



Heart & Stroke

2023/2024 Grant-In-Aid Grantees

Heart & Stroke is pleased to announce the 2023/24 Grant-in-Aid (GIA) recipients!

For the 2023/24 (Fall 2022) competition:

- Heart & Stroke received **175 GIA applications**.
- Following Heart & Stroke's rigorous peer and budget review processes, **66 highly rated applications** have been funded. This represents a success rate of 38%, and a total investment of \$17,218,975.
- Each funded GIA has an average duration of 2.91 years, and received an average amount of \$260,893.56.
- For the 2023/24 peer review season, over 130 members of the research community donated their time and expertise to the peer review process.

Ahmed, Sofia (University of Calgary)

Exogenous estrogen and cardiovascular risk in transgender women

Al Batran, Rami (Université de Montréal)

Investigating the Short- and Long-term Effects of Ketogenic Diet on Atherosclerosis

Archer, Stephen (Queen's University)

The role of Dynamin 2 as a novel regulator of mitochondrial fission in human and experimental pulmonary arterial hypertension: Epigenetic regulation and therapeutic implications.

Bartoszko, Justyna (University Health Network) Co-PI: Karkouti, Keyvan

Post-operative intravenous iron to treat iron-deficiency anemia in patients undergoing cardiac surgery: A pilot, multi-centre, placebo-controlled randomized trial

Beaulieu, Christian (University of Alberta)

Advanced Diffusion MRI of Brain Injury After Stroke

Bendeck, Michelle (University of Toronto) Co-PI: Santerre, Paul

Peptide Coated Nanoparticles to Inhibit Vascular Stenosis

Bertagnolli, Mariane (McGill University)

Postpartum Cardio-obstetric Rehabilitation After Hypertensive Pregnancy

Boulos, Mark (Sunnybrook Health Sciences Centre)
Effect of Genotype-Guided Oral P2Y12 Inhibitor Selection vs Conventional Clopidogrel Therapy in Symptomatic Intracranial Atherosclerotic Disease (NUANCE-ICAD)

Caniggia, Isabella (Samuel Lunenfeld Research Institute of Mount Sinai Hospital)
Compromised maternal cardiovascular system in preeclampsia is due to sphingolipid-induced alteration in mitochondrial dynamics

Cepinskas, Gediminas (Lawson Health Research Institute)
Co-PI: Fraser, Douglas
Human COVID-19 Endotheliopathy: Identification of Immuno-Thrombotic Mechanisms

Chauhan, Vijay (University Health Network)
Structural and functional determinants of novel ECG risk markers in patients with cardiomyopathy

Chen, Joyce (University of Toronto)
Discovering the potential for motor recovery in people living with stroke

Chew, Derek (University of Calgary)
Identifying Opportunities to Improve Quality Care Delivery Among Individuals with Atrial Fibrillation

Choy, Jonathan (Simon Fraser University)
The gut microbiota in transplant vascular injury: Immune mechanisms and therapeutic modifications

Dakshinamurti, Shyamala (University of Manitoba)
Rapid Receptor - G Protein Switching: a toxic effect of oxygen therapy in pulmonary hypertension

Dixon, Ian (University of Manitoba)
Tailoring pro-regenerative fibroblasts for integration to ECM scaffolds to make living valves

Dlamini, Nomazulu (Hospital for Sick Children) Co-PI: Seed, Michael
The Vascular Endothelial Dysfunction and Cognition in Early Life Study (VESCELS)

Dyck, Jason (University of Alberta)
Mitochondrial Spare Respiratory Capacity and Heart Failure

EIAli, Ayman (Université Laval)
Elucidate the role of KLF4 in regulating mural cell contribution to tissue repair after stroke

Gallagher, Anne (Université de Montréal) Co-PI: Simard, Marie-Noelle
A parent-child Yoga intervention for reducing attention deficits in children with CHD : a feasibility study prior to a randomized controlled trial

Giacca, Adria (University of Toronto)
Insulin-mediated actions of GLP-1 receptor agonists on restenosis and atherosclerosis

Gioia, Laura (Centre hospitalier de l'université de Montréal) Co-PI: Stapf, Christian
Biomarkers Analysis Study in Ischemic Stroke due to a Large-Vessel Occlusion (BASIS-LVO)

Gordon, Joseph (University of Manitoba)
Molecular regulation of cardiac remodeling by Nix during obesity- and diabetes-related heart disease.

Gramolini, Anthony (University of Toronto)
Genetic mutations in phospholamban highlight protein degradation defects in cardiomyopathies

Griesdale, Donald (University of British Columbia) Co-PI: Thiara, Shananjit
Characterization of cerebral blood flow and neurological injury in severe acute respiratory distress syndrome and the implications of veno-venous extracorporeal membrane oxygenation

Kriz, Jasna (Université Laval)
Therapeutic reprogramming of microglia after stroke: identifying sex- and age-dependent immune targets

Lagace, Thomas (University of Ottawa Heart Institute)
Role of PCSK9 proteolytic processing in inflammation

Luong, Christina (University of British Columbia)
Machine Learning Empowered Cardiac Ultrasound for the Management of Acute Coronary Syndrome

MacVicar, Brian (University of British Columbia)
Investigating the role of P2Y14 receptor-mediated vessel constriction in stroke

Mann, Koren (Lady Davis Institute for Medical Research) Co-PI: Ding, Jun
Identification of modulators of atherosclerotic plaque progression in the context of arsenic

Marcotte, Karine (Université de Montréal)
Expressive discourse in French-speaking people with aphasia: A reliability and longitudinal study

Martel, Catherine (Université de Montréal)
Platelet extracellular vesicles as a therapeutic option in atherosclerosis-related lymphatic dysfunction

Martino, Tami (University of Guelph)
Targeting Circadian Nuclear Receptors - A Novel Treatment for Heart Disease

Mavrakanas, Thomas (McGill University Health Center Research Institute)
Co-PI: Sharma, Abhinav
Efficacy and safety of canagliflozin in advanced renal disease

McIntyre, William (McMaster University)

Polygenic Risk Scores for Predicting the Incidence and Recurrence of New-Onset Post-operative Atrial Fibrillation In Cardiac Surgery Patients

Mehta, Swati (Lawson Health Research Institute) Co-PI: Teasell, Robert

Internet-delivered cognitive behaviour therapy for persons with stroke: Randomized controlled trial

Miao, Qun (Grace) (Children's Hospital of Eastern Ontario)

Racial variations and socioeconomic inequities in healthcare utilization and mortality among infants with congenital heart disease: a mixed methods study

Millar, Philip (University of Guelph) Co-PI: Burr, Jamie

Understanding neural control of blood pressure following acute cannabis use

Nattel, Stanley (Montreal Heart Institute)

The role of cellular senescence in age-dependent cardiac remodeling and atrial fibrillation

Nazy, Ishac (McMaster University)

Characterizing the biochemical and temporal aspects of COVID-19 vaccine-induced immune thrombocytopenia antibodies

Ni, Heyu (St. Michael's Hospital)

The PSI domain of $\beta 3$ integrin: A novel mechanism and target for anti-thrombotic therapy

Noiseux, Nicolas (Centre hospitalier de l'université de Montréal)

Co-PI: Noly, Pierre Emmanuel

Creating new opportunities for the transplantation of hearts donated after declaration of circulatory death by combining normothermic regional perfusion and novel pharmacological treatments

Pare, Guillaume (McMaster University)

Genetic and epigenetic determinants of very early, fatal coronary artery disease

Parent, Lucie (Université de Montréal)

REGULATION OF SK CHANNELS IN THE DISEASED HEART

Ravandi, Amir (St. Boniface General Hospital Research Centre)

Identification of a novel drug platform to treat myocardial reperfusion injury

Rivard, Léna (Montreal Heart Institute) Co-PI: Tadros, Rafik

Prevalence and clinical implications of pathogenic variants in isolated early-onset atrial fibrillation: A genetics substudy of the BRAIN-AF clinical trial

Rotstein, Benjamin (University of Ottawa Heart Institute)

Imaging Cardiac Autonomic Function in Heart Failure

Ruben, Peter (Simon Fraser University)

Voltage-gated sodium channels are a potential therapeutic target against inflammation-induced cardiac arrhythmias

Samuel, Michelle (Institut de Cardiologie de Montréal) Co-PI: Sapp, John
Prospective cohort for the sEcoNDary prevention of Ventricular Tachycardia in patients with cardiomyopathies (END-VT) study

Sekhon, Mypinder (University of British Columbia)
The role of interleukin-1 beta and the NLRP3 inflammasome in secondary cerebral injury in humans with hypoxic ischemic brain injury after cardiac arrest

Shaw, Gary (University of Western Ontario)
Calcium Sensor Proteins in Cardiac Muscle Repair

Shoichet, Molly (University of Toronto) Co-PI: Morshead, Cindi
Modulation of the Brain Microenvironment for Stroke Recovery

Spence, Jessica (McMaster University) Co-PI: Lee, Shun Fu
Benzodiazepine-free cardiac anesthesia for reduction of postoperative delirium in the intensive care unit (B-Free): A multicentre, randomized, cluster crossover trial

Stewart, Alexandre (University of Ottawa Heart Institute)
Macrophage-derived growth factor that protects against endotoxin-induced QT prolongation

Sun, Hong-Shuo (University of Toronto)
Synergistic Effects of Neuroprotection by TRPM7 Inhibition and Hypothermia for Hypoxic-Ischemic Brain Injury

Thébaud, Bernard (Ottawa Hospital Research Institute)
neoPerPHuse: Neonatal Pulmonary Exosome Rescue for Pulmonary Hypertension Using Superior Endothelial progenitor cells

Trigatti, Bernardo (McMaster University)
HDL signaling in cardiomyocytes and role in protection against doxorubicin induced cardiotoxicity

Ussher, John (University of Alberta)
Optimizing Cardiac Energetics in Barth Syndrome

Verma, Subodh (St. Michael's Hospital) Co-PI: Hess, David
Regenerative Cell Exhaustion and Cardiovascular Risk in South Asians: An Integrated Approach

Vine, Donna (University of Alberta) Co-PI: Becher, Harald
Prevention of Early Cardiovascular Disease in High-Risk Women with a Common Reproductive-Hormone Disorder

West, Lori (University of Alberta)
Tolerating a new heart: towards a clinically relevant transplant protocol for children through optimizing immune tolerance in neonatal mice

Whitehead, Shawn (University of Western Ontario) Co-PI: Edwards, Jodi
Measuring circulating activated microglia derived extracellular vesicles post-stroke

Wilk, Piotr (University of Western Ontario)

Exploring the relationship between high temperatures and cardiovascular disease-related morbidity and mortality: Differences across vulnerable groups and geographic areas in Canada

Wilton, Stephen (University of Calgary) Co-PI: Rose, Robert

RASTA-X: The role of extended phenotyping in predicting response to risk factor modification and atrial fibrillation outcomes following ablation

Woo, Minna (University Health Network)

Investigating the Essential Role of Platelet Jak2-Mediated Inflammatory Response in Atherosclerosis

Young, Howard (University of Alberta)

The Dual Roles of SERCA Inhibition and Activation in Dilated Cardiomyopathy