QNS in Aboriginal and Migrant Literatures (French Studies; Languages, Literatures and Cultures)

Queen's University Professor Paula James (Medicine and Pathology & Molecular Medicine), one of Canada's leading researchers in inherited bleeding disorders, has been honoured with the Cecil Harris Award by the Canadian Hemophilia Society.

Queen's University professor and also a leading researcher in common inherited bleeding disorders, Dr. David Lillicrap, has received a \$3.55 million Canadian Institutes of Health Research (CIHR) Foundation Grant.

Dr. Andrew Pollard (Mechanical and Materials Engineering) and Dr. Christopher Pickles (Robert M. Buchan Department of Mining) have been named Fellows of the Canadian Academy of Engineering in recognition of their career achievements.

Dr. Heather Jamieson (Geological Sciences and Geological Engineering) earned the Peacock Medal from the Mineralogical Association of Canada.

Dr. Anne Croy (Biomedical & Molecular Sciences) and Dr. Robert Morrison (English) were granted the honour of being elected to the Royal Society of Canada (RSC), one of the highest honours for Canadian academics in the arts, humanities, social sciences, and natural sciences. Dr. Croy is the first woman veterinarian elected to the fellowship. Also recognized is Dr. Richard Bathurst of the Royal Military College, who is cross-appointed to the Queen's Civil Engineering Department and a member of the GeoEngineering Centre at Queen's-RMC.

Dr. Katherine McKittrick (Gender Studies) and Dr. Karen Yeates (Medicine) have been named to the Royal Society of Canada's (RSC) College of New Scholars, Artists and Scientists.

Research Funding

Over \$45 million in research funding has been announced since April, and the details of these funds have been outlined in a separate funding table.

Funding Table to accompany the September 19, 2017 Research Report to Senate

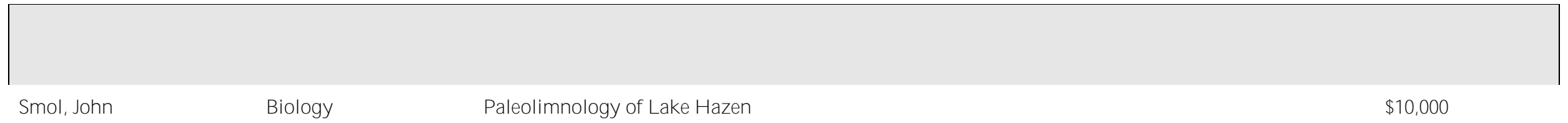
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Mulligan, Lois	Queen's Cancer Research Institute	Real-time imaging platforms for monitoring cancer cell motility and metastasis	\$124,040
Orihel, Diane	Biology, School of Environmental Studies	A Hybrid Mesocosm-Ecosystem Facility for Aquatic Ecotoxicology	\$167,602
Rainbow, Michael	Mechanical & Materials Engineering	Subject-Specific Biomechanics of Human Joint Systems	\$400,000
Rival, David	Mechanical & Materials Engineering	Hemodynamics and Energy Mobility (HEMo) laboratory	\$76,520
Smith, Graeme	Obstetrics & Gynaecology	Reproductive Sciences Vascular Study Lab	\$63,540
Yao, Zhongwen	Mechanical & Materials Engineering	Innovative cladding materials of next nuclear generation materials	\$167,400

Beogman, Leon

Noureldin, Aboelmagd	Electrical & Computer Engineering	Integration of GNSS Precise Point Positioning and Inertial Sensing Technologies for Lane-Level Car Navigation	\$90,000
Redfearn, Damian	Medicine	Signal parameter estimation and tracking during atrial fibrillation using a Bayesian Time-Delay Estimator	\$45,000
Surgenor, Brian	Mechanical & Materials Engineering	Implementation of a Machine Vision-based System for the Recognition of Indian Coins	\$15,000



A horizontal bar chart with a grey bar. Below the bar, the following text is aligned: 'Smol, John' at the start, 'Biology' at approximately 20% width, 'Paleolimnology of Lake Hazen' at approximately 35% width, and '\$10,000' at the end.

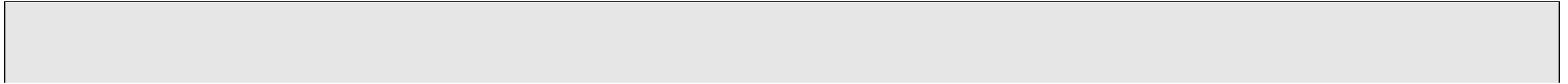
Smol, John	Biology	Paleolimnology of Lake Hazen	\$10,000
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Prakash, Ravi	Electrical & Computer Engineering	Bio-electronic organic semiconductor based programmable drug delivery systems	\$3,720
Boegman, Leon	Civil Engineering	Internal solitary wave-induced sediment resuspension and offshore infrastructure loading	\$120,000
Andrew, R David	Biomedical & Molecular Sciences	Converting the sodium-potassium pump into a shutdown channel	\$130,000
Banfield, Bruce	Biomedical & Molecular Sciences	Remodeling of the nuclear membrane during herpesvirus assembly	\$28,000
Barthelme, Thomas	Mathematics & Statistics	Geometry and dynamics of systems with a hyperbolic flavor	\$70,000
Boegman, Leon	Civil Engineering	Internal solitary wave-induced sediment resuspension and offshore infrastructure loading	\$205,000
Dean, Thomas	Electrical & Computer Engineering	Language based analysis of software and security	\$100,000

Smol, John	Biology	Northern lakes in the Anthropocene: Studying lake ecosystem changes across broad spatial and temporal scales	\$120,000
Braun, Alexander	Geological Sciences & Geological Engineering	Detectability of asteroid density distribution and boulder mass from spacecraft orbital data and asteroid surface gravimetry	\$25,000
Kontopoulou, Marianna	Chemical Engineering	Use of micron-sized exfoliated graphite as reinforcing filler to enhance the mechanical, thermal and electrostatic dissipative capacity properties of polypropylene composites	\$25,000
Mechefske, Chris	Mechanical & Materials Engineering	Cutting Tool Wear and Performance Estimation Using Acoustic Emission	\$25,000

Amsden, Brian	Chemical Engineering	A micro-mechanical testing instrument	\$137,624
Cunningham, Michael	Chemical Engineering	Water-soluble polymers for use in stimuli-responsive materials, water treatment and flocculation of oil sands tailings	\$150,000
Davies, T. Claire	Mechanical & Materials Engineering	Detecting brain signals using electroencephalography and functional near infrared spectroscopy	\$150,000
Fichtinger, Gabor	Computing	Research platform for medical education informatics	\$149,992
Hassanein, Hossam	Computing	UAV-based system for monitoring and tracking of oil and gas infrastructure	\$149,720
Jessop, Philip	Chemistry	Process gas chromatography system for reactions and separations	\$149,406
Lafreniere, Melissa	Geography and Planning	Advanced ion chromatography for assessing permafrost degradation impacts on water quality and organic carbon composition and dynamics	\$147,815
Lougheed, Stephen	Biology	Operation and maintenance support to enhance research and highly qualified personnel training at the Queen's University Biological Station	\$284,176
Plaxton, William	Biology		

Smith, Steven	Biomedical & Molecular Sciences	Centrifuge suite for protein structure/function studies	\$149,390
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Cramm, Heidi

Mousavi, Parvin - Anas, Emran Mohammad Abu	School of Computing	No Title	\$45,000
Mulligan, Lois - Moodley, Serisha	Cancer Biology & Genetics	Evaluating RET-inhibitors in lung cancer growth and metastasis	\$45,000
French, Simon - Auais, Mohammad	Rehabilitation Therapy	No Title	\$45,000

Crudden, Cathleen

Chemistry

Aldersey, Heather	Rehabilitation Therapy	Gordon and Jean Southam Fellowship	5,000 (GBP)
Hoult, Neil	Civil Engineering	Dynamic Distributed Monitoring for Track Support Evaluation	\$25,000