

## ***Senate Research Report*** ***May 26, 2010***

### *Awards and Honours*

#### **Canada Council for the Arts**

##### **Killam Prize**

Dr. Arthur McDonald (Physics; Engineering Physics and Astronomy) has been awarded one of Canada's most distinguished annual awards for outstanding career achievements in natural sciences. The prize is worth \$100,000.

*Publicly announced April 13, 2010*

##### **Juno Award**

Marjan Mozetich, one of Canada's most performed Canadian composers and composition instructor at Queen's University, is the 2010 winner of a Juno Award – Canada's biggest music award- in the classical composition of the year category.

*Publicly announced April 17, 2010*

### *Research Funding*

#### **Canada Foundation for Innovation (CFI)**

##### **Leaders Opportunity Fund**

- Dr. Chandrakant Tayade (Anatomy and Cell Biology) received \$120,000 for his project entitled "*Role of Immune Cells in Promoting Angiogenesis during Pregnancy and their Regulation by MicroRNAs*"
- Dr. Brendon Gurd (School of Kinesiology and Health Studies ) received \$349,285 for his project entitled "*Helping Young Adults at Risk for Obesity and Type II Diabetes: Molecular Mechanisms and the Role of Exercise*"

*Publicly announced April 23<sup>rd</sup>*

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## **Canadian Institutes of Health Research (CIHR)**

### **Meetings, Planning and Dissemination Grants**

- Dr. Daren Heyland (Medicine) received \$39,924 for his project entitled *“Improving End-Of-Life Care in Canada through Dissemination of a Novel Satisfaction Questionnaire.”*
- Dr. Jorge Luis Martinez (Medicine) received \$20,000 for his project entitled *“Second Canada-Colombia Workshop on HIV Research.”*
- Dr. Douglas Munoz (Physiology) received \$5,000 for his project entitled *“Canadian Action and Perception Network (CAPnet): Strategic Planning Meeting.”*
- Dr. Sanjay Sharma (Ophthalmology) received \$39,800 for his project entitled *“The Risk of Flomax on Cataract Surgery – Online Video KT.”*
- Dr. Graeme Smith (Obstetrics and Gynaecology) received \$10,000 for his project entitled *“Pregnancy complications identify women at risk for developing cardiovascular disease.”*

## **Canadian Institutes of Health Research (CIHR) – Strategics**

### **Health Services and Policy Research Institute**

- Dr. Michael Green (Centre for Health Services and Policy Research) received \$99,975 for his project entitled *“Impact of Policy Guideline Variation on Outcomes of Novel H1N1 Influenza in Aboriginal Communities in BC, Manitoba and Ontario”*
- Dr. Paul Masotti (Community Health and Epidemiology) received \$93,456 for his project entitled *“Public Health Responses in Ontario to the H1N1 Outbreak. Stakeholder perceptions and policy suggestions relating to: resources, planning, implementation, vulnerable populations, mass vaccination program, and collaboration/integration with primary healthcare.”*

### **Neurosciences, Mental Health and Addiction Institute**

- Dr. Ian Gilron (Anesthesiology) received \$100,000 for his project entitled *“Combination pharmacotherapy for the management of pain in fibromyalgia.”*

## **Max Bell Foundation and Arthur J.E. Child Foundation**

- Dr. Ray Peters (Better Beginnings Research Unit) received \$97,280 from the Max Bell Foundation and \$50,000 from the Arthur J. E. Child foundation over two years for his project entitled *“A Proposal to Develop a Manual and DVD for the Better Beginnings, Better Future Program Model”.*

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**Natural Sciences and Engineering Research Council of Canada (NSERC)  
Idea to Innovation (I2I) Program**

- Dr. Yan-Fei Lui (Electrical and Computer Engineering) received \$125,000 for his project entitled "*Charge balance control technology development for VR application*".

**Natural Sciences and Engineering Research Council of Canada (NSERC)  
Collaborative Health Research Projects (CHRP)**

- Dr. Randy Ellis (School of Computing) received \$318,870 over three years for his project entitled "*Kinematics-based navigation for reconstructive hip surgery*".
- Dr. James Stewart (School of Computing) received \$322,540 over three years for his project entitled "*New methods for articular cartilage repair through computer-assisted surgery*".

**Natural Sciences and Engineering Research Council of Canada (NSERC)  
Discovery Grants**

Fall 2009 Competition Results - 59 new and renewed for a total of \$ 2,061,279, year 1 funding

<b>PI Name</b>	<b>Department</b>	<b>Project Title</b>	<b>Award Amount</b>
Dr. Linda Campbell	Biology	<i>Deconstructing food webs and biomagnification: from regional to global patterns</i>	\$22,000
Dr. Kent Novakowski	Civil Engineering	<i>The role of the overburden-bedrock contact and upper bedrock properties in the recharge and contamination of shallow bedrock aquifers</i>	\$35,000
Dr. Gabor Fichtinger	School of Computing	<i>Image-guided robotic needle-based surgery of soft tissues</i>	\$31,000

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Dr. Mohamed Ibnkahla	Electrical and Computer Engineering	<i>Adaptive signal processing for wireless sensor networks</i>	\$23,000
Dr. Peter Taylor	Mathematics and Statistics	<i>General theory of inclusive fitness in structured populations; effects of population heterogeneity</i>	\$31,000
Dr. Kevin Robbie	Physics	<i>Directed self-organization of nanostructured materials: fundamentals and applications</i>	\$27,000
Dr. Erwin Buncel	Chemistry	<i>Materials chemistry and bringing reactivity to the extreme</i>	\$30,000
Dr. Stephen Scott	Anatomy and Cell Biology	<i>Sophistication of feedback control during voluntary behaviour</i>	\$61,000
Dr. Chandra Tayade	Anatomy and Cell Biology	<i>Regulation of angiogenesis at the maternal-fetal interface</i>	\$31,000
Dr. Neil Hault	Faculty of Applied Science	<i>Infrastructure performance monitoring and assessment</i>	\$20,000
Dr. Inka Brockhausen	Biochemistry	<i>Mechanisms investigations of O antigen synthesis in gram negative bacteria</i>	\$37,000
Dr. Steven Smith	Biochemistry	<i>Structural insights into cellulosome assembly, attachment and function</i>	\$44,000
Dr. William Leggett	Biology	<i>Structure and stability in exploited marine ecosystems</i>	\$29,000
Dr. Sharon Regan	Biology	<i>Exploiting genomic strategies to understand tree development</i>	\$42,000

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Dr. Laurent Seroude	Biology	<i>Molecular genetics of aging in drosophila</i>	\$27,000
Dr. Brian Amsden	Chemical Engineering	<i>Injectable biodegradable polymers for local drug delivery</i>	\$30,000
Dr. Michael Cunningham	Chemical Engineering	<i>Design and synthesis of functional polymer colloids</i>	\$54,000
Dr. Robin Hutchinson	Chemical Engineering	<i>Radical polymerization kinetics and processes</i>	\$54,000
Dr. Kim McAuley	Chemical Engineering	<i>Mathematical modeling of polymerization reactors</i>	\$40,000
Dr. Cathleen Crudden	Chemistry	<i>Organic synthesis and materials chemistry via catalytic organoborane chemistry</i>	\$90,000
Dr. Donal Macartney	Chemistry	<i>Supramolecular recognition in water by Cucurbituril hosts</i>	\$40,000
Dr. Victor Snieckus	Chemistry	<i>New strategies and methods in synthetic aromatic and heteroaromatic chemistry</i>	\$90,000
Dr. Andrew Take	Civil Engineering	<i>Effects of climate and climate change on the soil slopes of our natural and built environment</i>	\$62,000
Dr. Selim Akl	Computing and Information Science	<i>Parallel models of computation and algorithms</i>	\$31,000
Dr. Bram Adams	School of Computing	<i>Empirically studying and improving the co-evolution of source code and build system</i>	\$15,000

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Dr. Parvin Mousavi	School of Computing	<i>Towards integrative data analysis for predictive modeling in biomedical computing</i>	\$31,000
Dr. David Rappaport	School of Computing	<i>Computational geometry and data analysis</i>	\$25,000
Dr. Saeed Gazor	Electrical and Computer Engineering	<i>Multidimensional-cognitive and statistical signal processing</i>	\$26,000
Dr. Praveen Jain	Electrical and Computer Engineering	<i>New converter topologies for emerging renewable energy systems for the IT industry</i>	\$60,000
Dr. Karen Rudie	Electrical and Computer Engineering	<i>A framework for decentralized, dynamic discrete-event systems</i>	\$43,000
Dr. Chi-Hsiang Yeh	Electrical and Computer Engineering	<i>Green wireless internet: architectures, protocols, applications, and implementations</i>	\$25,000
Dr. Shahram Yousefi	Electrical and Computer Engineering	<i>Rateless codes for advanced architectures</i>	\$33,000
Dr. Mark Diederichs	Geological Sciences and Geological Engineering	<i>Improved mechanical models &amp; engineering management strategies for the excavation damage zone (EDZ) in sedimentary rocks around underground nuclear waste repositories</i>	\$52,000
Dr. Michael Blennerhassett	Faculty of Health Sciences	<i>GDNF and development of the intestinal nervous system</i>	\$37,000

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Dr. Oleg Bogoyavlenskij	Mathematics and Statistics	<i>Integrability and tensor invariants in dynamics</i>	\$20,000
Dr. Ivan Dimitrov	Mathematics and Statistics	<i>Geometric and algebraic constructions in representation theory</i>	\$15,000
Dr. Navin Kashyap	Mathematics and Statistics	<i>The design and analysis of coding algorithms for reliable and secure digital communications</i>	\$33,000
Dr. Boris Levit	Mathematics and Statistics	<i>Adaptive nonparametric regression - a nonasymptotic approach</i>	\$15,000
Dr. Ram Murty	Mathematics and Statistics	<i>Properties and applications of Artin L-series</i>	\$40,000
Dr. Greg Smith	Mathematics and Statistics	<i>Combinatorial varieties</i>	\$24,000
Dr. Steven Beale	Mechanical and Materials Engineering	<i>Transport phenomena for sustainable energy</i>	\$21,000
Dr. Michael Birk	Mechanical and Materials Engineering	<i>Advanced light weight fire protection of dangerous goods pressure vessels</i>	\$28,000
Dr. Il-Yong Kim	Mechanical and Materials Engineering	<i>Multidisciplinary optimization of manufacturing for CO2 reduction and orthopaedic design</i>	\$28,000
Dr. Qingguo Li	Mechanical and Materials Engineering	<i>Energy efficient lower-limb wearable robotic devices</i>	\$19,000

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Dr. Andrew Pollard	Mechanical and Materials Engineering	<i>Fundamental flow physics of turbulent jets, boundary layers and channel flows</i>	\$32,000
Dr. Steve Waldman	Mechanical and Materials Engineering	<i>Chondrocyte mechanotransduction and the purinergic receptor pathway</i>	\$32,000
Dr. Zhongwen Yao	Mechanical and Materials Engineering	<i>Investigation of irradiation induced creep and growth by using stressed in-situ irradiation correlated to computer simulation</i>	\$18,000
Dr. Gene Zak	Mechanical and Materials Engineering	<i>Laser machining of ceramics with controlled microstructure</i>	\$21,000
Dr. Sam Basta	Microbiology and Immunology	<i>Virus-host interactions: induction of cytotoxic T cells immune responses via the direct and alternative MHC class I presentation pathways</i>	\$26,000
Dr. Boyd Davis	Mining Engineering	<i>Properties and applications of molten metal hydride systems</i>	\$23,000
Dr. Marc Dignam	Physics	<i>Exciton and photon dynamics in nanostructures</i>	\$25,000
Dr. Jun Gao	Physics	<i>Direct imaging and probing of polymer electrolyte/luminescent conjugated polymer mixed ionic/electronic conductors</i>	\$32,000
Dr. Alastair McLean	Physics	<i>Nanostructured surfaces: growth processes and patterns, new electronic and optical materials</i>	\$39,000

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Dr. Jean-Michel Nunzi	Physics	<i>Light rectification for solar energy conversion</i>	\$60,000
Dr. Neil Magoski	Physiology	<i>Electrical coupling coordinates the activity of neurons that trigger reproduction</i>	\$37,000
Dr. Richard Beninger	Psychology	<i>The role of brain neurotransmitters in the control of behaviour</i>	\$71,000
Dr. Meredith Chivers	Psychology	<i>Gender differences in sexual response</i>	\$17,449
Dr. Lola Cuddy	Psychology	<i>Music perception and cognition</i>	\$30,000
Dr. Valerie Kuhlmeier	Psychology	<i>Determining and predicting specific intents in infancy</i>	\$26,830

### **Queen's University - Principal's Development Fund**

#### **2010 Fund For the Support of Artistic Production Program**

<b>Researcher's Name</b>	<b>Department</b>	<b>Project Title</b>	<b>Total Amount</b>
Dr. Sylvat Aziz	Art	Re-Imagining the Frescoes of Maryam Zamani and Wazir Khan Mosques	\$5,000
Dr. John Burge	Music	Master recording of solo piano music	\$5,000
Dr. Gary Kibbins	Film and Media	1. Uganda Project, 2. Impossible Creatures	\$5,000

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Dr. Dorit Naaman	Film and Media	Qatamon in colour: Recovering buried histories with digital media (Phase I)	\$2,978
Dr. Kim Renders	Drama	Guarded: A two-person play about a female prison guard	\$5,000
Dr. Gregory Runions	Music	The Greg Runions Big Band in concert featuring new music by Greg Runions and Quinsin Nachof	\$2,000

#### 2010 Visiting Artists in Residence Program

Researcher's Name	Department	Invited Artist, Residency Title and Duration	Total Amount
Dr. Marta Straznicky	English	Stuart Ross, Cobourg, ON. Literature, Canada Council for the Arts, Author Residencies Program. September 10 - December 10, 2010	\$16,900

#### Social Sciences and Humanities Research Council (SSHRC)

##### Centre of Excellence for Research on Immigration and Settlement (CERIS)

- Dr. Liying Cheng (Faculty of Education) received \$10,845 for her project entitled "*The Role of Testing in Professional Certification for Newly Arrived Foreign-Trained Professionals to Canada*".

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