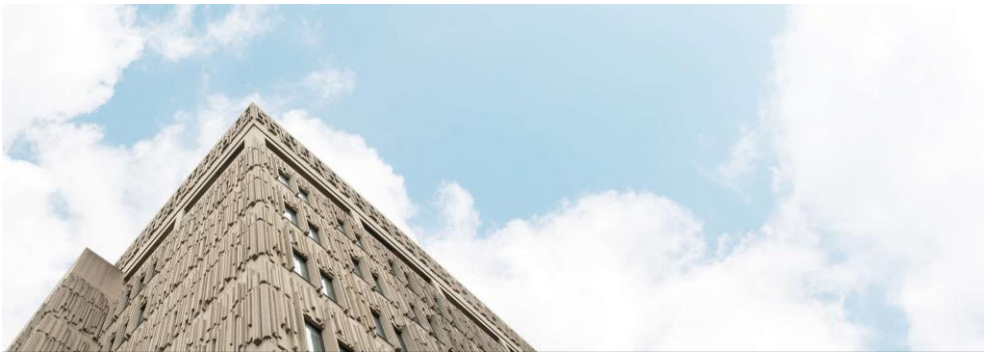
Institute of Medical Science
UNIVERSITY OF TORONTO



IMS Graduate Student Recruitment: January 2022

The Institute of Medical Science (IMS) is one of the largest graduate units at the University of Toronto. With over 600 active graduate faculty members, the IMS takes a leading role in translational research training that links fundamental discovery with patient-based research and clinical applications in health promotion and disease prevention with the intention of improving health outcomes for individuals and populations.

We are dedicated to training medical researchers and dissemination of new knowledge relevant to human biology and pathobiology within our Doctoral Stream Programs. The program includes both a Master of Science (MSc) and a Doctor of Philosophy (PhD) degree.

All applicants must identify an appropriate IMS faculty member as their research supervisor before initial registration in the IMS graduate program.

Within this document, you will find:

- available MSc and PhD positions (listed in order of: MSc only, MSc & PhD, PhD only)
- research summaries, keywords
- supervisor's funding information, and
- contact information

Interested students may contact the principal investigator or administrative assistants as listed.

To learn more, see Prospective Students, browse our full faculty list on our Faculty Directory.

Document updated December 20, 2021.

Principle Investigator:	*Dr. Satya Dash*
Currently Accepting	**MSc**
Ideal Candidate	N/A
Research Summary	We are interested in the etiology of obesity and associated diseases and how they impact response to treatments such as bariatric surgery. We use genetic and in vivo physiologic approaches to these research areas.
Keywords	Obesity, bariatric surgery, genetics
Available Funding	Yes
Relevant Links	https://pubmed.ncbi.nlm.nih.gov/?term=satya+dash
Contact Information	Dr. Satya Dash satya.dash@uhn.ca 416-340-4800 x8161 10-PMCRT, UHN

Principle Investigator:	*Daniel Felsky*
Currently Accepting	**MSc**
Ideal Candidate	Some background in statistics and/or statistical computing is required (e.g. R, python). Experience with analyses of high-dimensional data, such as human genetics, or machine learning is a strong asset.
Research Summary	The Whole Person Modelling group is an interdisciplinary computational (dry) lab, where we model mental illness as the product of biological, psychosocial, and demographic data types in large human cohorts.
Keywords	bioinformatics, statistics, genomics, psychiatry, neurology, imaging
Available Funding	Yes
Relevant Links	www.felskylab.com https://scholar.google.ca/citations?user=L75YFRkAAAAJ&hl=en
Contact Information	Daniel Felsky daniel.felsky@camh.ca 416-535-8501 ext33587 The Krembil Centre for Neuroinformatics, Centre for Addiction and Mental Health (CAMH). 12th floor, 250 College Street, Toronto, ON

Principle Investigator:	*Stefan Kloiber*
Currently Accepting	**MSc**
Ideal Candidate	- Interested in Clinical Mental Health Research - Experience in the areas of Clinical Research, Mental Health, Neuroimaging (PET, MRI), Genomics, Biomarker Research, Clinical studies and/or Clinical trials
Research Summary	Clinical research in Mood and Anxiety Disorders - Biological, Clinical and Behavioural Markers of Mood and Anxiety Disorders and Treatment Outcomes - Endocannabinoid System and Cannabinoids in Mood and Anxiety Disorders - Methods: Clinical Assessments, Neurocognitive Tests, Genomics. Neuroimaging, Clinical Trials
Keywords	Depression, Bipolar, Anxiety, Neuroimaging, Endocannabinoid System, Cannabinoids
Available Funding	Yes
Relevant Links	https://www.camh.ca/en/science-and-research/science-and-research-staff-directory/stefankloiber
Contact Information	Stefan Kloiber stefan.kloiber@camh.ca 416-535-8501 Centre for Addiction and Mental Health

Principle Investigator:	*Julio Furlan*
Currently Accepting	**MSc**
Ideal Candidate	Students interested in clinical research in the field of spinal cord injury/disease.
Research Summary	Clinical studies in the field of spinal cord injury or disease.
Keywords	spinal cord injury; spinal cord disease; rehabilitation
Available Funding	No
Relevant Links	https://kite-uhn.com/scientist/julio-furlan
Contact Information	Ms. Gomathi (Komi) Rajaratnam Gomathi.Rajaratnam@uhn.ca 416-597-3422 (x6129) Lyndhurst Centre (clinical studies only)

Principle Investigator:	*Dr. Anne S. Bassett*
Currently Accepting	**MSc**
Ideal Candidate	N/A
Research Summary	There is a large genetic component to risk for common human diseases, including congenital heart disease and major psychiatric illnesses. We study risk and adult outcomes in these conditions, especially those with complex multi-system disease and pediatric developmental conditions. Our patient populations and extensive data offer the opportunity to discover new genetic causes and insights into the outcomes of patients with specific genetic variants and syndromes that represent important human models of common diseases. We work at the University Health Network and Centre for Addiction and Mental Health, and with renowned local and international collaborators, including geneticists, cardiologists, endocrinologists, and neurologists. Resources include DNA sequencing data, comprehensive and long-term outcome data, and clinical data across the lifespan for patient populations with tetralogy of Fallot and other congenital heart diseases, with treatable psychiatric illness including schizophrenia, and with multi-system genetic conditions. Our clinical and bioinformatics-based research results have demonstrated potential to be immediately translated into clinical practice, and to have public health implications.
Keywords	Clinical genetics; Developmental diseases of heart and brain; Multi-system disease
Available Funding	Yes
Relevant Links	www.22q.ca
Contact Information	anne.bassett@utoronto.ca 416-535-8501 x32734 Toronto General Hospital (TGH) Research Institution (TGHRI); Campbell Family Mental Health Research Institute, Centre for Addiction and Mental Health (CAMH)

Principle Investigator:	*Alexander Bilbily*
Currently Accepting	**MSc**
Ideal Candidate	We are looking for motivated and hard-working master's students with backgrounds in computer science and/or computer engineering with experience in developing machine learning systems. Experience in medical imaging and/or clinical risk prediction would be considered an asset.
Research Summary	The Augmented Precision Medicine (APM) lab is primarily focused on developing and validating machine learning systems in high-impact clinical risk prediction areas such as cardiac risk prediction from myocardial perfusion studies, osteoporosis screening, and cancer staging from PET imaging.
Keywords	Machine Learning, ML, AI, Clinical Risk Prediction, Precision Medicine
Available Funding	Yes
Relevant Links	Lab website in development.
Contact Information	Alexander Bilbily alexander.bilbily@sunnybrook.ca (416) 480-6100 Sunnybrook Hospital

Principle Investigator:	*Dr. Kazuhiro Yasufuku*
Currently Accepting	**MSc**
Ideal Candidate	N/A
Research Summary	Dr. Yasufuku is a Staff Thoracic Surgeon in the Division of Thoracic Surgery at Toronto General Hospital and Professor of Surgery at the University of Toronto. He is the director of the Interventional Thoracic Surgery Program at UHN, which includes the Interventional Thoracic Surgery Animal Operating Room capable of high-end endoscopic development and the state-of-the-art Interventional Thoracic Surgery Suite for clinical application of new developments. He has continued to improve the quality and capability of minimally invasive diagnostics and reduced the timeline of detection, diagnosis and treatment of lung cancer. Dr. Yasufuku is the clinical lead of thoracic surgery within the Guided Therapeutics (GTx) program as well as the Thoracic Robotic Surgery Program at UHN. He is internationally recognized as a leader in the field of minimally invasive diagnostics and therapeutics for thoracic malignancy. He is a Scientist in the Latner Thoracic Surgery Research Laboratory at UHN with special interest in nanotechnology-enabled image-guided intervention for lung cancer, molecular profiling of advanced-stage lung cancer by minimally invasive procedures and image-guided thoracic surgery.
Keywords	thoracic surgery, minimally invasive surgery, image-guided therapy, nanomedicine, lung cancer
Available Funding	Yes
Relevant Links	https://www.yasufukuresearch.com/
Contact Information	Judy McConnell judy.mcconnell@uhn.ca 416-581-7486 101 College St., Princess Margaret Cancer Research Tower 2-401 Toronto, Ontario M5G 1L7

Principle Investigator:	*Andrea Furlan*
Currently Accepting	**MSc**
Ideal Candidate	Students with background in Medicine, Pharmacy, Nursing, Physiotherapy or Occupational Therapy.
Research Summary	Dr. Furlan is a physician-scientist in the Department of Medicine, Division of Physical Medicine & Rehabilitation. She is a pain specialist and conducts research in the field of chronic pain. She is chair of ECHO Ontario Chronic pain and Opioid Stewardship and Co-chair of ECHO Ontario Occupational and Environmental Medicine.
Keywords	Chronic Pain, Fibromyalgia, Opioids, Systematic Reviews, Project ECHO
Available Funding	Awaiting results
Relevant Links	https://www.youtube.com/c/DrAndreaFurlan https://kite-uhn.com/scientist/andrea-furlan https://www.iwh.on.ca/people/andrea-furlan
Contact Information	Corine Whittle Corine.Whittle@uhn.ca KITE Toronto Rehabilitation Institute and Institute for Work & Health

Principle Investigator:	*Venkat Bhat*
Currently Accepting	**MSc**
Ideal Candidate	Background/experience in the following is required -Neuroscience or a related discipline
Research Summary	The Interventional Psychiatry Program at St. Michael's Hospital, Unity Health Toronto is a clinical and academic program that aims to define best treatment and care for people with treatment-resistant mental health conditions through innovative research and knowledge translation. The program facilitates the efficiency and growth of new treatment options for treatment-resistant mental health conditions, with 3 Interventional pillars: 1. Pharmacology (e.g., IV ketamine/other anesthetic agents). 2. Neurostimulation (e.g., DBS, emerging neurostimulation modalities). 3. Digital therapeutics (e.g., mobile-based monitoring and interventions). Our interdisciplinary Program collaborates closely with engineering, anesthesia, imaging, informatics, neurology and neurosurgery. The Program aims to understand treatment response with these novel interventions with neuroimaging, innovative data science and cross-disciplinary methodologies.
Keywords	Interventional Psychiatry, ketamine, anesthetics, novel neurostimulation, digital therapeutics
Available Funding	Yes
Relevant Links	http://stmichaelshospitalresearch.ca/research-programs/interventional-psychiatry/
Contact Information	Jackie Jagoda jackie.jagoda@unityhealth.to 416-864-6060X76404 St. Michael's Hospital & University Health Network

Principle Investigator:	*Arun Ravindran*
Currently Accepting	**MSc**
Ideal Candidate	N/A
Research Summary	Dr. Ravindran and his team are currently working with educators and youth in Central America and Asia to develop and implement training and educational material regarding mental health and addictions, as well as positive youth development. They have successfully scaled-up a mental health curriculum in high schools and universities in Guatemala, Honduras, and China. Another important focus for the team is conducting clinical studies to determine the efficacy of pharmaceutical and complementary treatment options for several mood and anxiety disorders. These include the use of ketamine for treatment resistant depression and the use of stimulants (methylphenidate hydrochloride) for treating comorbid ADHD. Currently we are evaluating a novel agent for the treatment of Obsessive-Compulsive Disorder.
Keywords	global mental health, depression, anxiety
Available Funding	Yes
Relevant Links	https://www.researchgate.net/profile/Arun-Ravindran-3
Contact Information	Angela Paric angela.paric@camh.ca 416-535-8501 x36408 100 Stokes Street, Bell Gateway Building

Principle Investigator:	*Andrea McCart*
Currently Accepting	**MSc**
Ideal Candidate	Looking for an MSC student to start January 2022. Previous immunology and molecular biology experience is a benefit but not required.
Research Summary	We investigate oncolytic viruses (viruses that specifically infect and kill cancer cells) for use in cancer therapy. We are currently looking at modulation of innate immunity on the efficacy of virus and other chemotherapeutics.
Keywords	cancer therapy, innate immunity, oncolytic virus.
Available Funding	Yes
Relevant Links	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8411212/pdf/main.pdf
Contact Information	Andrea McCart andrea.mccart@sinaihealth.ca 416-586-4552 Lunenfeld-Tanenbaum Research Institute at Sinai Health System

Principle Investigator:	*Rinat Nissim*
Currently Accepting	**MSc**
Ideal Candidate	We are seeking a student with experience in qualitative research (e.g., conducting interviews or focus groups).
Research Summary	We have a number of ongoing mixed-method studies exploring the psychosocial distress and unmet needs of family members of cancer patients. The PIs are cancer psychologists and psychiatrists within the Psychosocial Oncology research group in the Department of Supportive Care (DSC) at the Princess Margaret Cancer Centre. The student's project will involve caregiver recruitment, conducting qualitative interviews, data analysis and write up. All study components can be completed virtually.
Keywords	Psychosocial oncology, qualitative research, mixed-method research, palliative care, caregiving, bereavement
Available Funding	Yes
Relevant Links	https://www.uhn.ca/PrincessMargaret/Clinics/Caring_for_the_Caregiver#tab3
Contact Information	Rinat Nissim rinat.nissim@uhn.ca 416-340-4800 ext 3586 Princess Margaret Cancer Centre

Principle Investigator:	*Dr. Brian Ballios*
Currently Accepting	**MSc**
Ideal Candidate	The ideal candidate will have an interest in basic and translational research, and be a motivated and enthusiastic student willing to rapidly learn new techniques and skills with training. They should be able to communicate and interact with staff, students and colleagues in a clear and professional manner.
Research Summary	Our laboratory work is focused on: [1] Understanding the pathobiology of retinal disease, by establishing translational models of retinal degeneration; [2] Discovering new therapeutics to treat retinal disease, using retinal and stem cell biology; [3] Integrating new technologies, to enhance the performance of cell-based retinal therapies; and, [4] Developing preclinical technologies to translate to first-in-human clinical studies The overall goal of our work is to cure retinal blindness by discovering new therapies for inherited and acquired disease.
Keywords	stem cell biology; retinal regeneration; ocular genomics; regenerative medicine; cell and gene therapy; biomaterials
Available Funding	Yes
Relevant Links	https://www.uhnresearch.ca/researcher/brian-ballios
Contact Information	Dr. Brian Ballios brian.ballios@mail.utoronto.ca Ballios Laboratory Krembil Research Institute 60 Leonard Ave, 7th Floor Toronto, Ontario, Canada M5T 0S8

Principle Investigator:	*Ian Witterick*
Currently Accepting	**MSc**
Ideal Candidate	Masters level, interested in clinical, education and/or basic science research in head & neck disease
Research Summary	We conduct clinical research in the Nasal and Sinus Function Outcomes Lab (rhinomanometry, olfaction, QOL), education research/simulation in surgical skills and basic science research in oral and thyroid cancer molecular oncology.
Keywords	Nasal/sinus function, rhinology, education research, simulation, molecular oncology, thyroid cancer, oral cavity cancer
Available Funding	Yes
Relevant Links	https://www.otolaryngology.utoronto.ca/
Contact Information	Ian Witterick ian.witterick@sinaihealth.ca 416-586-4800x8313 Sinai Health

Principle Investigator:	*Dr. Abhishek Pratap*
Currently Accepting	**MSc**
Ideal Candidate	Experience writing scripts (R/Python and Unix/shell) and version control systems (such as Git, Github). Evidence of strong written and oral communication skills. Experience with bioinformatics techniques or neuroscience research.
Research Summary	At AID 4 Mental Health lab, we focus on understanding the individualized real-world experience of mental health by developing people-augmented digital health solutions and assess optimal ways in which technology can be deployed in the real world — that is what works for whom, when and for how long.
Keywords	digital biomarkers, personalized health trajectories, biases in digital mental health, clinical utility of AI and Health
Available Funding	Yes; Awaiting results
Relevant Links	https://aid4mental.health/
Contact Information	Sophie Lafaille, Research Manager. KCNI. sophie.lafaille@camh.ca KCNI, 250 College Street. Centre for Addiction and Mental Health

Principle Investigator:	*James Eubanks*
Currently Accepting	**MSc**
Ideal Candidate	N/A
Research Summary	Our work focuses on identifying pathogenic mechanisms for rare genetic neurodevelopmental conditions. Our work presently focuses on conditions such as Rett syndrome, CDKL5 Deficiency Disorder, and HNRNPH2 syndrome, which we model in mice by generating specific lines that express mutations seen in Toronto area patients. We use these models to identify how the specific mutations affect intrinsic cell signaling pathways, neural circuit activity, and the behavioural patterns of the mice. These investigations reveal potential pathogenic mechanisms, which can then be pre-clinically targeted with different strategies to test therapeutic potential. We employ genetic, biological, and pharmacological interventions in the pre-clinical studies. For targets that we identify for which selective drugs do not yet exist, we partner with drug development groups to generate compounds that engage the new target. Through these efforts, our goal is to develop new and effective treatments for these rare genetic neurodevelopmental conditions.
Keywords	Neurodevelopmental disorders, mouse models, behaviour, neurophysiology, pre-clinical modeling, pharmacology
Available Funding	No
Relevant Links	N/A
Contact Information	James Eubanks jeubanks@uhnres.utoronto.ca 416 603-5800 ext 2933 Krembil Discovery Tower Room 7-KD-412 60 Leonard Ave Toronto, ON M5T 0S6

Principle Investigator:	*Karen Gordon*
Currently Accepting	**MSc; PhD**
Ideal Candidate	N/A
Research Summary	Archie's Cochlear Implant Lab at The Hospital for Sick Children (SickKids) focuses on answering clinically relevant questions in children with hearing loss. Through several lines of research, our team seeks to determine the effects of auditory deprivation during early human development and the extent to which function in the auditory system can be established or restored through auditory prostheses including cochlear implants. We have been specifically interested in the relative effects of unilateral versus bilateral deprivation because children listen in ways and environments which are unique from adults. Taking a child-centred approach, our key discoveries have provided insight into sensitive periods in human auditory development, demonstrated the impacts of bilateral hearing on the vestibular system and balance, and guided new clinical practice.
Keywords	Child/developmental plasticity; hearing loss/deafness; auditory prostheses (e.g.cochlear implant); bilateral/binaural/spatial hearing; vestibular/balance function; electrophysiology/neuroimaging
Available Funding	Yes;
Relevant Links	https://lab.research.sickkids.ca/archies-cochlear-implant/
Contact Information	Karen Gordon karen.gordon@utoronto.ca 416-813-6683 Archie's Cochlear Implant Laboratory, The Hospital for Sick Children

Principle Investigator:	*Istvan Mucsi*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Experience with epidemiology, biostatistics, patient reported outcomes
Research Summary	We want to identify and prioritize patient-reported outcomes to be included in a patient-centered electronic assessment and response toolkit. This toolkit will help transplant recipients and clinical care teams identify relevant physical and psychological symptoms that require further assessment and potential intervention.
Keywords	patient reported outcomes; symptom management; halth related quality of life; kidney transplantation; solid organ transplant
Available Funding	Yes; Awaiting results
Relevant Links	https://nefros.net
Contact Information	Istvan Mucsi istvan.mucsi@utornto.ca 416-340-4084 Toronto General Hospital

Principle Investigator:	*Anne-Marie Guerguerian*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Background in neurosciences or engineering or psychology
Research Summary	The first area of research involves cerebral edema associated with traumatic brain injury and the second area of research focuses on cerebral ischemia and hemorrhage associated with cardiac arrest and post resuscitation syndrome. My lab focuses on developing methods to quantify brain injury in children during critical illness using imaging and neuromonitoring approaches.
Keywords	brain injury, traumatic brain injury, imaging, cerebral edema, intracranial hemorrhage, critical illness, cardiac arrest, resuscitation, trauma, ECMO (extracorporeal membrane oxygenation).
Available Funding	Yes
Relevant Links	Reach site https://reach.sickkids.ca/display/770924 Lab website https://lab.research.sickkids.ca/guerguerian/
Contact Information	Christine Juane christine.juane@sickkids.ca Peter Gilgan Center for Research and Learning (PGCRL), Research Institute, The Hospital for Sick Children

Principle Investigator:	*Jamie Feusner*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Essential: interest in clinical neuroscience, research career. Desired experience: 1) neuroimaging (PhD), or a strong commitment to learning; 2) computing languages such as unix, python, and/or matlab
Research Summary	We research perception and emotion across psychiatric conditions involving body image and obsessions/compulsions, and body processing in gender dysphoria, using neuroimaging and novel digital tools.
Keywords	Body dysmorphic disorder, anorexia nervosa, gender dysphoria, body processing, visual processing, MRI
Available Funding	Yes
Relevant Links	http://www.neuroscience.utoronto.ca/faculty/list/Jamie_Feusner_.htm https://www.ncbi.nlm.nih.gov/myncbi/jamie.feusner.1/bibliography/public/
Contact Information	Jamie Feusner jamie.feusner@utoronto.ca (416) 535-8501 x33436 250 College St. Toronto ON M6J 1H3

Principle Investigator:	*Atul Humar*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Looking for students with experience in virology and immunology preferably. Eager to learn and hardworking.
Research Summary	Viral infections post-organ transplant. Specifically CMV, other viruses (including COVID) host response, antivirals, pathogenesis
Keywords	Cytomegalovirus, Transplant, vaccines, viruses, immunocompromised
Available Funding	Yes;
Relevant Links	N/A
Contact Information	Charmaine Beal charmaine.beal@uhn.ca 4163404241 2nd floor MARS tower

Principle Investigator:	*Trung Le*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Prefer to have at least 12 months of bench-work hands-on experience outside of undergraduate lectures or courses. Must have comfortable and excellent handling skills for different animal models (mice, rats, guinea pigs). Prefer to have competitive GPA (>3.7) to apply for scholarship. Application should be sent with 3 reference letters.
Research Summary	Our lab focuses on therapeutic delivery to the inner ear to treat different types of hearing loss and vestibular disorders. We're interested in both local and systemic delivery that are safe and effective as the inner ear is a deep, fragile and complex structure to explore. Magnetic targeting and manipulation of Blood-labyrinth barrier are promising delivery techniques to be validated and can be potentially applied to clinical setting.
Keywords	hearing loss, gene therapy, drug delivery, blood labyrinth barrier, magnetic targeting, clinical trial
Available Funding	Awaiting results
Relevant Links	https://sunnybrook.ca/team/member.asp?t=14&page=2152&m=754 https://scholar.google.com/citations?user=g_00Zu0AAAAJ&hl=en
Contact Information	Trung Le trung.le@sunnybrook.ca 416-480-4141 Sunnybrook Research Institute, A and S wings

Principle Investigator:	*Kathryn Howe*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Ideally seeking a PhD student, who would be co-supervised by Dr. Jason Fish. Serious MSc candidates also welcome to apply. This can be discussed further during an informal meeting as required. Ideal if the student (MSc or PhD) has previous wet lab research in cell culture, molecular biology, and mouse models. These are not pre-requisites, but would be an advantage for understanding and driving the project. Person should be open-minded, inclusive, team-oriented, and self-motivated. Our lab is highly collaborative and works cohesively with many in the Cardiovascular group within TGHRI.
Research Summary	We are investigating the role of endothelial communication in atherosclerotic plaques. Specifically, our lab is looking at extracellular vesicle-derived microRNA and proteins that regulate the function of other cells (macrophages and vascular smooth muscle cells). We have translational work that is looking at human carotid plaques to better identify the vulnerable plaques so that we can reduce stroke risk. We have obtained exciting preliminary findings showing that EVs produced by cells lining blood vessels contain distinct markers that might distinguish patients at risk of stroke compared to those who remain well. These markers are microRNAs, which are fragments of genetic material that prevent the production of proteins, and thus are capable of modulating the function of cells. EVs are taken up by other cells and in this way, act as "communicators of disease" or "distress signals". Our laboratory uses cell culture models, animal models, and human tissue from carotid endarterectomies. The proposed project is to be part of exciting new research based upon a novel mouse model for tracking EVs in atherosclerotic plaques.
Keywords	endothelial cells, extracellular vesicles, atherosclerotic plaques, carotid artery disease, stroke, microRNA
Available Funding	Yes;
Relevant Links	https://surgery.utoronto.ca/faculty/kathryn-howe https://www.uhnresearch.ca/researcher/kathryn-l-howe

Contact Information	Kathryn Howe Kathryn.howe@uhn.ca PMCRT 3-801G

Principle Investigator:	*James L Kennedy MD FRCPC FRSC*
Currently Accepting	**MSc; PhD**
Ideal Candidate	background in combinations of biology, psychology, pharmacology, computer science
Research Summary	Genetics and pharmacogenetics of neuropsychiatric disorders. Methods are clinical assessment of patients, salivary DNA extraction then gene chip analysis, then computational assessment of genotype-to-phenotype, including machine learning.
Keywords	Genome-Wide Association Studies, Polygenic Risk Scores, schizophrenia, mood disorders, anxiety, child aggression, Alzheimers.
Available Funding	Yes;
Relevant Links	Search PubMed under 'Kennedy JL AND Toronto'
Contact Information	Ayeshah Mohiuddin Ayeshah.Mohiuddin@camh.ca 4169794987 CAMH at 250 College St (at Spadina)

Principle Investigator:	*Howard Leong-Poi*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Open to accepting any keen, bright applicants regardless of prior experience. Prior basic biomedical research is a plus, but not an absolute pre-requisite. Need to be hard working, open to learning and developing. Will promote a supportive environment.
Research Summary	Regenerative medicine approaches for cardiovascular diseases. Current research interests are ultrasound-targeted gene-based regenerative therapies (plasmids, miRNA, lnCRNA) in animal models of CV disease (acute myocardial infarction/ischemia-reperfusion injury, ischemic peripheral arterial disease), including mechanistic studies.
Keywords	gene therapy, ultrasound, regenerative medicine, ischemia-reperfusion injury, peripheral arterial disease, miRNA, non-coding RNA
Available Funding	Yes;
Relevant Links	https://pubmed.ncbi.nlm.nih.gov/?term=leong-poi+h&sort=pubdate&size=200
Contact Information	Cheryl Wattam cheryl.wattam@unityhealth.to 416-864-5642 (office) 5th Floor Keenan Research Centre, Li Ka Shing Knowledge Institute

Principle Investigator:	*Jordan Feld*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Looking for PhD student to take over a vaccine development project for HCV Looking for MSc/PhD student to work on innate immune activation and virology of HBV
Research Summary	Virology of hepatitis viruses (hepatitis C and B) as well as innate and adaptive immune responses to the viruses
Keywords	Hepatitis C virus Hepatitis B virus Early infection Interferon Antiviral innate immune response
Available Funding	Yes
Relevant Links	NA
Contact Information	Jordan Feld jordan.feld@Uhn.ca Admin Assistant - Eli Bicja 416 340 4584 TDMT 10-301

Principle Investigator:	*Siba Haykal*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Some background in cell culture and lab techniques
Research Summary	Our research focuses on finding novel techniques for vascularized composite allotransplantation of face and limbs. We focus on using regenerative medicine and tissue engineering techniques with a particular focus on revascularization.
Keywords	Vascularized Composite Allotransplantation; tracheal regeneration; airway; limb regneration; stem cells; bioreactors;
Available Funding	Yes;
Relevant Links	https://pubmed.ncbi.nlm.nih.gov/?term=haykal%2Csiba
Contact Information	Siba Haykal Siba.haykal@uhn.ca 416-340-4800 extension 4327 TGHRI/PMCRT (MaRS)

Principle Investigator:	*Michael Fehlings*
Currently Accepting	**MSc; PhD**
Ideal Candidate	The ideal candidate will have a keen interest in translational research and a desire to grow in this fast-paced environment.
Research Summary	I run a translationally oriented research program focused on discovering novel treatments to improve functional outcomes for both traumatic and non-traumatic forms of spinal cord injury (SCI). My basic science lab aims to discover the underlying pathobiology of SCI and develop clinically translational therapies including the use of neural stem cells and neuroprotective drugs. My clinical research program aims to better understand the natural history and prognosis of SCI. Additional work is underway examining advanced imaging, identifying prognostic biomarkers patient populations, as well as running clinical trials.
Keywords	Spinal Cord injury, Stems cells, Translational Research, Clinical trials
Available Funding	Yes
Relevant Links	www.drfehlings.ca
Contact Information	Address email to PI (michael.fehlings@uhn.ca) cc assistant Libertad Puy libertad.puy@uhnresearch.ca Preferable email Toronto Western Hospital, Krembil Tower, University Health Network

Principle Investigator:	*Dr. Corinne Fischer*
Currently Accepting	**MSc; PhD**
Ideal Candidate	I am looking to recruit enthusiastic students who are hard-working, highly-motivated, excellent team players with strong writing skills and experience in conducting data analyses.
Research Summary	The main focus of research at the lab is identifying the link between psychosis and neurodegeneration, utilizing existing data sets, genetics and imaging.
Keywords	Alzheimer's disease, psychosis, delusions, hallucinations, dementia.
Available Funding	Yes
Relevant Links	http://stmichaelshospitalresearch.ca/researchers/corinne-e-fischer/
Contact Information	Please contact me directly via e-mail. Dr. Corinne Fischer Corinne.Fischer@unityhealth.to 416-864-5320 17th floor, St. Michaels Hospital, 30 Bond St., Toronto, Ontario

Principle Investigator:	*Daphne Voineskos*
Currently Accepting	**MSc; PhD**
Ideal Candidate	We are looking for motivated, curious MSc students, and PhD students (to be co-supervised). Statistical and coding (python, matlab) are beneficial but not needed - you will learn it all when you work with us!
Research Summary	Dr. Voineskos leads research to identify biomarkers of treatment response to therapeutic brain stimulation. Her focus is on neurophysiological biomarkers, as well as novel treatment methods to optimize the delivery and personalize therapeutic brain stimulation.
Keywords	Biomarkers Brain Stimulation Neurophysiology Treatment Resistant Depression TMS-EEG E-field modeling
Available Funding	Yes
Relevant Links	https://www.psychiatry.utoronto.ca/faculty/daphne-voineskos
Contact Information	Daphne Voineskos daphne.voineskos@camh.ca 416-535-8501 x30176 Temerty Centre for Therapeutic Brain Intervention Centre for Addiction and Mental Health 1025 Queen Street West Toronto, ON M6J 1H1

Principle Investigator:	*Clifford Librach*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Previous experience in cell culture, molecular biology, histology and microscopy, and/or animal models of disease is preferred.
Research Summary	My research laboratory is located within the facilities of one of the largest fertility clinics in Canada, the CReATe Fertility Centre. A substantial part of my clinical and translational basic research programs focuses on addressing knowledge gaps in human reproduction biology and reproductive genetics, with the goal of improving diagnostic and therapeutic interventions related to assisted reproduction and pregnancy. This includes improving our understanding of male and female infertility to develop new tests and treatments, understanding how assisted reproductive technologies impact gamete quality and IVF outcomes, improving pre-implantation genetic testing, and identifying non-invasive biomarkers that could be used in the clinic to identify embryos with increased potential for a successful pregnancy. Another major focus in my research is the study of reproductive tissue stem cells. One aspect of this involves the pre-clinical investigation of human umbilical cord perivascular cells HUCPVCs), a rich source of mesenchymal stromal cells (MSC) for regenerative and immunomodulatory applications. We study the therapeutic efficacy and mechanisms of HUCPVC using in vitro and in vivo models of cardiovascular, pulmonary, neurovascular, musculoskeletal, and reproductive disease and/or injury.
Keywords	assisted reproduction, development, reproductive genetics, stem cell, cell therapy, regenerative medicine
Available Funding	Yes;
Relevant Links	www.createresearchprogram.com
Contact Information	Clifford Librach 790 Bay Street, Suite 420

Principle Investigator:	*Nicola L. Jones*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Background in basic research skills
Research Summary	Our translational research program focuses on understanding the mechanisms responsible for gastrointestinal inflammatory diseases including Helicobacter pylori and inflammatory bowel disease
Keywords	Helicobacter pylori, gastric cancer, inflammatory bowel disease, lysosomes, autophagy
Available Funding	Yes
Relevant Links	https://lab.research.sickkids.ca/jones/
Contact Information	Thusiga Inderanathan thusiga.inderanathan@sickkids.ca 416 813 7733 SickKids PGCRL

Principle Investigator:	*Moumita Barua*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Projects in human genetics and molecular genetics (mouse models) are available
Research Summary	Chronic kidney disease is a major global health problem, affecting >850 million individuals. The Barua lab identifies genetic causes using patient samples. The most common genetic causes are then prioritized for study in clinically relevant models (cells, mouse) to understand mechanism and identify drug targets. A range of methodologies are employed including next-generation technologies (next-generation sequencing, RNA-seq, scRNAseq) and conventional molecular genetics approaches. The lab has several funded projects including 2 by competitive CIHR project grant awards. Mentorship of trainees is a core focus for the PI.
Keywords	kidney disease, human genetics, molecular genetics, mouse models of kidney disease, molecular/drug targets
Available Funding	Yes
Relevant Links	Not applicable
Contact Information	Moumita Barua moumita.barua@uhn.ca 416-340-4800 ext 8007 Mars Discovery Tower

Principle Investigator:	*Cathy Barr*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Students with prior experience working in a lab
Research Summary	Mechanisms of disease risk for psychiatric disorders
Keywords	gene expression, gene splicing
Available Funding	Yes
Relevant Links	https://www.sickkids.ca/en/staff/b/cathy-barr/
Contact Information	Cathy Barr cathy.barr@uhn.ca Toronto Western Hospital

Principle Investigator:	*Ryan Brydges*
Currently Accepting	**MSc; PhD**
Ideal Candidate	N/A
Research Summary	Ryan's research program explores how health professionals engage in self-regulated learning, with a particular focus on the cognitive, behavioural, and social factors influencing their learning. He uses theories from educational psychology to understand how to conceptualize and measure how learners' goals, strategies, and beliefs influence their learning processes and outcomes. The ultimate goal of his research is to translate this understanding to design training environments that prepare clinicians to be effective in their future lifelong learning (especially using healthcare simulation and other technology-enabled education). His additional research interests include: skill retention and transfer, translational simulation, validation and assessment, quality improvement, data-driven health professions education, and experimental research designs.
Keywords	technology-enabled education, healthcare simulation, self-regulated learning, transfer, health professions education, assessment validation
Available Funding	Awaiting results; Yes
Relevant Links	http://thewilsoncentre.ca/dr-ryan-brydges; https://www.researchgate.net/profile/Ryan-Brydges
Contact Information	Myra Leyden myra.leyden@unityhealth.to St. Michael's Hospital, Li Ka Shing Knowledge Institute

Principle Investigator:	*Nicola Jones*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Enthusiastic, hard working, good team player with some previous lab experience and knowledge of cell biology, inflammation preferred.
Research Summary	Our gastrointestinal tract plays an important role both in maintaining health and wellbeing. However, changes within our gastrointestinal tract or the bacteria housed in our gut can trigger disease. The Jones lab team is interested in understanding the pathogenesis of chronic intestinal disorders with the hopes of improving health and treating or preventing disease. Our laboratory focuses on two main areas: 1. Identifying mechanisms by which chronic infection with Helicobacter pylori causes inflammation and gastric cancer. 2. Delineating the interplay between microbes, host genetics and the environment in inflammatory bowel disease. Our translational research program employs cell culture, organoids, animal models and patient samples to answer our research questions.
Keywords	H. pylori, gastrointestinal inflammation, cancer, autophagy
Available Funding	Yes;
Relevant Links	https://lab.research.sickkids.ca/jones/
Contact Information	Thusiga Inderanathan thusiga.inderanathan@sickkids.ca 416 813 7733 Hospital For Sick Children Peter Gilgan Centre for Research and Learning 686 Bay Street, 19th floor Toronto, ON M5G 0A4 CANADA

Principle Investigator:	*Meng-Chuan Lai*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Highly motivated student who enjoys inter-disciplinary work in large collaboration networks, who is keen on reflecting on and investigating topics related to sex, gender, neurodiversity, and nosological challenges in psychiatry. Previous clinical and/or research experiences working with autistic people (including recruiting research participants) is preferred.
Research Summary	Intersection of sex, gender, and neurodevelopmental conditions (especially autism). Intersection of neurodiversity and gender diversity. Mental health in autistic people. Gender development in autistic youth.
Keywords	autism, mental health, sex, gender, development, child and youth.
Available Funding	Yes
Relevant Links	https://www.psychiatry.utoronto.ca/faculty/meng-chuan-lai
Contact Information	Meng-Chuan Lai mengchuan.lai@utoronto.ca CAMH

Principle Investigator:	*Dr. Cynthia T. Luk*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Candidates should have a strong interest in basic science laboratory-based medical research related to diabetes, obesity, cardiovascular disease or related health problems. We value a strong sense of responsibility, initiative, teamwork and good communication skills.
Research Summary	Our work focuses on basic science research identifying novel links between obesity and diabetes, and determining the role of adipose tissue in metabolic syndrome. We study fundamental cell death or related signaling pathways to determine their role in obesity, diabetes, cardiovascular disease or related health problems, to help us better understand and address these conditions. Common techniques that we use include studying mouse models of diabetes, obesity and cardiovascular disease and generating conditional knockout animals. Our lab uses many basic molecular biology techniques such as Western blotting, PCR, qPCR, histology and cell culture. We are a small group and students are encouraged and expected to participate in lab meetings, talks, preparing manuscripts, award applications and general help in the lab.
Keywords	knockout mice, molecular biology, obesity, diabetes, cardiovascular disease, atherosclerosis
Available Funding	Yes
Relevant Links	http://stmichaelshospitalresearch.ca/researchers/cynthia-t-luk/
Contact Information	Rukhsana Aslam rukshana.aslam@unityhealth.to 416-360-4000 x76213 Li Ka Shing Knowledge Institute, St. Michael's Hospital

Principle Investigator:	*Roger S. McIntyre*
Currently Accepting	**MSc; PhD**
Ideal Candidate	No specific background or experience required for students to apply.
Research Summary	Dr. Roger McIntyre is accepting students for January 2022. His general research interests are to identify causes and cures of mood disorders, research which involves both mechanistic research and interventional research that aims to look at the role of obesity, diabetes, inflammation as well as social determinants on the risks of mental illness. Dr McIntyre's research is also looking at novel innovative interventions at the population health level involving technology and virtual platforms as well as looking at novel pharmacologic agents including anti-inflammatories, antidiabetics, ketamine and psychedelics. Students are welcome to join and discuss potential opportunities.
Keywords	depression, bipolar disorder, inflammation, cognition, psychopharmacology
Available Funding	Yes
Relevant Links	If students are interested in learning more about my research activity, they are encouraged to look through my publications which can be found here: https://pubmed.ncbi.nlm.nih.gov/?term=mcintyre+rs&sort=pubdate&size=50
Contact Information	Roger S. McIntyre roger.mcintyre@uhn.ca Mood Disorders Psychopharmacology Unit (MDPU) at Toronto Western Hospital, part of the University Health Network

Principle Investigator:	*Minna Woo*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Research experience and experience in mouse work would be helpful.
Research Summary	The major research focus in the Woo laboratory is to elucidate molecular mechanisms that determine pathogenesis of insulin resistance, type 2 diabetes and related diseases including atherosclerosis and NAFLD. We are interested in many of the fundamental genes involved in cell survival and differentiation such as caspases, tumour suppressors and oncogenes. Many of these fundamental genes have unique physiological roles in metabolic tissues such as liver, muscle, adipose tissue, and the pancreatic islets. Using genetic or pharmacologic approaches, we examine the whole body physiology as well as take biological, biochemical and molecular approaches to define molecular physiological roles in specific tissues, in addition to defining its potential pathogenic roles in diabetes and related diseases.
Keywords	Diabetes pathogenesis, signal transduction, atherosclerosis, inflammation, NAFLD, mouse models, cre-loxP
Available Funding	Yes
Relevant Links	https://bbdc.org/members-research/woo-minna/ https://www.chairs-chaires.gc.ca/chairholders-titulaires/profile-eng.aspx?profileId=2999
Contact Information	Minna Woo mwoo@uhnresearch.ca 416 581 7531 MaRS Centre East Tower

Principle Investigator:	*York Pei*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Students with prior experience in genetic/genomic or rodent genetic research.
Research Summary	My main research efforts have centered in autosomal dominant polycystic kidney disease (ADPKD) and include: (i) genetic and genomic studies to improve our understanding of genotype-phenotype correlations; (ii) clinical studies to improve diagnosis and prognostication; (iii) large scale genetic epidemiologic and health economic studies; (iv) systems biology approach to identify novel molecular targets for mechanism-based therapeutics, and (v) translational research on novel drug treatment.
Keywords	Polycystic kidney disease; genetics; genomics; translational research
Available Funding	Yes;
Relevant Links	https://www.cimpkd.ca/research.html
Contact Information	York Pei york.pei@uhn.ca 416-340-4257 MSB Room 4366

Principle Investigator:	*Robert M Hamilton*
Currently Accepting	**MSc; PhD**
Ideal Candidate	We are particularly looking for a student for a project assessing peripheral blood mononuclear cells including flow cytometry to develop a functional assay of a specific cardiovascular disorder. Flow experience and interest in CV disease would be an asset.
Research Summary	Translational research identifying biomarkers and functional assays for cardiovascular disease. Gene discovery.
Keywords	electropheresis including 2D gels, iPSC-cardios, whole genome sequencing, animal modelling, high-throughput discovery
Available Funding	Awaiting results;
Relevant Links	N/A
Contact Information	Natasha Khan natasha.khan@sickkids.ca 4168136142 Peter Gilgan Centre for Research and Learning, 10th floor

Principle Investigator:	*Dr. Lihi Eder*
Currently Accepting	**MSc; PhD**
Ideal Candidate	Preference to students with background in clinical research.
Research Summary	Clinical and translational research in the area of psoriatic arthritis and psoriasis and cardiovascular diseases in rheumatic patients.
Keywords	Rheumatology, cardiovascular, epidemiology, psoriasis
Available Funding	Yes
Relevant Links	https://www.womensresearch.ca/scientists/core-faculty/Lihi-Eder
Contact Information	Dr Lihi Eder lihi.eder@wchospital.ca Women's College Hospital

Principle Investigator:	*Marc Jeschke*
Currently Accepting	**PhD; MSc**
Ideal Candidate	PhD student preferred. Background is genuine interest and motivation to help burn trauma patients.
Research Summary	We focus on two areas one is metabolic and inflammatory changes after burn trauma and especially in elderly patients who have a high morbidity and mortality. The other focus is regenerative medicine; we are trying to 3D print skin and use various sources of stem cells to create skin and/or organs.
Keywords	Metabolism, Inflammation, Adipose tissue, Mitochondria, Stem Cells, Skin, Scar, Regenerative Medicine
Available Funding	Yes
Relevant Links	https://sunnybrook.ca/research/team/member.asp?t=11&m=416&page=172
Contact Information	Susan Kurtz susan.kurtz@syunnybrook.ca 4164806703 Sunnybrook Research Institute

Principle Investigator:	*Dr. Beverley Orser*
Currently Accepting	**PhD; MSc**
Ideal Candidate	We strongly prefer students with some background in neuroscience. Candidate with excellent marks are preferred.
Research Summary	We seek to understand how general anesthetic drugs alter brain function and why some patient develop long-term cognitive deficits after anesthesia and surgery. We are developing strategies to preserve brain funciton for surgical patients. We use behavioral, biochemical and electrophysiological methods in mouse models. The lab is a member of the Perioperative Brain Health Centre (www.perioperativebrainhealth.com).
Keywords	Cognition, memory, inflammation, GABA-A receptors, anesthetic drugs.
Available Funding	Yes
Relevant Links	www.orserlab.com, www.perioperativebrainhealth.com www.anesthesia.utoronto.ca
Contact Information	Dr. Dianshi Wang, Senior Research Associate dianshi.wang@utoronto.ca 4169781518 Room 3318, Medical Sciences Building, 1 King's College Circle, University of Toronto Toronto, ON, M5S1A8 (St. George Campus)

Principle Investigator:	*Karen Davis*
Currently Accepting	**PhD; MSc**
Ideal Candidate	background in neuroscience/physiology and/or brain imaging an asset
Research Summary	The main focus of research in my lab is the central mechanisms underlying acute and chronic pain, the influence of attention and mechanisms of plasticity under normal conditions and in patients with neurologic disorders. A variety of experimental techniques are used including structural and functional brain imaging (MRI, MEG), psychophysical and cognitive assessment. The lab has been refining brain imaging and computational analysis approaches to allow for clinically relevant investigations of pain in normal and injured states. For instance, we are developing and applying tools (including machine learning and graph theory) to detect the individual differences in brain circuitry underlying pain and the different ways in which people cope with pain and balance cognitive demands with pain. A more recent focus is to use MEG to understand the temporal dynamics of nociceptive and anti-nociceptive activity and inter-regional coupling in the dynamic pain connectome. We are using these approaches to understand brain abnormalities in chronic pain, treatment responses, and to predict how patients with chronic pain will respond to specific treatments.
Keywords	pain, attention, MEG, fMRI, cortex, dynamics
Available Funding	Yes
Relevant Links	https://www.uhnresearch.ca/researcher/karen-d-davis
Contact Information	Karen Davis karen.davis@uhnresearch.ca Krembil Brain Institute, Toronto Western Hospital, 399 Bathurst Street office: MP12-306 lab: MP12-308

Principle Investigator:	*Don Redelmeier*
Currently Accepting	**PhD; MSc**
Ideal Candidate	N/A
Research Summary	Medical decision science
Keywords	pitfalls of reasoning; judgement under uncertainty; cognitive psychology; behavioral economics; traffic crashes; major trauma
Available Funding	Awaiting results;
Relevant Links	www.ices.on.ca
Contact Information	Don Redelmeier dar@ices.on.ca 416-480-6999 Sunnybrook Hospital

Principle Investigator:	*Don Redelmeier*
Currently Accepting	**PhD; MSc**
Ideal Candidate	N/A
Research Summary	Medical decision science
Keywords	pitfalls of reasoning; judgement under uncertainty; cognitive psychology; behavioral economics; traffic crashes; major trauma
Available Funding	Awaiting results;
Relevant Links	www.ices.on.ca
Contact Information	Don Redelmeier dar@ices.on.ca 416-480-6999 Sunnybrook Hospital

Principle Investigator:	*Philip Gerretsen*
Currently Accepting	**PhD; MSc**
Ideal Candidate	Ideally some experience in neuroimaging or neurophysiology
Research Summary	Neuroimaging and non-invasive brain stimulation with a focus on insight into illness in schizophrenia, addictions, dementia/neurocognitive disorders, and metabolic disorders, including obesity.
Keywords	Neuroimaging, brain stimulation, insight, illness awareness, schizophrenia, addictions, obesity
Available Funding	Yes
Relevant Links	www.vagusonline.com
Contact Information	philip.gerretsen@camh.ca 416-535-8501 x39426 CAMH

Principle Investigator:	*Mahavir Agarwal*
Currently Accepting	**PhD; MSc**
Ideal Candidate	Prior neuroscience experience would be beneficial.
Research Summary	Dr. Mahavir Agarwal's research interest lies in understanding the mechanisms underlying the interaction between schizophrenia pathophysiology, antipsychotics, cognition, and metabolic abnormalities with specific focus on the insulin signaling in the brain. His group runs clinical trials as well as neuroimaging and neurophysiological studies to investigate these questions.
Keywords	Mental illness, psychosis, cognition, neuroimaging, metabolic side effects, diabetes
Available Funding	Yes
Relevant Links	https://www.camh.ca/en/science-and-research/science-and-research-staff-directory/mahaviragarwal
Contact Information	CAMH, 1051 Queen St. West Mahavir.Agarwal@camh.ca

Principle Investigator:	*Nigil Haroon*
Currently Accepting	**PhD**
Ideal Candidate	Should have a good understanding of the basic principles of immunology. Having completed a master's degree is an advantage.
Research Summary	Study the pathogenesis of ankylosing spondylitis, discovering novel therapeutic targets and identifying unique signatures that can predict worse prognosis and good response to therapy.
Keywords	immunology, arthritis, molecular biology, precision medicine, animal models, translational research
Available Funding	Yes
Relevant Links	www.nigilharoon.com
Contact Information	Michael Kim Michael.Kim4@uhnresearch.ca 416-603-5634 Krembil Discovery Tower-5th floor Toronto Western Hospital

Principle Investigator:	*Rupert Kaul*
Currently Accepting	**PhD**
Ideal Candidate	Curiosity and enthusiasm are essential, the specific lab skills you can pick up!
Research Summary	Most projects focus on the mucosal immune determinants of HIV transmission in human cohorts, and the impact of the genital microbiome. We are also currently researching the immune determinants of SARS-CoV-2 infection and disease.
Keywords	HIV transmission, global health, genital immunology, microbiome, T cells
Available Funding	Yes
Relevant Links	N/A
Contact Information	Rupert Kaul rupert.kaul@utoronto.ca 416-946-7054 Medical Sciences Building, King's College Circle

Principle Investigator:	*Mario Masellis*
Currently Accepting	**PhD**
Ideal Candidate	Student with knowledge of statistics and programming
Research Summary	Multidisciplinary neuroscience research attempting to elucidate how genetic and epigenetic factors impact cognitive and neuroimaging phenotypes in neurodegenerative diseases
Keywords	Parkinson/Lewy body disease Alzheimer disease frontotemporal dementia Genome wide association study MRI perfusion imaging
Available Funding	Yes
Relevant Links	https://www.ncbi.nlm.nih.gov/myncbi/1T1IaezlvsuYpy/bibliography/public/
Contact Information	Flavia Saad flavia.saad@sri.utoronto.ca

Principle Investigator:	*Aaron Schimmer*
Currently Accepting	**PhD**
Ideal Candidate	Looking to recruit a motivated and responsible student with prior wet-lab research experience in cell and molecular biology who is interested in completed a PhD
Research Summary	My research lab is focused on developing new therapies for AML by targeting mitochondrial and metabolic pathways in AML cells and stem cells
Keywords	Mitochondria Metabolism Stem Cells Leukemia Drug discovery Translational Research
Available Funding	Yes
Relevant Links	https://www.linkedin.com/in/aaron-schimmer-md-phd-frcpc-29756020b/?originalSubdomain=ca
Contact Information	Aaron Schimmer aaron.schimmer@uhn.ca Princess Margaret Cancer Centre

Principle Investigator:	*Ana Konvalinka*
Currently Accepting	**PhD**
Ideal Candidate	I am looking for detail oriented, energetic, interested students with excellent communication skills and ability to work effectively in teams. Understanding of basic molecular methods, tissue culture or programming skills will be an asset.
Research Summary	As a clinician scientist and transplant nephrologist, I address clinically unmet needs through basic and translational research. Although my lab works on a broad range of projects, our key areas of interest are antibody-mediated rejection and fibrosis in the kidney. We utilize molecular high-throughput approaches on patient-derived tissue, cells or biological fluid (e.g. urine), to better understand mechanisms of disease, followed by focused hypothesis testing in cells, tissues and ex-vivo models. Techniques that we use include: proteomics, bulk transcriptomics, single cell RNA sequencing, and data mining. We collaborate broadly with other labs and teams.
Keywords	kidney transplant, antibody-mediated rejection, fibrosis, proteomics, systems biology, single cell RNA sequencing
Available Funding	Awaiting results
Relevant Links	https://www.uhnresearch.ca/researcher/ana-konvalinka https://pubmed.ncbi.nlm.nih.gov/?term=Konvalinka+Ana%5BAU%5D&sort=date
Contact Information	Dr. Ana Konvalinka Ana.Konvalinka@uhn.ca Princess Margaret Cancer Research Tower, Max Bell Research building

Principle Investigator:	*Madeline Li*
Currently Accepting	**PhD**
Ideal Candidate	N/A
Research Summary	Seeking a PhD student to participate in mixed methods study exploring the prevalence and predictors of medical assistance in dying (MAiD) in patients with advanced cancer. This CIHR funded 5 year study will follow a cohort of 600 patients and their primary caregivers from the time of identification of Stage III/IV cancer to the time of death. Participants will be assessed at baseline and every six months with validated questionnaires and qualitative interviews capturing their attitudes and desire for MAiD, psychological characteristics and cancer-related symptoms, communication with their healthcare providers, and psychosocial and palliative care interventions. The experience and predictors of emotional distress in caregivers will also be elucidated. The findings of this study will inform the training of healthcare providers regarding initial conversations about MAiD and support review of upcoming legislation to ensure appropriate access to MAiD. The study PIs are cancer psychiatrists within the Psychosocial Oncology research group in the Department of Supportive Care (DSC) at Princess Margaret. The student's thesis project will involve patient and caregiver recruitment, conducting qualitative interviews, thematic abstraction, data-analysis and write up. All study components can be completed virtually or in person with patients and caregivers.
Keywords	Medical assistance in dying, psychosocial oncology, qualitative research, mixed methods research, palliative care, advanced cancer
Available Funding	Yes;
Relevant Links	https://www.uhnresearch.ca/researcher/madeline-li https://www.psychiatry.utoronto.ca/faculty/madeline-li https://www.uhn.ca/healthcareprofessionals/MAID https://www.nejm.org/doi/full/10.1056/NEJMms1700606
Contact Information	Madeline Li madeline.li@uhn.ca 416-946-4501 ext 7505 Princess Margaret Cancer Centre 620 University Avenue Toronto, ON M5G 2C1

Principle Investigator:	*Dr. Rosanna Weksberg*
Currently Accepting	**PhD**
Ideal Candidate	We are looking for a PhD candidate with an interest in studying the epigenetic basis of neurodevelopmental disorders using induced pluripotent stem cells as a human model system. The PhD candidate will be trained to perform epigenetic and multi-omics analyses as well as cell and tissue culture. The study aims to unravel the impact of pathogenic variants in epigenetic regulator genes on transcription regulation in iPSC and neurons. Studies of neuronal function will also be undertaken. This work will deepen our understanding of the role of epigenetics for both disease pathogenesis and therapy. We will be using cutting-edge epigenomic and transcriptomic tools, combined with CRISPR technology for the study. PhD positions are available for wet lab studies (Molecular Biology). Candidates are expected to possess excellent interpersonal skills and the ability to interact effectively with multidisciplinary research teams. Bioinformatic experience in R is highly recommended but not required.
Research Summary	Dr. Weksberg's research is focused on elucidating the role of epigenetics in human disease. In particular the lab is interested in exploring the impact of genetic and environmental factors on epigenetic marks and their role in human growth and neurodevelopment. Recent work highlights the study of genome–wide epigenetic variation in different normal human tissues as well as in neurodevelopmental syndromes and growth disorders. Considerable effort has also, in recent years, been directed at defining the optimal experimental systems to use for the identification of epigenetic alterations associated with human disease. Specifically these have included evaluations of various cell types, genome-wide microarray platforms, validation techniques, and bioinformatics tools.
Keywords	DNA methylation, iPSC, Neurons, neurodevelopmental disorders
Available Funding	Yes;
Relevant Links	https://www.sickkids.ca/en/staff/w/rosanna-weksberg/

Contact Information	Denese Henry denese.henry@sickkids.ca Phone: 416.813.7654 x301480 Program in Genetics and Genomic Biology The Hospital for Sick Children PGCRL, Room 14-9710 686 Bay Street Toronto, Ontario M5G 0A4

Principle Investigator:	*Vijay Chauhan*
Currently Accepting	**PhD**
Ideal Candidate	Seeking PhD student for CIHR funded project to develop and evaluate noninvasive ECG metrics of abnormal electrical substrate and arrhythmia risk prediction. Student with background in biomedical signal processing and statistical modelling is preferred. Experience with patient recruitment and research ethics board applications is an asset.
Research Summary	My research program has two major research themes. The first is investigating mechanisms of ventricular arrhythmias in patients with heart disease. We are developing novel metrics to risk stratify these patients to guide therapy. The second theme is characterizing the abnormal electrical substrate in patients with atrial fibrillation to improve patient selection and outcomes for catheter ablation therapy. Our experimental techniques involve body surface ECG and intracardiac mapping, biomedical signal processing, and medical imaging. The knowledge gained from these studies will improve our understanding of common cardiac arrhythmias and improve treatment outcomes.
Keywords	arrhythmias, sudden death, heart disease, biomedical signal processing, body surface and intracardiac mapping, medical imaging
Available Funding	Yes
Relevant Links	See Pubmed
Contact Information	Vijay Chauhan vijay.chauhan@uhn.on.ca Toronto General Hospital