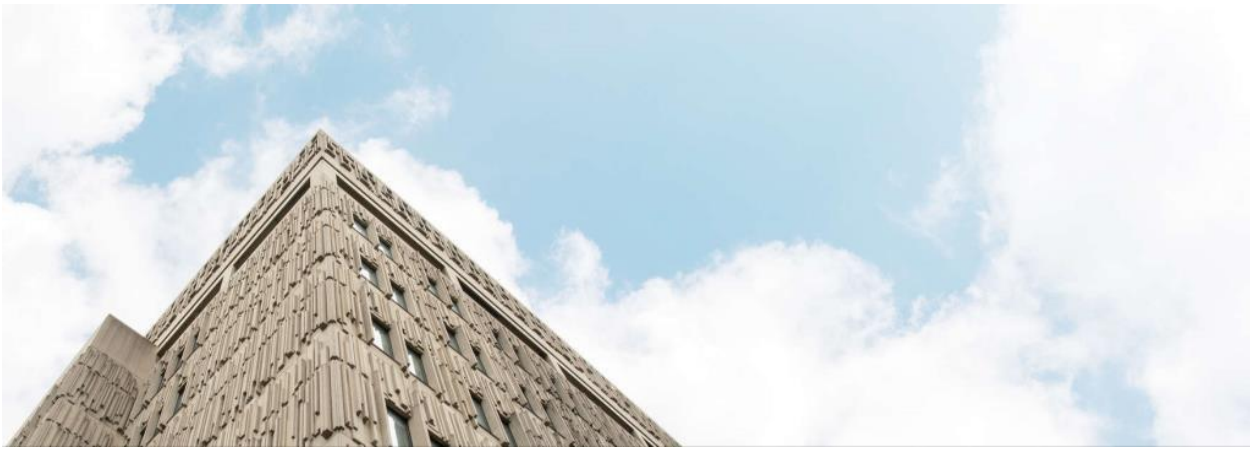
Institute of Medical Science
UNIVERSITY OF TORONTO



IMS Graduate Student Recruitment: September 2023

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
- research summaries, keywords
- supervisor's funding information, 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.

**Last Updated: July 2023*

Principal Investigator: *Advani, Andrew*

Currently Accepting	**MSc;**
Ideal Candidate	The ideal candidate will be able to work independently and as part of a team; will show a high level of empathy and ability to connect with others; and will have an excellent command of written and spoken English.
Research Summary	A position is available for an MSc student to undertake a qualitative project exploring stakeholder preferences for engagement of people living with diabetes. The project involves a scoping review, patient interviews and a concept mapping workshop.
Keywords	Diabetes Patient engagement Qualitative research
Lab location	St. Michael's Hospital
Available Funding	Awaiting Results
Relevant Links	
Contact Information	andrew.advani@unityhealth.to 4168646060 x8413

Principal Investigator: *Anagnostou, Evdokia*

Currently Accepting	**PhD;MSc; ;**
Ideal Candidate	

Research Summary	WE explore the neurobiology of neurodevelopmental conditions, including precision health considerations, and translate such understandings to novel or taylored interventions
Keywords	neuroimaging, behavior, cognition, clinical trials; computational neuroscience
Lab location	Holland Bloorview Kids Rehabilitation Hospital
Available Funding	Yes
Relevant Links	https://hollandbloorview.ca/research-education/bloorview-researchinstitute/research-centres-labs/autism-research-centre
Contact Information	eanagnostou@hollandbloorview.ca Karen Joseph: 416-425-6220 ext. 3740 but prefer email

Principal Investigator: *Ballios, Brian*

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	New therapies for retinal degeneration are focused on the next generation of regenerative medicines. These include gene and cellbased therapeutics, including stem cells. Several of these approaching are already being applied in clinical trials and therapies. While gene therapy has the potential to correct the underlying mechanism of disease in monogeneic disorders, it depends on the presence of viable light-sensitive cells. Stem cell therapy has the potential to replace the light-sensitive photoreceptors lost in later-stage disease, when patients have suffered significant vision loss. Cell-based therapies hold promise for both IRDs and acquired conditions such as age-related macular degeneration (AMD). 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 cellbased 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; acquired and inherited retinal disease; ocular genomics; regenerative medicine; neuroscience; cell and gene therapy; biomaterials; bioengineering
Lab location	Krembil Research Institute, University Health Network
Available Funding	Yes
Relevant Links	https://www.uhnresearch.ca/researcher/brian-ballios www.ballioslab.com

Contact Information	brian.ballios@mail.utoronto.ca

Principal Investigator: *Barr, Cathy*

Currently Accepting	**MSc;**
Ideal Candidate	Students with lab experience
Research Summary	My research program focuses on childhood-onset psychiatric and cognitive disorders, seeking to understand the genetic, epigenetic and environmental risk factors and the underlying molecular and neurobiological mechanisms. A major focus of my lab is identifying risk genes and understanding how genetic risk variants alter gene and subsequently neural cell function. Given the overwhelming evidence that changes in gene expression (transcription, gene splicing) are indicated for disease susceptibility for complex traits, my research program focuses on these genetic risk mechanisms.
Keywords	reading disabilities, child depression, genetic risk, gene expression, iPSC derived neural cell models
Lab location	Krembil Research Institute, Toronto Western Hospital
Available Funding	Yes
Relevant Links	https://www.sickkids.ca/en/staff/b/cathy-barr/
Contact Information	cathy.barr@uhn.ca

Principal Investigator: *Barua, Moumita*

Currently Accepting	**MSc; PhD**
Ideal Candidate	

Research Summary	The starting point of our research is to perform genetic studies in adults with kidney disease using patient and population based cohorts. We then use our genetic discoveries to prioritize clinically relevant models, in which we study kidney disease mechanisms. The lab is currently funded by 2 CIHR awards. The 3 main projects in the lab are: 1. Genome-wide association studies of kidney traits - basic programming knowledge is an asset for this human based study 2. Pax2 mediates kidney repair/regeneration - enthusiasm to work with mouse models is an asset 3. Mechanisms in Alport syndrome - enthusiasm to work with mouse models is again an asset We are looking for highly motivated trainees to join our supportive, enthusiastic team to work on any one of these projects depending on applicant interests and strengths. Trainee career development is an important part of mentorship for the supervisor. Lab alumni have gone on to medical school, entered extremely competitive IMG residency programs and continued their research careers in academic institutions and national organizations such as CIHI.
Keywords	kidney disease, next-generation sequencing, single cell sequencing, proteomics, big data, mouse models
Lab location	Toronto General Hospital
Available Funding	Yes
Relevant Links	https://orcid.org/0000-0003-0628-9071
Contact Information	moumita.barua@uhn.ca sarah.wilson@uhnresearch.ca 416-340-4800 ext 8007

Principal Investigator: *Bassett, Anne*

Currently Accepting	**MSc; PhD;**

Ideal Candidate	The student will have the opportunity to formulate a feasible research question of interest within the framework of our existing patient populations and data resources. Suggested topics include delineating the multi-system expression in genetic subtypes of tetralogy of Fallot or schizophrenia, studying genetic pathways to abnormal cardiac or brain development and related diseases, and identifying prenatal and obstetrical risk factors related to developmental disorders of the heart or brain. Responsibilities will include designing the specific details of the project, coordinating data collection and analysis, presenting results at local and/or international venues, and writing a manuscript suitable for publication in a peer-reviewed medical journal. The student will have the option to participate in an academic clinic where we see relevant patients with diagnosed and yet to be diagnosed genetic conditions, and to hone assessment and related skills. The student will report directly to the PI who provides substantial mentorship and guidance with regular weekly or biweekly meetings. Expert collaborators and senior students and trainees are also available to the student.
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
Lab location	UHN - Toronto General Hospital; Centre for Addiction & Mental Health - Clinical Genetics Research Program
Available Funding	Yes
Relevant Links	www.22q.ca
Contact Information	Gladys Wong gladys.wong@camh.ca 416-535-8501 x32734

Principal Investigator: *Boulos, Mark*

	MSc;

Currently Accepting

Ideal Candidate	We are seeking a candidate who is organized, hard-working, and passionate about sleep & stroke research. Knowledge in statistics would be an asset.
Research Summary	Dr. Boulos oversees an active research program that investigates the association of sleep disorders with TIA/stroke, hypertension, dementia, and other neurological disorders. In addition, he has an interest in ambulatory sleep monitoring.
Keywords	sleep apnea, home sleep apnea testing, stroke/TIA, hypertension, dementia
Lab location	Sunnybrook Health Sciences Centre
Available Funding	Yes
Relevant Links	https://orcid.org/0000-0002-9547-1889
Contact Information	Dr. Mark Boulos: mark.boulos@utoronto.ca Sarah Berger: sarah.berger@sri.utoronto.ca (lab coordinator) 416-480-4473 (clinic office)

Principal Investigator: *Brumell, John*

Currently Accepting	**PhD;**
Ideal Candidate	
Research Summary	Host-pathogen interactions
Keywords	Bacterial infection, innate immunity, cell biology
Lab location	SickKids

Available Funding	Awaiting Results
Relevant Links	https://www.sickkids.ca/en/staff/b/john-brumell/

Contact Information

john.brumell@sickkids.ca
416-813-7654 x 303555

Currently Accepting	**PhD;**

Ideal Candidate	Students with background in lung physiology and biostatistics are more suitable for the projects currently available. Post-MD post graduate MD pursuing advanced degrees are encouraged to apply. We work closely with the Biostatistics Research Unit, one of the developers of oscillometry and the Faculty of Engineering at UofT.

Principal Investigator: *Choi, Stephen*

Currently Accepting	**MSc**
Ideal Candidate	
Research Summary	The perioperative period is a stressful time for patients. In addition to known physical risks, anesthesia and surgery can result in both acute and long-lasting cognitive effects that have significant impacts on quality of life and recovery.
Keywords	perioperative cognitive function
Lab location	Sunnybrook
Available Funding	Yes
Relevant Links	https://sunnybrook.ca/research/content/?page=dept-anaesperioperative-brain-health
Contact Information	stephen.choi@sunnybrook.ca 4164804864

The primary focus of my research is lung physiology in the clinical setting. We have multiple studies that compare different pulmonary function techniques and the application of pulmonary function variables in predicting patient outcomes in different ongoing large cohort studies. Two related research foci include development of machine learning models to interpret pulmonary function tests and assessment of novel pulmonary function tools.
Brain injury/concussion; PTSD; magnetoencephalography; electrophysiology; computational neuroscience; biomedical engineering
UHN - Toronto General Hospital
Yes

Principal Investigator: *Chow, Chung-Wai*	
Research Summary	Selected recent publications to illustrate the types of research in my group: 1. Deep Learning Using Multi-Layer Perception Improves the Diagnostic Acumen of Spirometry: A Single-Center Canadian Study. BMJ Open Resp. 2022 Dec 26(e001389):1-10. doi:10.1136/bmjresp2022-001396. 2. Changes in interpretation of spirometry by implementing the GLI 2012 reference equations: impact on patients tested in a hospitalbased PFT lab in a large metropolitan city. BMJ Open Resp. 2022 Dec 12(e001389):1-10. 3. Characterization of Chronic Lung Allograft Dysfunction Phenotypes using Spectral and Intrabreath Oscillometry. Frontiers in Physiology. Oct;13(980942):1-10. Correlation of Respiratory Oscillometry with CT Image Analysis in a Prospective Cohort of Idiopathic Pulmonary Fibrosis. BMJ Open Resp. Apr;9(1):e001163. Available from: http://dx.doi.org/10.1136/bmjresp-2021-001163. 6. What 175 years of spirometry can teach us about the history and future of medicine. European Respiratory Reviews. 2021 Oct;30(210081). Available from: doi.org/10.1183/16000617.0081-2021 7. Aerosol Generation during Pulmonary Function Testing: Monitoring
Keywords	
Lab location	
Available Funding	
Relevant Links	

	during Different Testing Modalities. Canadian Journal of Respiratory, Critical Care and Sleep Medicine. 2021 8. Development of Quality Assurance and Quality Control Guidelines for Airway Oscillometry in Clinical Studies. Respiratory Care. 2020 Nov;65(11):1687-93. 9. Airway Oscillometry Detects Spirometric-Silent Episodes of Acute Cellular Rejection. Am J Resp Crit Care Med. 2020 Jun;201(12):15361544.
Contact Information	cw.chow@utoronto.ca 416-340-3512

Principal Investigator: *De Luca, Vincenzo*

Currently Accepting	**MSc;**
Ideal Candidate	
Research Summary	Our group research is mainly in the interventions to treat schizophrenia using molecular and imaging techniques.
Keywords	schizophrenia, suicide, EEG, genetics, MRI, epigenetics
Lab location	CAMH
Available Funding	Yes
Relevant Links	
Contact Information	vincenzo.deluca@camh.ca 416-5358501 x34421

Principal Investigator: *Dunkley, Benjamin*

Currently Accepting	**MSc**
Ideal Candidate	The ideal candidate should have a familiarity with biomedical engineering, physics, computational biology/neuroscience, and/or statistics. Experience in biological psychology or cognitive neuroscience would also be an asset, but is not necessary.
Research Summary	Our lab is interested in understanding psychological stress injuries (e.g. PTSD) and traumatic brain injuries using computationally advanced neuroimaging and electrophysiology, particularly as it relates to brain networks and architecture.
Keywords	Brain injury/concussion; PTSD; magnetoencephalography; electrophysiology; computational neuroscience; biomedical engineering
Lab location	SickKids
Available Funding	Yes; Awaiting Results;
Relevant Links	See recent lab publications here: https://scholar.google.ca/citations?user=XHK2dJkAAAAJ&hl=en
Contact Information	ben.dunkley@sickkids.ca Phone: 416-813-7654 ext. 328817 Alternate Contact Name: Patricia Ramos Alternate Phone: 416-813-5175

Principal Investigator: *Farcas, Monica*

Currently Accepting	**MSc;**

Ideal Candidate	MSc student with technical background (ie. engineering, physics, programming) and/or entrepreneurship experience.
Research Summary	The lab focuses on medical device development and testing, particularly in the surgical field. Students with a technical background (physics, engineering, programming) and/or entrepreneurship experience are best suited for projects in our lab.
Keywords	medical device development/testing
Lab location	St. Michael's Hospital
Available Funding	Yes
Relevant Links	
Contact Information	monica.farcas@unityhealth.to 416-867-3735

Principal Investigator: *Freeman, Sloane*

Currently Accepting	**MSc;**
Ideal Candidate	

Research Summary	The Reach School Network (Model Schools Pediatric Health Initiative) is Ontario's first and largest school-based health centre program, developed in partnership with the Toronto District School Board. This innovative health care delivery model focuses on developmental and mental health care for students who face barriers to accessing health care. Research on the REACH School Network focuses on mental health, child development, nutrition, and the social determinants of health.
Keywords	Mental health, child development, nutrition, poverty, health care delivery
Lab location	St. Michael's Hospital
Available Funding	Yes
Relevant Links	https://research.unityhealth.to/researchers/sloanefreeman/
Contact Information	sloane.freeman@unityhealth.to 416-356-7631

Principal Investigator: *Furlan, Julio*

Currently Accepting	**MSc;**
Ideal Candidate	An enthusiastic, dedicated and motivated student with interested in clinical research is sought.
Research Summary	Clinical research on sleep-related breathing disorders in individuals with spinal cord injury
Keywords	sleep-related breathing disorders; spinal cord injury; clinical research

Lab location	Lyndhurst Centre
Available Funding	To be applied
Relevant Links	https://kite-uhn.com/scientist/julio-furlan
Contact Information	Julio.Furlan@uhn.ca 416-597-3422 (x6129 with Komi)

Principal Investigator: *Gaisano, Herbert*

Currently Accepting	**PhD;**
Ideal Candidate	Basic science background - physiology, cell biology, biochemistry, physics. Preferably with hands-on experience in these methods.
Research Summary	The Gaisano laboratory is focused on these areas. 1. Molecular mechanisms of insulin exocytosis in pancreatic islet beta cell centered around SNARE proteins and their dysregulation in diabetes 2. Molecular mechanisms underlying pancreatic acinar cell dysfunction in pancreatitis, with current focus on autophagy and pathologic exocytosis. 3. Islet cell-cell paracrine interactions and their dysregulation underlying Type 1 diabetes islet pathobiology 4. Non-alcoholic fatty liver disease (NAFLD) We use fresh human pancreases diverted from transplantation (and patient donors with diabetes) and fresh liver samples obtained from obese patients undergoing bariatric surgery many of which have NAFLD. We prepare thin tissue slices from the pancreas and liver samples and perform live-cell high spatio-temporal resolution imaging (lightsheet, confocal, multi-photon, TIRF microscopy) of the various cellular processes as well as other biochemical and molecular assays to elucidate the mechanisms of disease and response to treatment.

Keywords	pancreatic islet, exocrine pancreas, diabetes, pancreatitis, NAFLD, high-resolution imaging
Lab location	Medical Sciences Building, U of Toronto
Available Funding	Yes; Awaiting Results
Relevant Links	
Contact Information	herbert.gaisano@utoronto.ca

Principal Investigator: *Grant, Robert*

Currently Accepting	MSc; PhD
Ideal Candidate	Applicants must have a demonstrated track record of training neural networks, be motivated to help people with cancer, and excited to work as part of a dynamic multidisciplinary team. Prior research experience and clinical training are encouraged but not required.
Research Summary	Our research team applies machine learning to oncology. As a practicing medical oncologist at the Princess Margaret Cancer Centre, I align our projects to the biggest challenges facing people with cancer. Our current research focuses on two main themes. First, in collaboration with Cancer Digital Intelligence at the Princess Margaret, we created a massive electronic medical record dataset, including structured and unstructured data. We are using large language models and longitudinal predictive systems to improve care and minimize toxicity, planning to evaluate our systems through pragmatic clinical trials. Second, in collaboration with the PanCuRx initiative at the Ontario Institute for Cancer Research, we developed large multimodal datasets on pancreatic and biliary cancers, including EMR data, histopathology images, whole genome and transcriptome sequencing, and high-throughput drug screening in patient-derived organoids. Our goal is to apply machine learning to gain biological insights that could lead to new treatments and to optimize the selection of available treatments for patients.
Keywords	Machine learning, artificial intelligence, genomics, electronic medical records, pancreatic cancer, biliary cancer

Lab location	Princess Margaret Cancer Centre
Available Funding	Yes
Relevant Links	
Contact Information	robert.grant@uhn.ca , 4169464501x3308

Principal Investigator: *Haykal, Siba*

Currently Accepting	**MSc; PhD**
Ideal Candidate	All students welcome
Research Summary	Vascularized composite allotransplantation: trachea, limb, face Regenerative Medicine Bioreactors
Keywords	bioreactor, stem cells, regenerative medicine, VCA, transplantation
Lab location	PMCRT
Available Funding	Yes
Relevant Links	https://tissuerepairandregeneration.com
Contact Information	Siba.haykal@uhn.ca 416-340-4327

Principal Investigator: *Hassan, Ahmed*

Currently Accepting	**MSc;**

Ideal Candidate	
Research Summary	Summary: Posttraumatic stress disorder (PTSD) is a debilitating mental health disorder that can develop after experiencing or witnessing a lifethreatening event. Cannabis use disorder (CUD) and PTSD are highly comorbid with poor outcomes. Acute use of cannabis provides temporarily relief, but continuous use increases the risk of developing CUD which can cause neurobiological changes in the brain including poor cognitive function (CF) and dampened emotional reactivity. These cognitive effects can perpetuate PTSD symptoms and complicate treatment. Some studies suggest decreasing cannabis use may improve PTSD symptoms, but before such an assertion can be made, the prospective effects of cannabis use versus abstinence on PTSD symptoms need to be formally evaluated. To address this gap, we are conducting a 12-week study that examines whether individuals diagnosed with co-morbid PTSD and cannabis use disorder (CUD) experience any changes in PTSD symptoms or CF after 12-weeks of cannabis abstinence.
Keywords	posttraumatic stress disorder (PTSD), cannabis use disorder, cognitive function, cannabis, contingency management
Lab location	CAMH
Available Funding	Yes
Relevant Links	https://pubmed.ncbi.nlm.nih.gov/?size=200&term=Hassan+AN&cauthor_id=34982654
Contact Information	Harminder.Paul@camh.ca Harminder Paul 416-535-8501, ext.: 32310

Principal Investigator: *Hiraki, Linda*

Currently Accepting	**MSc;PhD;**

Ideal Candidate	Advanced training Biostatistics and/or Statistics Excellent analytic, computing, and problem solving skills Excellent organizational and time management skills Exceptional communication skills; both oral and written Ability to work independently as well as part of a team Human genetics knowledge an asset Experience with R, Plink, IMPUTE, SNPTEST, ADMIXTURE, and/or PrediXcan are assets
Research Summary	The Hiraki Lab is comprised of clinicians, epidemiologists, biostatisticians, bioinformaticians and scientists focused on understanding the genetics and epidemiology of rare systemic inflammatory diseases. These include systemic lupus erythematosus, neonatal lupus erythematosus and diseases of immune and inflammatory dysregulation.
Keywords	genetic epidemiology systemic lupus erythematosus (SLE) neonatal lupus erythematosus (NLE) rare systemic inflammatory diseases outcomes research
Lab location	SickKids
Available Funding	Awaiting Results
Relevant Links	https://www.sickkids.ca/en/staff/h/linda -hiraki/
Contact Information	linda.hiraki@sickkids.ca cindy.alves@sickkids.ca 416-813-7654 x882102

Principal Investigator: *Hodaie, Mojgan*

Currently Accepting	**MSc; PhD;**

Ideal Candidate	background: assets include knowledge of neuroanatomy, coding skills machine learning background/familiarity will be an asset personal attributes of success: inquisitive, curious, cooperative team member
Research Summary	The Hodaie lab employs advanced neuroimaging techniques to investigate trigeminal neuralgia. By integrating neuroimaging with AI, we aim to uncover crucial brain markers or signatures of pain and devise ways to improve surgical outcomes for patients.
Keywords	Advanced brain imaging, machine learning, trigeminal neuralgia, neuropathic pain, neurosurgery, functional neurosurgery
Lab location	Krembil Brain Institute, Toronto Western Hospital
Available Funding	Yes
Relevant Links	https://pubmed.ncbi.nlm.nih.gov/?term=hodaie
Contact Information	Mojgan.hodaie@uhn.ca 416-603-6441

Principal Investigator: *Hung, Rayjean J.*

Currently Accepting	PhD
Ideal Candidate	Students interested in cancer or children's developmental health and with a strong quantitative training background, including Master's degree in public health, statistics-related fields, medical genetics, computer science, medical biophysics or related field.

Research Summary	Dr. Hung's research focuses on characterizing individual molecular profiles related to complex disease etiology and progression. In particular, Dr. Hung has expertise in integrative multi-omics data science based on machine learning analytics using high-dimensional data for disease prediction. She has been leading several large-scale international studies, including aero-digestive tract cancer, pancreatic cancer and childhood cancers. In addition, Dr. Hung is leading work on early life determinants on complex diseases in longitudinal cohort studies.
Keywords	Cancer Epidemiology, Early Detection, Multiomics Data Science, Perinatal factors, Risk Prediction
Lab location	Sinai Health
Available Funding	Yes
Relevant Links	https://research.lunenfeld.ca/rhung/
Contact Information	rayjean.hung@lunenfeld.ca 416-586-4750

Principal Investigator: *Jin, Yaping*

Currently Accepting	**MSc;**
Ideal Candidate	Ideal students will be those with basic knowledge of epidemiology and biostatistics, and an interest and ability to learn to use statistical software (e.g. SAS, R, SPSS) to analyze large-scale databases. Students with an interest in optometry and ophthalmology will be an asset to the team.

Research Summary	Glaucoma is a leading cause of blindness in Canada. About half of the individuals with glaucoma do not know they have glaucoma and thus are not receiving treatment. Routine eye exams can facilitate early glaucoma diagnosis and improve disease outcomes. Routine eye exams are mostly done by optometrists (an eye doctor typically not requiring a referral) in Canada. Using physician billing data from the Ontario Health Insurance Plan, we will determine the number and percentage of patients who received a glaucoma diagnosis from a routine eye exam by optometrists. The percentage will be calculated as the number of people who received a glaucoma diagnosis from routine eye exams by optometrists (numerator) among all people with a new glaucoma diagnosis by an ophthalmologist or optometrist from ALL sources (i.e., including the glaucoma diagnosis from routine eye exams and referrals) (Denominator). The analysis will be stratified by age groups (20-39, 40-64, 65+ years), sex, socioeconomic status and rural versus urban residence for each year from 1998-2019. We will also assess the number of Ontarians with a missed glaucoma diagnosis from routine eye exams by optometrists due to the government stopping coverage for routine eye exams for individuals aged 20-64 in 2004 in Ontario. This study will be the first to assess the role of routine eye exams by optometrists in glaucoma detection using data from all patients in a population. It will also be the first to evaluate the impact of public-funded routine eye exams on glaucoma detection.
Keywords	Routine eye exams, Glaucoma, Optometrists
Lab location	Kensington Eye Institute, Toronto, Ontario
Available Funding	Yes
Relevant Links	https://pubmed.ncbi.nlm.nih.gov/?term=Jin+YP+ophthalmology
Contact Information	Yaping.Jin@utoronto.ca 416-978-793

Principal Investigator: *Josselyn, Sheena*

Currently Accepting	**PhD;**
Ideal Candidate	
Research Summary	examining learning and memory in mice
Keywords	optogenetics, memory, mice, calcium imaging
Lab location	SickKids
Available Funding	Yes
Relevant Links	
Contact Information	sheena.josselyn@sickkids.ca 416 813-7654

Principal Investigator: *Kennedy, James L.*

Currently Accepting	**MSc; PhD**
Ideal Candidate	Interested in students with a strong data analysis background. We work on large epidemiological, clinical and genomics databases. Also

	implementation of genetic testing in healthcare.
Research Summary	Genetic/genomic analyses of child and adult psychiatric disorders, addictions, genetic prediction of treatment response/side effects. Personalized Medicine; polygenic risk scores, mitochondrial DNA, machine learning/AI.
Keywords	Genetics, psychiatry, pharmacogenetics, epigenetics, schizophrenia, aggression
Lab location	CAMH
Available Funding	Awaiting Results
Relevant Links	https://www.camh.ca/en/science -and-research/science-and-research-staff-directory/jameslkennedy
Contact Information	jim.kennedy@camh.ca 4169794987

Principal Investigator: *Kennedy, Sidney H*

Currently Accepting	**MSc**
Ideal Candidate	BSc graduate with neuroscience background and some clinical experience or interest
Research Summary	Biological studies in Depression
Keywords	anhedonia, biomarkers, treatment resistant depression
Lab location	Unity Health St Michael's Hospital
Available Funding	Yes
Relevant Links	

Contact Information	Jackie Jagoda Jackie.Jagoda@unityhealth.to 416 864 6099

Principal Investigator: *Kloiber, Stefan*

Currently Accepting	**MSc;**
Ideal Candidate	Experience in clinical research, mental health / psychiatry, biomarker research, and/or neuroimaging
Research Summary	Dr. Kloiber's clinical expertise and research focuses on mood and anxiety disorders. A major focus of Dr. Kloiber's clinical research is to investigate novel neurobiological systems including the brain endocannabinoid system in mood and anxiety disorders as well as to explore novel treatment approaches through clinical trials with a specific interest in neurobiological and clinical effects of cannabinoids. Research projects in this field include clinical studies evaluating the effects of cannabinoids, e.g. cannabidiol (CBD) and projects to understand perceptions and motivations for cannabis use in mood and anxiety disorders, as well as neuroimaging / positron emission tomography (PET) studies evaluating the brain endocannabinoid system in the with mood and anxiety disorders, healthy controls and the effect of cannabinoids such as THC on the brain endocannabinoid system. Another aspect of Dr. Kloiber's work is focused on improving treatment of mood and anxiety disorders by standardizing and individualizing therapy through Integrated Care Pathways (ICPs) and biomarker research combining various strategies such as genomics, neuroendocrinology, metabolomics, digital behavioral phenotyping and psychophysiology. With this approach Dr. Kloiber aims to detect individual biological signatures for prediction of treatment response, prevention of adverse events, and subclassification of mood and anxiety disorders.

Keywords	Clinical Research, Mood and Anxiety Disorders, PET imaging, Endocannabinoid System, Cannabinoids
Lab location	CAMH
Available Funding	Yes
Relevant Links	https://psychiatry.utoronto.ca/faculty/stefan -kloiber
Contact Information	stefan.kloiber@camh.ca 416-535-8501

Principal Investigator: *Lam, Tony*

Currently Accepting	**MSc; PhD**
Ideal Candidate	
Research Summary	The Lam lab studies the metabolic impact of the gut-brain axis
Keywords	
Lab location	TGHRI, UHN (MaRS Centre)
Available Funding	Yes
Relevant Links	
Contact Information	tony.lam@uhnresearch.ca

Principal Investigator: *Lemaire, Mathieu*

Currently Accepting	**MSc; PhD**

Ideal Candidate	Would prefer students interested to do a PhD
Research Summary	Patients with invasive Streptococcus pneumoniae infection can develop hemolytic-uremic syndrome (HUS). They sustain an acute kidney injury because of thrombosed kidney glomeruli that can lead to death (10%) or end-stage kidney disease (15%). All patients with pneumococcal HUS (P-HUS) have high blood levels of bacterial sialidase. This enzyme cleaves terminal sialic acid residues from endothelial glycoproteins, exposing galactose termini instead. Sialic acid or galactose termini act as docking sites for distinct receptors on blood cells. Using exome sequencing, we discovered a novel form of HUS caused by loss-of-function mutations in the gene that encodes a sialyltransferase that adds sialic acid to galactose on nascent glycoproteins. Our poor understanding of their pathophysiologies has hampered the development of new therapies for both conditions. Students will work on this or a similar project within the Lemaire Laboratory while being accompanied by one of the research staff. Students will be privy to many learning opportunities, seminars, and lab-specific certifications from the Cell Biology program and the Research Institute.
Keywords	kidney, glomerulonephritis, genetics, thrombotic microangiopathy, endothelial cell, glomerulus, pediatrics, rare disease, atypical hemolytic-uremic syndrome, glycobiology, phospholipids
Lab location	SickKids
Available Funding	Yes
Relevant Links	
Contact Information	mathieu.lemaire@sickkids.ca 416-813-7654 ext. 309452

Principal Investigator: *Lim, Andrew*

Currently Accepting	**MSc; PhD**
Ideal Candidate	Students interested in machine learning / computational biology, contemporary human genomics (e.g. snRNAseq, RNAseq, GWAS, Mendelian Randomization), or human sleep physiology / neurophysiology have all fit well in this lab.
Research Summary	We unravel the biological links between sleep and circadian rhythms and brain diseases, paving the way for sleep-based interventions to prevent brain diseases, slow progression, and promote recovery. We combine wearable sensors with machine learning to measure sleep and circadian physiology in 1000's of older adults, with or without sleep and circadian interventions, and relate this to molecular and imaging markers of human brain biology, and to clinical outcomes
Keywords	Dementia, Machine Learning, Wearable Sensors, Sleep, Circadian Rhythms
Lab location	Sunnybrook
Available Funding	Yes
Relevant Links	sleepandbrainhealth.ca
Contact Information	andrew.lim@utoronto.ca 416-480-6100 x2461

Principal Investigator: *Lincoln, Matthew*

Currently Accepting	**MSc;**
Ideal Candidate	We are looking for students interested in either wet lab transcriptomic studies or computational analysis. Experience in molecular biology and/or analytical experience with R are assets.

Research Summary	We combine transcriptomics and epigenetics with modern genetic analysis techniques to identify the fundamental molecular mechanisms that cause multiple sclerosis and other autoimmune diseases.
Keywords	Genetics Epigenetics Multiple sclerosis Autoimmunity Molecular mechanisms Transcriptomics
Lab location	St. Michael's Hospital
Available Funding	Yes
Relevant Links	www.lincolnlab.ca
Contact Information	matthew.lincoln@utoronto.ca 416-432-2276

Principal Investigator: *Madani, Amin*

Currently Accepting	MSc
Ideal Candidate	

Research Summary	The Surgical AI Research Academy focuses in surgical expertise and the development and integration of technology to augment performance in the operating room. This includes platforms that incorporate artificial intelligence (AI), computer vision and other forms of advanced simulation. We collaborate with engineers, computer and data scientists and game developers to design novel ideas, test prototypes and validate their performance. Ongoing work includes the development of new algorithms that are able to provide surgeons with decision-support (use cases range many different surgical subspecialties), development of algorithms to support coaching of surgeons to become elite performers in the OR, creating a global data and machine learning pipeline that enables sharing of raw data, annotations and machine learning algorithms as open-source format, 3D reconstruction of surgical tissues for preoperative planning and rehearsal, development of synthetic datasets, and development of novel clinically-relevant metrics for computer vision in surgery.
Keywords	artificial intelligence, machine learning, deep learning, computer vision, simulation, surgery
Lab location	University Health Network
Available Funding	Yes
Relevant Links	https://temertysimcentre.com/surgical-artificial-intelligence-researchacademy-sara/
Contact Information	amin.madani@uhn.ca, (416) 340-3843

Principal Investigator: *Martinu, Tereza*

Currently Accepting	**PhD; MSc**
Ideal Candidate	One student. Someone with interest in immunology and transplantation would be a great fit.

Research Summary	I study lung transplant immunology and focus on mechanisms and biomarkers of chronic rejection. I am also a lung transplant physician and take care of lung transplant recipients. Chronic rejection is the main cause of death after lung transplantation. I use animal models and human samples to investigate innate immune activation, IL-17 pathways, and epithelial injury in the pathogenesis of chronic lung graft rejection. One interesting ongoing project focuses on the role of specialized epithelial cells, called club cells, in rejection. Club cells function as progenitor cells and also produce the anti-inflammatory club cell secretory protein. We are studying epithelial cells and club cells in vitro, after obtaining them from lung transplant patient bronchoscopies. We are also assessing the effects of club cell secretory protein on epithelial cells and immune cells. Finally, changes in club cell secretory protein levels in lung samples from our patients can serve as a biomarker of disease.
Keywords	Lung transplantation, chronic rejection, immunology, biomarkers, epithelial cells, club cells
Lab location	UHN
Available Funding	Yes
Relevant Links	Link to my publications on PubMed: https://pubmed.ncbi.nlm.nih.gov/?term=Martinu%2C+Tereza%5BAuthor%5D&sort=date
Contact Information	tereza.martinu@uhn.ca

Principal Investigator: *Milosevic, Michael*

Currently Accepting	**MSc;**
Ideal Candidate	Motivated student with a background in biology and an interest in cancer research.

Research Summary	Our lab is focused on improving the effectiveness of radiotherapy to treat cancer by identifying and targeting aspects of the tumor microenvironment that contribute to treatment resistance. We have shown that radiation upregulates the CXCL12/CXCR4 chemokine pathway, which leads to the accumulation of immune cells that protect the tumor. The addition of a CXCR4 inhibitor during or immediately after radiation prevents immune cell accumulation, improves tumor response and reduces metastases. Ongoing research is focused on combining radiotherapy with CXCR4 inhibitors and immunotherapy, and translating these promising finding to the clinic.
Keywords	Cancer, radiotherapy, immunotherapy, CXCL12/CXCR4
Lab location	Princess Margaret Cancer Centre
Available Funding	Yes
Relevant Links	
Contact Information	mike.milosevic@rmp.uhn.ca 416-946-2122

Principal Investigator: *Minian, Nadia and Selby, Peter*

Currently Accepting	**MSc; PhD**
Ideal Candidate	Interest in cancer prevention, health equity, knowledge translation, systematic reviews, patient engagement
Research Summary	Background. Clinical guidelines recommend treating tobacco and

	alcohol use concurrently. Over 365,000 Ontarians smoke cigarettes and drink alcohol above recommended guidelines, which increases their risk for cancer. In 2016, we used our smoking cessation program, i.e., the Smoking Treatment for Ontario Patients (STOP), to screen and delivered a brief intervention for at-risk alcohol use: we found that only 45% of STOP patients with at-risk alcohol use were offered the intervention by their provider. Reported barriers to offering the intervention included concerns about damaging the therapeutic relationship and lack of time. In 2022, our team launched the STOP patient portal, which we intend to use deliver interventions for individuals with concurrent tobacco and alcohol use. Objective. To co-create, in partnership with patients and community organizations, a digital intervention for treatment-seeking individuals who smoke tobacco and drink alcohol at hazardous levels, to be embedded into the STOP patient portal. Specific Aims Aim 1: Identify effective behavioural change techniques (BCTs) that reduce dual use of alcohol and tobacco. Aim 2: Co-create a brief digital intervention to reduce hazardous alcohol use for patients in smoking cessation treatment. Aim 3. Pilot test a brief digital intervention for hazardous alcohol use among users of a patient portal for tobacco and other substances. Impact. If acceptable to end-users, this intervention will be tested in a large clinical trial, which could ultimately contribute to significant improvement to population health and reduce healthcare costs, by mitigating two main risk factors for cancer and addressing provider concerns.
Keywords	Alcohol, Tobacco, Behaviour-Change, cancer prevention, health equity, implementation science
Lab location	CAMH
Available Funding	Yes
Relevant Links Contact Information	https://www.nicotinedependenceclinic.com/en/knowledge-translation

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Principal Investigator: *Mishra, Sharmistha*

Currently Accepting	**PhD; MSc**
Ideal Candidate	1) Experience and ideally proficiency in coding/programming in scripting languages such as R, python, Matlab, etc., or programming languages (e.g. C++, Java, etc.) 2) Training with respect to undergraduate courses in calculus and linear algebra 3) Experience in scientific writing 4) Training and/or experience in introductory statistics or biostatistics 5) Training and/or applied experience in analytic and/or field epidemiology, infectious disease outbreaks, implementation science
Research Summary	mathematical modeling; infectious disease epidemiology; quantitative bias analyses; causal inference; HIV; sexually transmitted infections; social determinants of health; health equity
Keywords	Our team examines transmission pathways structured by systemic inequities, and tests interventions tailored to disproportionate risks to inform public health and policy decisions in Canada and internationally. Research interests include the structural and systemic inequities as they relate to the pathways that lead to disproportionate risks of infectious disease transmission, and modeling interventions tailored to disproportionate risks. Our team develops and uses different types of epidemic models (compartmental, agent-based), statistical models, and causal inference and with a focus on integration of data and quantitative bias analyses. Our work is centered on explanatory modeling and asking “why” using counterfactuals, especially in the context of transmission dynamics (or “interference” in epidemiology-terms). Epidemic theory, testing assumptions and contributing methodological insights/advancements, and coding are key to our work. Our lab primarily works in the field of HIV and

	sexually transmitted infec tions among key populations, in partnership with communities and program implementers in Kenya, South Africa, Eswatini, Ukraine, India and in Canada.
Lab location	Unity Health Toronto
Available Funding	Yes
Relevant Links	www.mishra-lab.ca
Contact Information	mishralab@smh.ca

Principal Investigator: *Moe, Gordon*

Currently Accepting	**MSc;**
Ideal Candidate	
Research Summary	Heart failure, mechanisms, treatment, population studies
Keywords	Heart failure, pathophysiology, management
Lab location	St. Michael's Hospital
Available Funding	No
Relevant Links	
Contact Information	moeg@smh.ca 416 8645615

Principal Investigator: *Mucsi, Istvan*

Currently Accepting	**MSc; PhD**

Ideal Candidate	Statistical, epidemiological knowledge, experience with STATA. Qualitative research experience.
Research Summary	I study inequities in accessing advanced therapies, including live donor kidney transplant among racialized patients. My other program is focusing on using Patient Reported Outcomes Measures clinically for patient centered care.
Keywords	health equity; social determinants of health; kidney transplant; patient reported outcome measures; quality of life; symptom management Lab location Toronto General Hospital
Available Funding	Yes
Relevant Links	https://nefros.net https://scholar.google.hu/citations?hl=en&user=8y2XF0YAAAAJ
Contact Information	istvan.mucsi@utoronto.ca 416-340-4084

Principal Investigator:	*Mulsant, Benoit*
Currently Accepting	**MSc;**

Ideal Candidate	Typically, my MSc students complete a publication-based thesis focused on a systematic review ("background") and the analysis of data collected in one of the clinical trials I have been involved. For the summer or fall 2023 session, the data would come from the longitudinal data of the recently completed PACt-MD trial described in: 494. Rajji TK, Bowie CR, Herrmann N, Pollock BG, Bikson M, Blumberger DM, Butters MA, Daskalakis ZJ, Fischer CE, Flint AJ, Golas AC, Graff-Guerrero A, Kumar S, Lourenco L, Mah L, Ovaysikia S, Thorpe KE, Voineskos AN, Mulsant BH for the PACt-MD Study Group (2020). Design and rationale of the PACt-MD randomized clinical trial: Prevention of Alzheimer's dementia with cognitive remediation plus transcranial direct current stimulation in mild cognitive impairment and depression. Journal of Alzheimer's Disease 76(2):733-751 doi: 10.3233/JAD-200141 – PMID: 32568198
Research Summary	The overarching goal of my work over the past 30 years has been to improve the treatment of older persons with severe mental disorders. My main scientific focus has been on designing and conducting clinical trials for "hard–to-treat" older patients with severe mood disorders (e.g., latelife depression, bipolar disorder, psychotic depression, treatmentresistant depression). Another major focus has been using these clinical trials as platforms to identify biomarkers or other predictors of clinical trajectories and treatment outcomes. My work has been continuously funded since 1992 (with a total of $175M in direct funding, including $74M as PI and $32M as co-PI). The results have been reported in more than 600 peer-reviewed publications (h-index: 102) in high impact journals including the New England Journal of Medicine, Lancet, JAMA, and PNAS.
Keywords	Geriatric Psychiatry Depression Bipolar Disorder Neuroimaging Biomarkers Treatment mechanisms
Lab location	CAMH

Available Funding	Yes
Relevant Links	http://www.ncbi.nlm.nih.gov/pubmed/?term=mulsant+B+or+mulsant+BH
Contact Information (416)	benoit.mulsant@utoronto.ca 979 6948

Principal Investigator: *Neufeld, Nicholas*

Currently Accepting	MSc
Ideal Candidate	Experience/publication record in neuroimaging; Skills in linux environment, R, python, statistics. Interest in psychosis and severe mental illness.
Research Summary	My research within the Kimel Family Translational Imaging-Genetics Laboratory at CAMH focuses of severe mental illness across the lifespan. Structural MRI data is currently available from a study on clozapine response in treatment resistant schizophrenia. Structural and functional MRI data is actively being collected related to treatment response to brain stimulation and functional (recovery) outcomes in schizophrenia. Moreover, data collection for cutting edge precision fMRI analyses of patients with schizophrenia and psychotic depression will commence by mid -2023.
Keywords	Structural MRI, Functional MRI, Precision fMRI, Brain Stimulation, Antipsychotics, Recovery, Schizophrenia, Psychotic Depression, Neurodevelopment
Lab location	CAMH
Available Funding	Yes
Relevant Links	http://imaging -genetics.camh.ca
Contact Information	Nicholas.Neufeld@camh.ca Jovanka.Skocic@camh.ca 416-535-8501 x34698

Principal Investigator: *Nolan, Rob*

Currently Accepting	MSc
Ideal Candidate	Familiarity with research re. digital counseling, health-related quality of life, and/or self-care behavior and self-management of chronic disease. Also, experience and skill is necessary in conducting statistical analyses, preferably with SPSS.
Research Summary	We are engaged in clinical trials and studies to investigate how automated digital counseling promotes improved health status and health-related quality of life (HRQL) in persons with chronic heart failure or chronic kidney disease. We are also developing a process-based model of HRQL.
Keywords	Health-related quality of life, digital counseling, self-care behavior, heart failure, kidney disease
Lab location	UHN - Toronto General Hospital
Available Funding	Yes
Relevant Links	ORCID: 0000-0002-5170-9840
Contact Information	rob.nolan@uhnresearch.ca; 416-340-4800 x6400

Principal Investigator: *Reid, Aylin*

Currently Accepting	**MSc; PhD**

Ideal Candidate	We are recruiting students with a strong background in the neurosciences and an interest in translational research. Previous experience with animal models (rodents, zebrafish), molecular studies, and/or electrophysiology would be a great asset but not required.
Research Summary	We are recruiting students with a strong background in the neurosciences and an interest in translational research. Previous experience with animal models (rodents, zebrafish), molecular studies, and/or electrophysiology would be a great asset but not required.
Keywords	Epilepsy, traumatic brain injury, inflammation, neurofibromatosis, seizures
Lab location	Toronto Western Hospital/Krembil Discovery Tower
Available Funding	Yes
Relevant Links	
Contact Information	aylin.reid@utoronto.ca 416-603-5320

Principal Investigator: *Rotstein, Ori*

Currently Accepting	**MSc; PhD**
Ideal Candidate	excellent undergraduate standing, prior bench research experience, collaborative, hardworking and a sense of humour
Research Summary	Our laboratory studies the pathogenesis of ischemia/reperfusion injury following trauma with a focus on optimizing mitochondrial quality either through pharmacology or through transplantation
Keywords	trauma, hemorrhagic shock. mitochondria, mitophagy

Lab location	St. Michael's Hospital
Available Funding	Yes
Relevant Links	search my name on pubmed
Contact Information	ori.rotstein@unityhealth.to 416 864 5637

Principal Investigator: *Sage, Andrew*

Currently Accepting	**MSc**
Ideal Candidate	Looking to recruit students that are familiar with the human respiratory system and have a background in computer science and/or biomedical engineering.
Research Summary	The goal of my research program is to provide thoracic surgeons with access to novel, high-quality assays and algorithms that enhance clinical decisionmaking and improve patient outcomes. To achieve this goal, my lab focuses on three foundational research activities: 1. The discovery of novel biomarkers to predict patient outcomes. The goal of this work is to identify novel biomarkers that can be used to predict pre-transplant and ex vivo lung perfusion (EVLP) outcomes, post-transplant outcomes, and response to therapy. 2. The development of assays to actualize biomarker testing. Biomarker discovery represents the foundation for medical devices; however, translation of biomarkers into diagnostic tests remains a significant barrier to routine clinical adoption. My lab focuses on: (i) engineering novel, in house biomedical devices, and (ii) establishing leading-edge collaborations with biotechnology partners.

	3. The use of artificial intelligence and machine learning to integrate multiple biomarkers and augment clinical decision-making. This work uses cutting-edge machine learning techniques to better understand and analyze the wealth of medical data generated during organ transplantation.
Keywords	lung transplantation, ex vivo perfusion, machine learning, biotechnology, biomarkers
Lab location	Toronto General Hospital, PMCRT 2nd Floor
Available Funding	Yes
Relevant Links	
Contact Information	andrew.sage@uhn.ca

Principal Investigator: *Serghides, Lena*

Currently Accepting	**PhD;**
Ideal Candidate	
Research Summary	Antiretroviral treatment in pregnancy has improved maternal health and dramatically reduced the rate of perinatal HIV transmission. Over 1 million pregnant women take these medications annually. Yet, a public health challenge remains, identifying the safest antiretrovirals to optimize maternal-child health outcomes, while continuing to achieve high efficacy in preventing vertical HIV transmission. While antiretrovirals are essential for maternal health and preventing HIV transmission to the infant, antiretrovirals have been associated with increased risk for adverse birth outcomes including preterm and small for gestation age births. The mechanisms underlying these outcomes remain poorly understood. With the overall objective of optimizing antiretroviral therapy for pregnant women with HIV and their infants, the aims of the Serghides

	Lab are: (1) to identify mechanisms that contribute to adverse birth outcomes in the context of HIV and antiretroviral exposure, as well as identify biomarkers of risk, and interventions to improve outcomes, (2) to understand the effects of in utero exposure to HIV and antiretrovirals on the development of children who are HIV exposed but uninfected and identify underlying mechanisms, and (3) to develop animal and ex-vivo models to facilitate the study HIV and antiretroviral effects in the context of pregnancy.
Keywords	HIV, antiretrovirals, pregnancy, adverse birth outcomes, placenta, fetal development
Lab location	PMCRT, UHN
Available Funding	Awaiting Results
Relevant Links	https://www.serghides.ca/
Contact Information	lena.serghides@utoronto.ca

Principal Investigator: *Stergiopoulos, Vicky*

Currently Accepting	**MSc**
Ideal Candidate	A background in public health or psychology would be an asset. Interest in mental health, and the social determinants of health, as well as working with community partners, would be required.
Research Summary	My research focuses on the development, implementation, evaluation and spread of interventions to improve housing stability, service coordination and recovery of adults experiencing mental health and addiction challenges and social disadvantage. I use mixed methods observational and experimental designs grounded in participatory approaches and the perspectives and experiences of affected individuals and their families. At present, my team is working on studies to support the integration of physical health care in specialized
Keywords	

	mental health services and within supportive housing settings, as well as understanding the delivery of high support housing for those with the most severe disabilities.
	health services research, homelessness, integrated care
Lab location	CAMH
Available Funding	Yes Relevant Links
Contact Information	vicky.stergiopoulos@camh.ca 416-303-2524

Principal Investigator: *Tartaglia, Carmela*

Currently Accepting	**PhD**
Ideal Candidate	Accepting one Candidate

Research Summary	Imaging and Biofluid Biomarkers of neurodegeneration I use novel imaging techniques in conjunction with proteomics, pathology and genetics to better diagnose and understand the pathological substrates that cause cognitive, behavioral and motoric dysfunction in patient with neurodegenerative diseases. My focus is on frontotemporal lobar degeneration as well as the delayed effects of concussions. The ultimate goal of my research program is to discover biomarkers for early detection of disease so as to provide early treatments to my patients.
Keywords	neurodegeneration, biomarkers, tau, tap-43, imaging
Lab location	Tanz Centre for Research in Neurodegenerative Diseases
Available Funding	Yes
Relevant Links	https://tanz.med.utoronto.ca/carmela -tartaglia
Contact Information	Carmela.tartaglia@uhn.ca 4166035483

Principal Investigator: *Woo, Minna*

Currently Accepting	**MSc; PhD**
Ideal Candidate	

Research Summary	Our research interest focuses on elucidating molecular signaling pathways that play a key role in the pathogenesis of type 2 diabetes as well as its associated diseases such as fatty liver disease, liver cancer and atherosclerosis. We study signaling pathways that are often implicated in tumourigenesis such as PTEN, BRCA1 or JAK2. We investigate the emerging metabolic roles of these molecules in metabolic tissues such as the liver or skeletal muscle in addition to other important systems such as the autonomic nervous system. We use genetic mouse models as well as other state-of-the art approaches including single nuclear sequencing to understand the molecular mechanisms of these complex diseases using both in vivo and in vitro strategies.
Keywords	diabetes; metabolism; insulin resistance; mouse models; signal transduction; cre-loxP
Lab location	UHN
Available Funding	Yes
Relevant Links	https://www.uhnresearch.ca/researcher/minna-woo

Contact Information	mwoo@uhnresearch.ca 4163405214

Principal Investigator: *Zrenner, Brigitte*

Currently Accepting	**MSc ; PhD**
Ideal Candidate	Experience with patients and EEG is helpful.
Research Summary	My personal research interest is the conduction of clinical trials applying personalised brain-stimulation to neuropsychiatric disorders such as obsessive-compulsive disorder, anxiety and major depressive disorder.
Keywords	personalised brain stimulation, neuropsychiatric disorders
Lab location	CAMH
Available Funding	Yes
Relevant Links	
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