

Senate Research Report

April 17, 2018



VICE-PRINCIPAL (RESEARCH)

News

Strategic Research Plan Renewal

The final draft of the SRP, with edits tracked from the penultimate version presented in March, is appended to the agenda package.

Recognition and Awards

Renowned sex researcher Sari van Anders is joining Queen's as the [Canada 150 Research \(C150\) Chair in Social Neuroendocrinology, Sexuality, and Gender/Sex](#), an appointment that grants her \$2.45 million in research funding over the next seven years. She is one of only 26 C150 research chairs appointed nationwide by this competitive, one-time federal government initiative designed to recruit top-tier academic talent from around the world.

Dr. Nathalie Ouellette (Physics, Engineering Physics and Astronomy) has been awarded the Ronald G. Calhoun Science Ambassador Award from Partners In Research for her science education and outreach activities, including her management of the Queen's Observatory that has opened the world of astronomy to the Kingston community.

SPARQ Systems Inc.

SPARQ Systems Inc., a Queen's spin-off company led by Dr. Praveen Jain (Canada Research Chair in Power Electronics), is helping to advance smart-grid power capability into Ontario's electrical grid, thanks to support from the Ontario Ministry of Energy and in collaboration with Hydro Ottawa, Quadra Power, Queen's University and Ottawa Community Housing (OCH). Launched in February, a 160-kW rooftop solar panel installation at 32 townhomes in Ottawa Community Housing's Regina Lanes neighbourhood is equipped with SPARQ's highly adaptable smart-grid microinverters, which convert the power collected by the panels into usable energy that is fed back to the grid, managed by Hydro Ottawa.

Laser Depth Dynamics

Paul Webster (Sc'06, PhD'13) and Roger Bowes (Sc'92) worked with the OPI to establish and launch Laser Depth Dynamics (LDD) in Kingston, in 2012, to commercialize a technology that Dr. Webster co-developed with physics professor James Fraser. Called *inline coherent imaging* (ICI), the technology allows for direct measurement of weld penetration depth for laser welding. LDD was recently acquired by IPG Photonics Corporation, the world leader in high-performance fibre-lasers and amplifiers, which aims to incorporate LDD's technology into its laser welding solutions to drive adoption of this advanced technology throughout manufacturing of metal parts. Becoming part of this bigger, international organization is providing more global exposure for LDD's products. Now called IPG Photonics Canada, the company will remain in Kingston and will continue to collaborate with Queen's on R&D and talent development and recruitment.

Research Funding

Researcher	Department	Project Title	Amount
Bryon Riesch Paralysis Foundation			
Ghasemlou, Nader	Anesthesiology & Perioperative Medicine	Targeting Gene Networks in Spinal Cord Injury Pain	\$60,800
Canadian Hematology Society			
James, Paula	Medicine	The Hemostatic Stress Response: Do Differences Explain Phenotypic Variability in VWD?	\$141,968
Canadian Securities Institute Research Foundation			
Moneta, Fabio	Smith School of Business	Canadian Securities Institute Research Foundation	\$37,000
Canadian Institutes of Health Research – Project Grant			
Maurice, Donald	Biomedical and Molecular Sciences	Compartmented cAMP signalling Regulates Human Arterial Endothelial Cell Inflammatory and Angiogenic Responses	\$680,850
Parulekar, Wendy	Canadian Cancer Trials Group	A Phase II Single Arm Trial of Elective Volume Adjusted De-Escalation Radiotherapy (EVADER) in Patients with Low-Risk HPV-Related Oropharyngeal Squamous Cell Carcinoma	\$100,000
Holden, Rachel	Medicine	Inhibit Progression of Coronary Artery Calcification with vitamin K in Hemodialysis patients: The iPACK-HD Study	\$100,000
Greer, Peter	Cancer Biology & Genetics	FER as a novel therapeutic target in breast cancer	\$960,075

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.

CIHR – Operating Grant: Secondary Data Analysis for Cancer Prevention & Control			
King, Will	Public Health Sciences	Exposure to ultraviolet radiation and the risk of non-cutaneous cancer incidence	\$74,925
Mitacs – Accelerate			
Stuart, Heather	Centre for Health Services & Policy Research	Advanced Analytics Initiative	\$159,999
Mitacs – Globalink			
Kim, Il Yong	Mechanical & Materials Engineering	Design Optimization of Binary Phase Pupil Filters	\$6,000
Natural Sciences & Engineering Research Council of Canada – Collaborative Research & Development			
Levin, Yuri	Smith School of Business	Large-scale customer analytics methodologies in financial services	\$900,000
NSERC – Engage			
Saavedra, Carlos	Electrical & Computer Engineering	Current-Control Methods in Graphene Transmission Lines for Tunable Antennas on Printed Circuit Boards	\$25,000