

Ryerson University Makes an Impact with its Tri-Council Research Funding: 2013 NSERC Funding Announcements to Date

The following is a list of the Natural Sciences and Engineering Research Council (NSERC) 2013 grant recipients that have been made public up to October 1, 2013.

If there are any omissions or errors please contact [Research Communications](#).

Principal Investigator	Program	Project Title
Ling Guan (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Collaborative Research and Development Grant	An Intelligent Rendering Framework for Adaptive Mixed Reality Applications on Canada's Historic Heritage Sites
Xavier Fernando (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Collaborative Research and Development Grant	Wireless Performance Monitoring of Plug-in Electric Vehicles
Xavier Fernando (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Collaborative Research and Development Grant	Green, Hybrid Communication Network for Localization in Underground Mines
Vojislav Mistic (Computer Science, Faculty of Science)	NSERC Collaborative Research and Development Grant	Machine-to-machine communications in 4G networks
Shudong Yu (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Collaborative Research and Development Grant	Modelling vibration of 37-element CANDU fuel string in an aged pressure tube
Dimitrios Androustos (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Discovery Grant	Improved relative depth-map generation methods for 2D to 3D image and video conversion
Catherine Beauchemin (Physics, Faculty of Science)	NSERC Discovery Grant	Mathematical and computer models to capture viral infection dynamics
Sanjiwan Bhole (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Discovery Grant	Characterization and modeling in light alloys and nano-bainitic steels

Andrea Burgess (Mathematics, Faculty of Science)	NSERC Discovery Grant	Structural Properties and Generalizations of Combinatorial Designs
Ying Jun (Joseph) Chow (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Discovery Grant	Multimodal Systems Design with Network Interactions
Konstantinos Derpanis (Computer Science, Faculty of Science)	NSERC Discovery Grant	Spatiotemporal Models for Analyzing and Understanding Video
Ramdane Dhib (Chemical Engineering, Faculty of Engineering & Architectural Science)	NSERC Discovery Grant	Polymerization Kinetics Study, Modeling and Predictive Control of Chemical Reactors
Huu Doan (Chemical Engineering, Faculty of Engineering & Architectural Science)	NSERC Discovery Grant	Membrane fouling in ultrafiltration of latex paint
Kimberley Gilbride (Chemistry and Biology, Faculty of Science)	NSERC Discovery Grant	Effect of selected antibiotics and NSAIDs on nitrogen cycling in wastewater environments
Aziz Guergachi (Information Technology Management, Ted Rogers School of Management)	NSERC Discovery Grant	Machine learning, agent-based modelling and other new paradigms for the analysis of sustainability and sustainable investing
Martina Hausner (Chemistry and Biology, Faculty of Science)	NSERC Discovery Grant	The interdependence of plasmids and biofilms: from fundamental to applied research
Muhammad Jaseemuddin (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Discovery Grant	Connectivity, Resource Management and Application-enabling Infrastructure for Networking of Smart Mobile Devices
Kunquan Lan (Mathematics, Faculty of Science)	NSERC Discovery Grant	Elliptic partial differential equations with applications to population models with harvesting rates
Hesham Marzouk (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Discovery Grant	Utilization of Ultra High Performance Concrete for Structural Applications
Ali Miri (Computer Science, Faculty of Science)	NSERC Discovery Grant	Security and Privacy in the Cloud

<p>Mohamed Ismail and Mohamed Wahab (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Investigating operational and financial risk hedging strategies in supply chains under gasoline price, carbon price, and demand uncertainties
<p>David Naylor (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Fundamental Heat Transfer Research with Building Energy Applications
<p>Derick Rousseau (Chemistry and Biology, Faculty of Science)</p>	NSERC Discovery Grant	Multi-scale structuring of the oil-water interface in fat crystal-stabilized emulsions
<p>Khaled Sennah (Civil Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Structural Design Issues of Accelerated Bridge Construction in Skew and Right Alignments
<p>Medhat Shehata (Civil Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Another Look at Test Methods for Alkali-Aggregate Reaction and their Capacity to Evaluate Preventive Measures
<p>Julia Spaniol (Psychology, Faculty of Arts)</p>	NSERC Discovery Grant	Experience-based decision making in younger and older adults: Behavioural and neuroimaging studies
<p>Sharareh Taghipour (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Optimization models for evidence-based reliability and maintenance decisions
<p>Scott Tsai (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Particle Coating In Two-Phase Microfluidic Co-Flows
<p>Balasubramanian Venkatesh (Electrical Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Optimizing Power Systems with Energy Storage
<p>Fengfeng (Jeff) Xi (Aerospace Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Discovery Grant	Modular Reconfigurable Systems: Theory and Application
<p>Dimitrios Androutsos (Electrical Engineering, Faculty of Engineering & Architectural Science)</p>	NSERC Engage Grant	Research and Development of an Image Processing Extension for Whole Slide Digital Pathology

Alagan Anpalagan (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Design and Development of Smart Mobile Phone Probing System
Alagan Anpalagan (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Wireless Sensor based Real-time Data Acquisition and State Analysis in a Machining System
Ebrahim Bagheri (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Aggregating and Semanticizing Unstructured Online Event Information
Sanjiwan Bhole (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Characterization and optimization of ceramic coatings for industrial furnace environments
Joon Chung (Aerospace Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Development of Integrated Flight Data Generation System for Flightscape InsightTM
Seth Dworkin (Mechanical and Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	A Smart Manifold Design for Ground Source Heat Pump Applications
Seth Dworkin (Mechanical and Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	A Soot Particle Concentration Calculator for Industrial Combustion Applications
Zouheir Fawaz (Aerospace Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Experimental assessment of the low cycle fatigue of landing gear components using a strain based analysis approach
Daniel Foucher (Chemistry and Biology, Faculty of Science)	NSERC Engage Grant	New Thermally Stable Antimicrobials for Plastics
Khandaker (Anwar) Hossain (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Performance Evaluation of Engineered Newark Concrete Forming Tubes for Construction Applications
Raffi Karshafian (Phsyics, Faculty of Science)	NSERC Engage Grant	Ultrasound mediated sterilization using ozonated water

Mohammed Kianoush (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Response of liquid storage steel tanks under wind load
Michael Kolios (Physics, Faculty of Science)	NSERC Engage Grant	Non-Contact methodology to detect surface displacements for photoacoustic imaging reconstruction
Sridhar Krishnan (Electrical Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Computer detection algorithms for neuropathology image analysis
Wey Leong (Mechanical Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Performance Evaluation and Comparison Between Conventional U-Tube and New Kelix Tube-in-Tube Ground Heat Exchangers and Between Regular Grout and Supergrout
Jinyuan Liu (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Development of a Web-based geotechnical monitoring system
Jinyuan Liu (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Experimental investigation of soil-nail interaction
Jinyuan Liu (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Long-term deformation performance of earth dams on marine clays
Hua Lu (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Reliability study for fiber optic sensor element and packaging
John Marshall (Chemistry and Biology, Faculty of Science)	NSERC Engage Grant	Visualization of E. coli on food packaging
Hesham Marzouk (Civil Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Piezo-Ceramic Sensors for Structural Health Monitoring
Ali Miri (Computer Science, Faculty of Science)	NSERC Engage Grant	Cycle Optimization Tools for Injection Molding Machines
Ali Miri	NSERC Engage Grant	Developing Project Management Tools for PCI-Compliance

(Computer Science, Faculty of Science)		
Ali Miri (Computer Science, Faculty of Science)	NSERC Engage Grant	Mobile platform security
Pawel Pralat (Mathematics, Faculty of Science)	NSERC Engage Grant	Personalized Mobile Recommender System
Russell Richman (Architectural Science, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Durability, Cost and Structural Analysis of a Novel Re-Roofing System
Russell Richman (Architectural Science, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Validation of an Enhanced Heat Pump Variable Refrigerant Flow (VRF) Numerical Model in a Cold Climate Using Measured Field Data and Simulation
Derick Rousseau (Chemistry and Biology, Faculty of Science)	NSERC Engage Grant	A novel method for the characterization of food ingredient composition.
Cory Searcy (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	A feasibility study on the application of lithium battery storage systems for renewable energy in the mining sector
Abhay Sharma (Graphic Communications Management, Faculty of Communication & Design)	NSERC Engage Grant	Method for Quantification of Ink Consumption in Large Format Inkjet Printing
Mark Towler (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	A glass-based carrier for bone morphogenetic proteins
Scott Tsai (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Engage Grant	Magnetic pre-concentration of arsenic nanoparticles in water for detection with portable spectroscopy
Joon Chung (Aerospace Engineering, Faculty of Engineering & Architectural Science)	NSERC Interaction Grant	Introduction of MDO of aerospace systems and RyeFSD facility at Ryerson University for NSERC ENGAGE proposals
Ali Miri	NSERC Interaction Grant	Challenges in securing Onboard Car Systems

(Computer Science, Faculty of Science)		
Robert Botelho (Chemistry and Biology, Faculty of Science)	NSERC Research Tools and Instruments Grant	A Facility for the Analysis of Radio-labelled Molecules
Daolun Chen (Mechanical and Industrial Engineering, Faculty of Engineering & Architectural Science)	NSERC Research Tools and Instruments Grant	Electron backscatter diffraction: a powerful technique for materials characterization
Farhad Ein-Mozaffari (Chemical Engineering, Faculty of Engineering & Architectural Science)	NSERC Research Tools and Instruments Grant	Upgrade of the Existing Tomography Instrument
Warren Wakarchuk (Chemistry and Biology, Faculty of Science)	NSERC Research Tools and Instruments Grant	Application of HPLC to Glycosyltransferase Research