

# RESEARCH AND INNOVATION

FACULTY OF MEDICINE | RESEARCH OFFICE  
**ANNUAL REPORT 2016–2017**



uOttawa

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# ANNUAL REPORT 2016–2017



**Bernard J. Jasmin, PhD**  
Vice-Dean Research, Faculty of Medicine

I am pleased to present the 2016-2017 Research Office Annual Report for the Faculty of Medicine which highlights our significant achievements from the past year.

First, I would like to take this opportunity to thank Dr. Jacques Bradwejn for his tremendous leadership as the Dean of Medicine during the past 11 years. Throughout his time as Dean, Dr. Bradwejn was always very involved and highly supportive of our research priorities and initiatives. With his continuous support, the Faculty of Medicine has experienced significant growth in recent years and many of our efforts have come to fruition during 2016-17. Accordingly, the Faculty has continued to solidify its enviable position as a leading research-intensive institution in Canada with major strengths in both basic and clinical research.

One of our clear strengths is that we have been able to develop over the last decade strong partnerships with all affiliated, hospital-based research institutes thereby resulting in significant opportunities, concrete projects, and continued growth for our main strategic research priorities focused on the areas of: i) Brain and Mind; ii) Cardiovascular/Vascular Science; and iii) Immunology, Infection and Inflammation. We are conducting cutting-edge research in these varied areas using state-of-the-art methods and technologies derived from epidemiology, practice-changing research, genetics, systems biology, regenerative medicine as well as innovative therapeutics. Collectively focusing our research efforts in these areas of strength, coupled with the implicit targeted resource allocation, has positioned Ottawa as a national and international leader in these varied areas. Moreover, our international presence has grown and is now becoming highly recognized through our cutting-edge research activities which paved the way for formal partnerships in Shanghai and Lyon.

The Faculty of Medicine 2016-2017 academic year has indeed resulted in significant achievements. Major recruitment efforts have continued to build our capacity in areas of priority, capitalizing on emerging opportunities and increasing integration with research institute partners while also promoting interactions across clinical and non-clinical departments. These invaluable partnerships throughout the Faculty of Medicine have allowed us to attract the best and the brightest new recruits from around the world. Together, our collective vision has allowed for greater optimization of human and operational resources as well as better infrastructure planning and support. In order to accommodate this unprecedented growth, the expansion of our campus to the Peter Morand buildings to house the recently created School of Epidemiology and Public Health, Department of Innovation in Medical Education and our Office of Internationalization is near completion. In addition, on-going construction and planning of additional space within the Roger Guindon building will provide much needed state-of-the-art space for wet lab-based research programs and expansion of our core facilities.

As we look back, all of us in the Faculty of Medicine should be proud of what we have accomplished together. Overall, research in the Faculty of Medicine is in excellent shape but we now face internal budgetary constraints that are paralleled by external research funding pressures. To continue on our upward trajectory, it seems imperative for us to continue working closely together across the Faculty in order to meet these challenges, and to remain nimble in our ability to capitalize on our recent successes and upcoming opportunities. Such a collaborative and collegial approach for strategically planning and implementing our research goals is more important than ever, and will ultimately benefit us all including the next generation of scientists and clinicians we are training as well as members of our community.







# GOALS OF THE RESEARCH OFFICE

1

Continue increasing the capacity of the Research Office to support and interact efficiently with all stakeholders including basic and clinical scientists and trainees within the Faculty of Medicine, University and broader scientific community

2

Provide leadership in establishing and promoting the growth of key strategic priorities and international partnerships

3

Actively promote interdisciplinary research activities within the Faculty of Medicine and across other Faculties

4

Develop translational research and promote scientific relationships between basic and clinical researchers

5

Lead and operationalize the integrated HR plan for the recruitment of tenure-track professors across Departments and Research Institutes

6

Support submission of applications for Canada Research Chairs and Canada Foundation for Innovation grants (both Innovation Fund and John R. Evans Leaders Fund)

7

Manage and coordinate capital expansion and renovation

8

Enhance the visibility of ongoing research initiatives while promoting scientific accomplishments

9

Provide support and mentoring for new Faculty members in order to ensure a smooth transition to the Faculty of Medicine, the rapid and successful establishment of their research laboratories, and their competitiveness with funding expectations

10

Continue building functional partnerships and develop specific initiatives between the Faculty of Medicine, our Basic and Clinical Departments, other Faculties and hospital-based research institutes

11

Maintain transparent, fair, efficient and comprehensive procedures to prioritize resource allocation according to strategic goals and priorities

# OUR DEPARTMENTS AND PARTNERS

## Basic Science Departments

- Biochemistry, Microbiology and Immunology
- Cellular and Molecular Medicine
- Innovation in Medical Education
- School of Epidemiology and Public Health

## Clinical Departments

- Anesthesia
- Emergency Medicine
- Family Medicine
- Medicine
- Obstetrics and Gynecology
- Ophthalmology
- Otolaryngology
- Pathology and Laboratory Medicine
- Pediatrics
- Psychiatry
- Radiology
- Surgery

## Affiliated Hospital-Based Research Institutes

- Children's Hospital of Eastern Ontario Research Institute
- Élisabeth Bruyère Research Institute
- Institut de recherche de l'Hôpital Montfort
- Ottawa Hospital Research Institute
- The Royal's Institute of Mental Health Research
- University of Ottawa Heart Institute

## Research Centres and Institutes

- Canadian Partnership for Stroke Recovery
- Centre for Neural Dynamics
- Centre for Neuromuscular Disease
- Kidney Research Centre
- Medical Devices Innovation Institute
- The Ottawa Institute of Systems Biology
- University of Ottawa Brain and Mind Research Institute
- University of Ottawa Centre for Infection, Immunity and Inflammation
- University of Ottawa Skills and Simulation Centre

# OUR STAFF

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# RESEARCH PRIORITIES OF THE FACULTY

## STRATEGIC, BROAD-BASED RESEARCH INITIATIVES

The Faculty of Medicine has a number of major research initiatives that are completely aligned with the University's strategic plan, Destination 2020. Building on our demonstrated track-record of research excellence, the Faculty and affiliated Hospital-Based Research Institute partners will focus our efforts during the coming decade on the following integrated strategic areas.



### THE UNIVERSITY OF OTTAWA BRAIN AND MIND RESEARCH INSTITUTE

The University of Ottawa Brain and Mind Research Institute (uOBMRI) continues major growth and development. In the past several years, we have recruited 22 exceptional investigators in brain related research. The Institute brings basic and clinical investigators from a broad spectrum of disciplines under a unifying umbrella to provide leadership and focus for the enhancement of neuroscientific and behavioral research. The Institute's initial programs focused on development of exceptional clinical care and research of brain-related illnesses in stroke, Parkinson's disease, depression and neuromuscular disease. These initiative cut across basic, clinical and human population studies, emphasizing translation of research into practice, particularly in the development of novel therapeutics and diagnostics. In the past year, we have also initiated efforts in emerging areas: understanding concussion injury and cognitive memory processes.



### CARDIOVASCULAR AND VASCULAR BIOLOGY

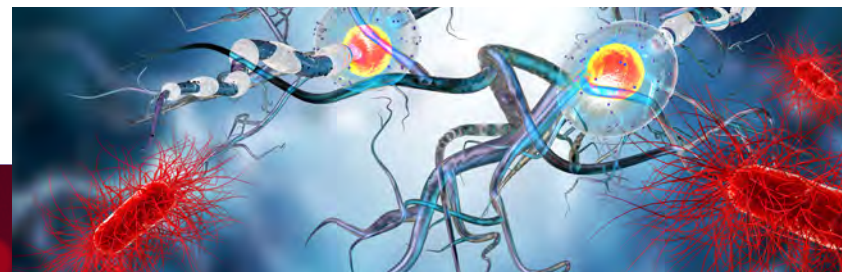
The Faculty of Medicine, together with the University of Ottawa Heart Institute (UOHI) and Ottawa Hospital Research Institute (OHRI), has had a strong track record of research excellence in cardiovascular disease and vascular biology. In recent years there has been a concerted effort to develop a multi-disciplinary and inter-institutional initiative. The 2013-17 Ottawa Region for Advanced Cardiovascular Research Excellence (ORACLE) strategy was developed by Dr. Peter Liu (CSO, UOHI), in collaboration with the Faculty of Medicine, and has additional participation from regional Institutes. The vision for the five year strategy is that UOHI, the Faculty of Medicine and regional partners become Canadian leaders in cardiovascular innovation and knowledge translation. Key successes of the strategy include the formation of regional teams of multi-disciplinary researchers known as Innovation Clusters; basic Scientist recruits in regenerative medicine, imaging probes and metabolomics; the creation of a cardiovascular Biobank; development of the Ottawa Health Sciences Research Ethics Board; acquisition of major research infrastructure; and international symposia (including the Ottawa International Heart Conference). In the coming year, ORACLE 2.0 strategic planning sessions will solicit input from all stakeholders to develop the necessary vision and strategies to ensure our regional cardiovascular research becomes recognized among the top international hubs.



## SCHOOL OF EPIDEMIOLOGY AND PUBLIC HEALTH

The School of Epidemiology and Public Health came into being on January 1, 2015. SEPH builds on the recognition in the Strategic Mandate Agreement that research and graduate education in applied health and knowledge translation are areas of strength in the Faculty of Medicine and its partners, including the affiliated, hospital-based research institutes, and that the University recognizes applied health research as a priority. The vision of the School is to be recognized as a leading contributor to research, teaching and professional training. At the local level it aims to improve patient and population health outcomes in the population laboratory of the Champlain Local Health Integration Network (LHIN), Ontario, Canada. More broadly it carries out research on the determinants of health and disease etiology and on the development, implementation and evaluation of practices, programs and policies aimed to optimize health and social services.

The School aims to bring together virtually applied health researchers from within the Faculty of Medicine, research institutes, and other groups into one collective with agreed upon research strategic priorities and research enabling platforms (e.g., methods center, large administrative database centre, biobanking, centre for microbial diversity, assessment facilities). It will harness the collective power of researchers in the region and promote interdisciplinary, collaborative, patient-centered applied health and public health research. The methodologies used and developed by the researchers include epidemiology, biostatistics and other quantitative evaluative sciences; methods that include complementary quantitative and qualitative approaches; health economics; policy development approaches; and engaged scholarship/knowledge translation.

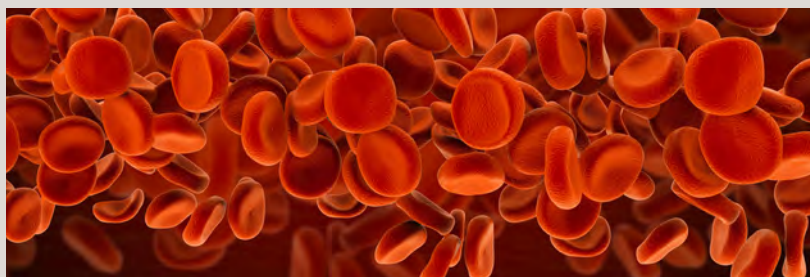


## CENTRE FOR INFECTION, IMMUNITY AND INFLAMMATION (CI3)

Chronic infectious and inflammatory diseases are highly complex, involving multi-faceted gene-environment interactions and substantial cross-talk between different biological systems such as the cardiovascular, immune, neurological and endocrine systems. Unravelling this complexity requires a systems biology approach, and must encompass the expertise of scientists from diverse disciplines working together on a given disease. The uOttawa Centre for Infection, Immunity and Inflammation (CI3) was created with the objective of bringing together basic and clinical scientists from across the fields of Immunology, Microbiology, Virology, Biochemistry, Neurobiology, Cardiovascular Biology, Metabolism and Pathology, who have diverse expertise, experimental models and approaches, and are interested in the development of effective solutions for infectious and inflammatory diseases. The overarching goal of CI3 is to foster multidisciplinary research across the field of infectious and inflammatory disease in order to accelerate understanding of the common principles and help establish the mechanisms that underpin chronic inflammatory states, and therefore lead us towards development of intervention strategies. The objectives of the centre are to: 1) develop new collaborative, innovative and multi-disciplinary research projects that are aimed at understanding the mechanisms of inflammation that underlie various chronic diseases, 2) to develop collaborative projects that are aimed at knowledge translation and dissemination, and 3) to train next the generation of scientists in multidisciplinary research in infection, immunity and inflammation.

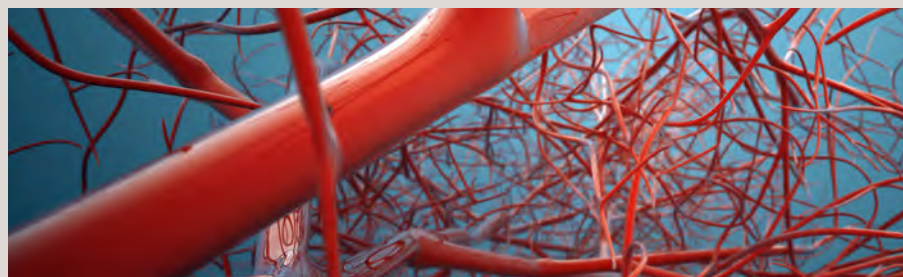


# OUTSTANDING RESEARCH ACCOMPLISHMENTS



## “INVALUABLE” STUDY CONFIRMS BLOOD THINNERS DON’T PREVENT RECURRENT PREGNANCY COMPLICATIONS

Two years ago, **Dr. Marc Rodger, senior scientist at the Ottawa Hospital Research Institute, chief of the Division of Hematology at The Ottawa Hospital and professor in the Department of Medicine,** thought he had settled the debate about the use of blood thinners in pregnant women at high risk of developing blood clots. His trial of 292 women in five countries—the largest of its kind—clearly demonstrated that the practice was not effective. However, despite publication in *The Lancet* with a glowing commentary, some colleagues were reluctant to give up the injections. In response, Dr. Rodger persuaded every colleague who had ever done a clinical trial of this procedure to combine data from all their patients, to enable it to be analyzed in a much more powerful way (called a patient-level meta-analysis). The result, published in *The Lancet*, once again confirms that blood thinners do not prevent pregnancy complications in high-risk pregnant women, except possibly in a very small subgroup. An accompanying commentary calls the analysis “invaluable” and “compelling,” and many of Dr. Rodger’s colleagues have now been convinced to give up the practice. The study not only serves to discourage a practice of no proven value to pregnant women, but also is an important example of the power of patient-level meta-analysis compared to trial level meta-analysis.



## STUDY CALLS FOR HALT TO PRECLINICAL TRIAL SEX BIAS TO PROMOTE SAFE, EFFECTIVE CARDIOVASCULAR TREATMENTS FOR WOMEN

Although we often rely on results from experiments with animals to justify undertaking clinical trials, there has been little emphasis on ensuring that both sexes are adequately included in preclinical stages of research. **Dr. Benjamin Hibbert, an interventional cardiologist, director of the Vascular Biology and Experimental Laboratory at the University of Ottawa Heart Institute, and assistant professor in the Department of Medicine, along with Dr. F. Daniel Ramirez, a cardiology resident and graduate student in epidemiology,** led a study of all preclinical experiments published in five leading cardiovascular journals over a 10-year period. Their study, published in *Circulation*, found that out of nearly 3,400 scientific reports, the sex of the animals used was not reported in 20% and that among those reporting the sex, 72% used exclusively males. When examined over time, this discrepancy was found to be increasing. Dr. Hibbert and his team argued that the prevalent and increasing preferential use of male animals in preclinical cardiovascular research has the potential to disadvantage women by skewing the understanding of diseases toward male-predominant patterns and by reducing the likelihood that treatments specific to females will advance to clinical testing and use. They called for concerted efforts to address this practice and proposed strategies to do so by analyzing journal editorial practices in a follow-up publication in *Circulation Research*.



## THE ACTIVE COMPOUND OF CANNABIS MODULATES CRITICAL BRAIN NETWORK INVOLVED IN MOOD REGULATION

A vast body of literature links individual neurotransmitters with specific brain function and disorders, often with significant overlap. For instance, the neurotransmitters serotonin, glutamate and endocannabinoids, all found naturally in the brain, have each been linked to several biological functions such as mood regulation, reward processing and decision-making, as well as to pathologies such as depressive and anxiety disorders. Knowing they are linked to such functions, but not the mechanics behind the links, necessitates the study of neurochemical-based models within a complete and dynamic circuit-based framework. This allows for a deeper exploration and understanding of just how neurotransmitters modulate circuit function, or information flow, thus helping explain how mood is regulated.

In a recent study published in PNAS, Mr. Sean Geddes and colleagues in the lab of **Dr. Jean-Claude Béïque, associate professor in the Department of Cellular and Molecular Medicine, all members of the University of Ottawa Brain and Mind Research Institute**, uncovered how the prefrontal cortex, a brain region involved in higher brain function, controls the activity of a specific group of neurons that releases serotonin, a neurotransmitter known primarily for its role in influencing one's mood. The team also identified how a particular receptor subtype, when activated by the active compound of cannabis, functionally modulates this network. In understanding the precise mechanisms of how neurotransmitters and neuromodulators regulate the dynamic function of brain networks involved in mood regulation, it becomes easier to explain how antidepressant treatments such as Prozac, as well as cannabis, alter mood. It also provides means to design better treatments for mood-related disorders such as major depression and anxiety disorders.



## CAN GUT BACTERIA CAUSE IBD? RESEARCH POINTS TO NEW WAYS OF TREATING THE DISEASE

Inflammatory bowel disease (IBD) is a lifelong chronic inflammation of the gastrointestinal tract. Canada has one of the highest rates of IBD with 230,000 individuals affected, and each year more and more children develop this incurable disease. Although the cause is unknown, the microbial community of the gastrointestinal tract, namely the gut microbiota, is thought to play a key role in the pathogenesis of IBD. In a recent report in Nature Communications, **Dr. Alain Stintzi, professor in the Department of Biochemistry, Microbiology and Immunology (BMI), Dr. David Mack, director of the CHEO Inflammatory Bowel Disease Centre and professor in Pediatrics, Dr. Daniel Figeys, chair of BMI**, and colleagues used systems-level approaches to study the interactions between the gut microbiota and host in new-onset pediatric IBD patients to explore the causality and mechanisms of the disease.

The authors reported that IBD patients showed significant alterations in the composition of their gut microbiota. In addition to a lower level of protective microbes, they noted an increased presence of detrimental microbes. These include the bacteria *Atopobium parvulum*, a potent producer of hydrogen sulfide (H<sub>2</sub>S), a strong pro-inflammatory agent that IBD patients are unable to adequately detoxify. Levels of the bacteria were also shown to correlate positively with the severity of inflammation. The research further demonstrated that the bacteria causes inflammation, a hallmark of IBD, in susceptible animal models. Altogether, the study revealed an imbalance in the production and detoxification of H<sub>2</sub>S in IBD patients, providing insights into IBD pathogenesis and opening the door for new treatments in controlling the composition of the gut microbiota and restoring a healthy balance.





## BLOOD DONOR AGE AND SEX MAY AFFECT RECIPIENT OUTCOME

Blood transfusions are the most frequent intervention given to hospitalized patients in North America. While they are given in an effort to improve patient outcomes, they have also been associated with increased harm. Seeking explanations for both the beneficial and deleterious effects of blood transfusions is necessary to ensure the safe and optimal use of a precious resource. In a study published in *JAMA Internal Medicine*, a team led by **Dr. Dean Fergusson, senior scientist at The Ottawa Hospital and professor in the Department of Medicine**, analyzed the effect of blood donor characteristics (donor age and sex) on the survival of transfusion recipients. The researchers conducted a multi-site study using data collected from blood donors by Canadian Blood Services, and demographic and clinical data from large hospitals and provincial clinical-administrative databases. The study found that transfusions from younger donors and from female donors were significantly associated with increased mortality in a large cohort of transfused patients. This suggests that donor characteristics may affect transfusion outcomes and that clinical trials are warranted to validate the researchers' findings and facilitate optimal matching of donors to recipients.



## COMBINING CANCER IMMUNOTHERAPIES FOR A BIGGER THERAPEUTIC BANG

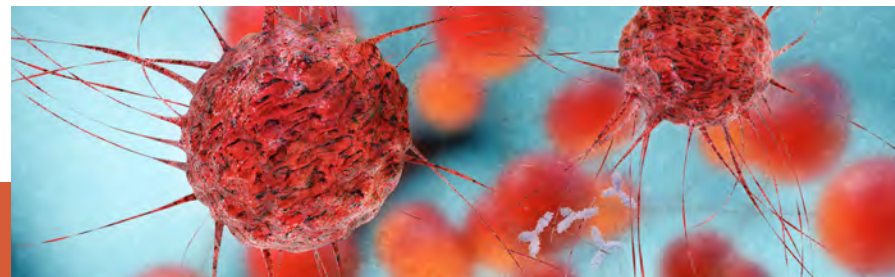
Cancer cells are especially difficult to kill because they express genes that convey resistance to death signals, which arise from the immune system or via chemotherapy and radiation therapy. The resistance of cancer cells to death is partly dependent on a class of genes called inhibitors of apoptosis (or IAPs), originally discovered in the mid-1990s by a group led by **Dr. Robert Korneluk, currently senior scientist at the CHEO Research Institute and a University of Ottawa distinguished professor in the Departments of Pediatrics and Biochemistry, Microbiology and Immunology**. Drugs called Smac mimetics have recently been developed to shut off IAP gene activity, thereby causing cancer cells to die from various death signals including those arising from the body's own immune system.

In a 2017 paper published in *Nature Communications*, Dr. Korneluk's group reports that Smac mimetics significantly improve the anti-cancer ability of an immune-based class of recently approved therapies called immune checkpoint inhibitors. They show that combination treatments of Smac mimetics with immune checkpoint inhibitors eradicate various cancers in mice, including glioblastoma (a highly fatal brain cancer), multiple myeloma (a blood cancer) and breast cancer. They further deciphered the mechanisms at play in the treatment combination, by which immune cells communicate with and kill the cancer cells—a discovery with a direct consequence in improving the lives of patients. A clinical trial has recently begun to test this novel combination in lung cancer patients at The Ottawa Hospital under the direction of **Dr. Glenwood Goss, medical oncologist and a professor in the Department of Medicine**.



## DISCOVERY OF NOVEL APPROACH TO TREATING ALZHEIMER'S DISEASE BY BLOCKING KEY NEUROTRANSMITTER RECEPTOR

Alzheimer's disease is a progressive neurodegenerative disorder characterized by cognitive decline and extensive memory loss. There is currently no known cure, and available treatments are of limited efficacy. Evidence shows the abnormal signalling of the neurotransmitter glutamate in the brain of an Alzheimer's patient. This abnormality causes excessive activation of glutamate receptor type 5 (mGluR5), a result that has been shown to contribute to further Alzheimer pathology. Targeting this receptor may therefore have potential for treating Alzheimer's disease. In a paper recently published in *Cell Reports*, **Dr. Stephen Ferguson of the uOttawa Brain and Mind Research Institute (uOBMRI), Tier 1 Canada Research Chair in Brain and Mind, and professor in the Department of Cellular and Molecular Medicine**, showed that the chronic and selective blockade of mGluR5 with a drug called CTEP improves learning and memory as well as reduces neuronal pathology in mouse models of Alzheimer's disease. This research demonstrates not only that more work is needed to truly understand the role of mGluR5 in Alzheimer's disease, but also that CTEP has the potential to improve pathology, enhance cognitive function, and reduce memory loss in Alzheimer's patients. This is particularly interesting as several analogues of CTEP have been pushed forward for clinical trials for other applications, with proven outstanding safety and tolerability.



## DE-STRESSING CANCER CELLS MAY REDUCE THEIR DEFENCES AGAINST CHEMOTHERAPY TREATMENT

Chemotherapy is a first-line treatment option for cancers, but in many cases cancers are or become resistant to chemotherapy. One way cancer cells become resistant is through the formation of stress granules, structures that give cells a survival advantage. This natural process protects the body's cells from a variety of stresses, but the production of stress granules by cancer cells allows them to defend themselves from treatments. For example, breast cancer cells with increased levels of stress granules are resistant to many common chemotherapy agents. By discovering ways to reduce stress granule formation, it may be possible to turn a chemotherapy-resistant cancer cell into one that now responds to treatment.

Recently, **Dr. Kristin Baetz, professor in the Department of Biochemistry, Microbiology and Immunology and director of the Ottawa Institute of Systems Biology**, used budding yeast as a simple model organism to identify a novel signaling pathway that reduces the formation of stress granules. The study, published in *PLoS Genetics*, was the first to discover a particular enzyme that play an active role in regulating the formation of stress granules. Dr. Baetz's team also showed that deactivating this enzyme has a direct correlation to lowering stress granule levels. Given the remarkable similarity between simple yeast and human cells, in collaboration with **Dr. Morgan Fullerton, assistant professor in the Department of Biochemistry, Microbiology and Immunology** and **Dr. Jocelyn Côté, professor in the Department of Cellular and Molecular Medicine**, the team explored whether the equivalent enzyme in human cells, Tip60, also regulates stress granule formation. Together they discovered they could reduce the formation of stress granules in breast cancer cells by inhibiting Tip60 activity. These findings not only have important implications in understanding stress granule formation, but also open up the possibility of future development of therapeutics to reduce stress granule formation in cancer cells, rendering them more responsive to chemotherapies.

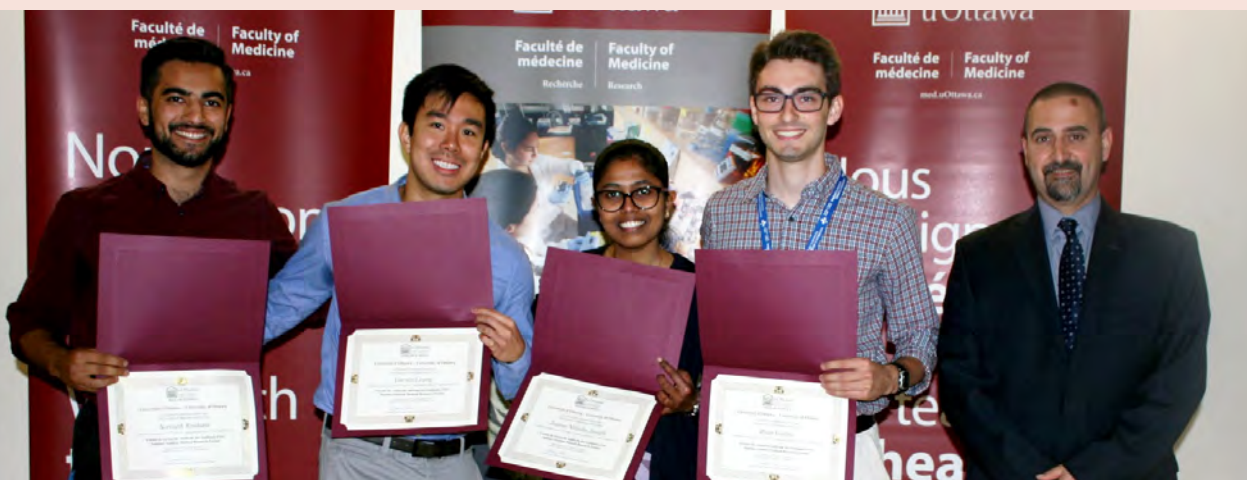


# SUMMER RESEARCH WORK PROGRAM 2017

The Faculty of Medicine Research Office Summer Research Work Program is offered to students enrolled in their first or second year of training. We are pleased to offer fifty \$5,000 bursaries to students who are selected to participate. Students then spend the summer working closely with their supervisor on a specific research project followed by a poster presentation of their work in September. Winners of the poster session then go on to present once more at the Canadian National Medical Student Research Symposium in Winnipeg.

**This year's winners are:**

- #1** Joanne Nilusha Joseph  
**Supervisor:** Dr. Bernard Thebaud – **Project:** Mesenchymal stromal cells – Towards a cell-based therapy to prevent neonatal lung diseases
- #2** Ryan Gotfrit  
**Supervisor:** Dr. Thanh Binh Nguyen – **Project:** Preoperative identification of isocitrate dehydrogenase mutation in gliomas using MR spectroscopy, diffusion-weighted and perfusion-weighted imaging
- #3** Soroush Rouhani  
**Supervisor:** Dr. Benjamin Chow – **Project:** Establishing Objective Measures of Wall Motion Using SPECT Wall Thickening Scores Practice
- #4** Garvin Leung  
**Supervisor:** Dr. Dean Fergusson – **Project:** Scoping review of preclinical design and reporting in oncolytic virus therapy



*From left to right: Soroush Rouhani, Garvin Leung, Joanne Nilusha Joseph, Ryan Gotfrit and Dr. Jocelyn Côté*

# CORE FACILITIES



The Faculty of Medicine, with support from affiliated hospital-based research institutes and the University of Ottawa, has successfully developed a series of cutting-edge core facilities which bring together state-of-the-art equipment, instrumentation, methodologies and expertise crucial to the success of basic and clinical research activities. These facilities are accessible to all researchers across the University of Ottawa as well as to outside communities on a fee-for-service basis. To date, 14 cores have been established and a few others are in the planning stages. For each facility, director and user committees have been appointed to ensure accountability and optimal use for the continued commitment and success of our expanding core facilities.

## UNIVERSITY OF OTTAWA & FACULTY OF MEDICINE SUPPORTED CORES:

Animal Behavior: **Dr. Diane Lagacé**  
Genomics (StemCore): **Dr. Michael Rudnicki**  
Bioinformatics: **Dr. Theodore Perkins**  
Cell Biology and Image Acquisition: **Dr. John Copeland**  
Histology: **Dr. John Veinot**  
Preclinical Imaging: **Dr. Frank J. Rybicki**  
Flow Cytometry: **Dr. Marc-André Langlois**  
Proteomics: **Dr. Daniel Figeys**  
Transgenic: **Dr. David Lohnes**

## FACULTY OF MEDICINE SUPPORTED CORES:

Proteomics (StemCore): **Dr. Marjorie Brand**  
Human Pluripotent Stem Cells: **Dr. William Stanford**  
Protein Biophysics: **Dr. Jean-François Couture**  
Common Equipment and Technical Expertise: **Dr. Laura Trinkle-Mulcahy**  
CL2/CL3: **Dr. Marc-André Langlois**

*For more information, please visit [med.uOttawa.ca/core-facilities/](http://med.uOttawa.ca/core-facilities/)*



# RESEARCH OFFICE EVENTS

## New Professor Seminar Series



### **DR. DESHAYNE FELL, ASSISTANT PROFESSOR, SCHOOL OF EPIDEMIOLOGY AND PUBLIC HEALTH**

Dr. Deshayne Fell (SEPH) gave a recent presentation on “Immunization During Pregnancy: Promises and Challenges”. Dr Fell has worked in perinatal research, epidemiology, and surveillance for more than 15 years in both academic and public health settings. She has extensive experience with the provincial birth registry in Ontario (BORN Ontario) and with the use of large health administrative datasets (e.g., ICES data holdings) for perinatal and pediatric epidemiologic research. Dr. Fell’s research focuses on fetal and infant population health and she has co-authored over 50 peer-reviewed publications. In recent years, her primary emphasis has been on influenza disease and influenza immunization during pregnancy and the relationship with adverse birth outcomes.



### **DR. MARCELINE CÔTÉ, ASSISTANT PROFESSOR, DEPARTMENT OF BIOCHEMISTRY, MICROBIOLOGY, AND IMMUNOLOGY**

Dr. Marceline Côté (BMI) described her research in a talk titled, “Mapping the Ebola virus entry pathway into the host cell”. The overarching goal of the Côté laboratory is to improve our understanding of host-pathogen interactions during infection by emerging viruses, towards the development of novel host- and/or viral-oriented antiviral therapeutics. In the laboratory, they combine virological, chemical biology, and genetic approaches to identify host proteins critical for viral infection that can be targeted to block virus spread. The lab is particularly interested in acquiring a detailed understanding of the entry pathways of filoviruses (Ebola and Marburg viruses), arenaviruses (Lassa fever virus), and coronaviruses (Severe acute respiratory syndrome virus and Middle East respiratory syndrome virus).

# RESEARCH OFFICE EVENTS

## New Professor Seminar Series



### **DR. BENJAMIN ROTSTEIN**, ASSISTANT PROFESSOR, DEPARTMENT OF BIOCHEMISTRY, MICROBIOLOGY, AND IMMUNOLOGY

Dr. Benjamin Rotstein (BMI/uOHI) described his research in a talk titled, "Radiopharmaceutical Methods and Probes for Positron Emission Tomography". Research in the Rotstein lab includes basic science radiochemistry and translational radiotracer development. His overall goal is the discovery and refinement of tools for molecular imaging, principally by positron emission tomography (PET). PET allows for non-invasive, quantitative, and dynamic imaging of biochemical targets, such as receptors or enzymes. A PET radiopharmaceutical can be used to study biochemistry in living systems, diagnose disease, or help in development of therapeutics.



### **DR. MEGHAN MCCONNELL**, ASSISTANT PROFESSOR, DEPARTMENT OF INNOVATION IN MEDICAL EDUCATION

Dr. Meghan McConnell (DIME) gave a recent presentation on "The Impact of Mood on Learning". Dr. McConnell's research interests fall into three broad domains: 1) emotion research, where she examines the role of emotions and moods in the training, assessment, and performance of healthcare professionals, 2) pedagogical research, where she investigates factors that modulate learning and knowledge transfer, and 3) assessment and evaluation research, where she examines the psychometrics of various types of assessments and evaluations of competency.



# RESEARCH OFFICE EVENTS

## New Professor Seminar Series



### **DR. PATRICK M. GIGUÈRE**, ASSISTANT PROFESSOR, DEPARTMENT OF BIOCHEMISTRY, MICROBIOLOGY, AND IMMUNOLOGY

Dr. Patrick Giguère (BMI) gave a recent presentation on the “Molecular basis of GPCR functional selectivity by allosteric modulators”. Dr. Giguère’s research has three broad aims: to use pharmacological, biochemical and structural approaches to develop a new level of understanding of opioid receptor molecular recognition, pharmacological and functional selectivity; to perform drug screening and design of novel functionally selective allosteric modulators of the opioid receptors; and to enhance the GPCR’s tool box via the development of a novel synthetic biology platform and cell-based assay. The ultimate objective of Dr. Giguère’s research is to generate distinct therapeutics that will uniquely modify their pharmacology in a medically meaningful way, increasing their therapeutic efficacy with reduced harmful side effects.



### **DR. BAPTISTE LACOSTE**, ASSISTANT PROFESSOR, DEPARTMENT OF CELLULAR AND MOLECULAR MEDICINE

Dr. Baptiste Lacoste (CMM/OHRI) described his research in a talk titled, “Cerebrovascular remodeling in neurological disorders”. Research in the Lacoste lab tackles the following questions: how do cerebrovascular networks form properly after birth; what mechanisms underlie their plasticity; how is their integrity altered in neurological conditions; and how targeting cerebrovascular remodeling may offer innovative therapeutic options throughout life. Ultimately, Dr. Lacoste aims to identify key cellular and molecular mediators of cerebrovascular plasticity which will lead to important findings about structural and functional determinants of vascular health, an essential pre-requisite for the development of transformative strategies for neuroprotection.

# RESEARCH OFFICE MAJOR EVENTS

## Distinguished Lectures

### Gairdner Lecture Series

On Tuesday, October 24th, the Faculty of Medicine hosted this year's recipients of the Gairdner awards. The Canada Gairdner Awards are recognized as among the most prestigious awards in biomedical science. This year the event featured two internationally acclaimed researchers: The Faculty of Medicine's own Dr. Antoine Hakim, Emeritus Professor, Neurology and Dr. Cesar Victora, Emeritus Professor, Federal University of Pelotas in Pelotas, Brazil.

Dr Hakim received the 2017 Canada Gairdner Wightman Award for his outstanding research into strokes and their consequences and championing stroke prevention and treatment in Canada and beyond. Dr. Hakim characterized a penumbral region around a stroke's ischemic core — brain tissue with enough energy to survive for a short time after blood loss and with the potential to regain normal function if blood flow was restored. He also led the charge to set up the Canadian Stroke Network, a network of centers of excellence; he then partnered with the Heart and Stroke Foundation and other organizations to develop and apply a nation-wide Canadian Stroke Strategy. The extensive career of the world-renowned neuroscientist has not only helped transform stroke from a devastating condition to one that is treatable; it also earned him a major international scientific prize, the prestigious 2017 Canada Gairdner Wightman Award. Dr. Cesar Victora received the 2017 John Dirks Canada Gairdner Global Health Award for his outstanding contributions to maternal and child health and nutrition in low and middle income countries, with particular focus on the impact of exclusive breastfeeding on infant mortality and on the long-term impact of early-life nutrition.

### Friesen International Prize

On Tuesday, October 31st, the University of Ottawa and the friends of CIHR were pleased to host the 2017 Henry G. Friesen International Prize in Health Research Award winner, Dr. Alan Bernstein. Dr. Bernstein, president of the Canadian Institute for Advanced Research (CIFAR), spoke on the topic of Health Research in an Age of Borderless Science: How Can Canada Best Contribute? He is renowned as a stem cell and cancer scientist, as an institutional leader in Canada and as the inaugural President of the Canadian Institutes of Health Research (CIHR). Dr. Bernstein is the recipient of major awards and honours, including the Order of Canada, election to the Canadian Medical Hall of Fame, Fellowship in the Royal Society of Canada and the Gairdner Foundation Wightman Award. The Friesen Prize, established in 2005 by the Friends of Canadian Institutes of Health Research (FCIHR) recognizes exceptional innovation by a visionary health leader of international stature.



**Left to Right:** Dr. Antoine Hakim; Dr. Janet Rossant, President and Scientific Director, Gairdner Foundation; Yves Savoie, CEO of Heart & Stroke; Jacques Fremont, President and Vice-Chancellor of the University of Ottawa; Dr. Lorne Tyrrell, Chair, Gairdner Foundation's Board of Directors

**Photo credit:** Gairdner Foundation



**From left to right:** Dr. Henry G. Friesen, Former President of the Medical Research Council of Canada & Former President of the National Cancer Institute of Canada & Former President of the Canadian Society for Clinical Investigation; Dr. Sylvain Charbonneau, Interim Vice-President, Research, University of Ottawa; Dr. Alan Bernstein, President and Chief Executive Officer of the Canadian Institute for Advanced Research; Dr. Mona Nemer, Canada's Chief Science Advisor; Allan Rock, Former University of Ottawa President; Dr. Aubie Angel, Professor Emeritus - President, Friends of CIHR - Senior Fellow, Massey College

**Photo credit:** Photographie Provencher





## Gairdner Lecture Series

### From left to right:

Dr. Bernard Jasmin, Interim Dean, Faculty of Medicine, University of Ottawa; Dr. Janet Rossant, President and Scientific Director, Gairdner; Dr. Antoine Hakim, Recipient of the 2017 Canada Gairdner Wightman Award; Dr. Cesar Victora, Recipient of the 2017 John Dirks Canada Gairdner Global Health Award; Dr. Ruth Slack, Interim Vice-Dean Research, Faculty of Medicine, University of Ottawa

**Photo credit:** Photographie Provencher





## INTERNATIONAL COLLABORATIONS

The Faculty of Medicine and the Shanghai Jiao Tong University School of Medicine (SJUTSM) signed a blueprint memorandum on October 18, 2013, which laid the anchor for a partnership in medical education and research between the two institutions and their affiliated teaching hospitals. On October 28, 2014, the Faculty of Medicine, the Children's Hospital of Eastern Ontario (CHEO), and Shanghai Xinhua Hospital which is affiliated with the SJTUSM, signed a further MOU with the overarching goal to create a leading international clinical research unit.

Since then, bilateral collaborations in clinical research have been gaining momentum. In 2015, the Faculty of Medicine established a Joint Clinical Research Steering Committee, chaired by Dr. Jasmin. The committee consists of Departmental Chairs and Research Institute Directors. A collective decision was made to create, with Xinhua Hospital, its very first Clinical Research Unit which will also serve joint research projects via the signed partnership. Leading investigators from both sides have been identified for promoting joint research projects, and regular two-way meetings will soon be held to enhance interactions and better support discussions on future directions for this partnership.

Encouragingly, this partnership has recently expanded to also encompass many other opportunities and initiatives for international collaboration between Professors and trainees from the two Universities and affiliated teaching hospitals. In particular, the Ottawa Hospital, the Children's Hospital of Eastern Ontario (CHEO), and the Hôpital Montfort have already signed MOUs with hospitals in Shanghai including Renji, Xinhua and Ruijin Hospitals, respectively, to collaborate for improving patient care and clinical research.

### **UNIVERSITY OF OTTAWA / SHANGHAI INSTITUTE OF MATERIA MEDICA (SIMM)**

In November 2011, the University of Ottawa and SIMM established a formal agreement to develop a joint laboratory in mass spectrometry/proteomics encouraging the mobility of professors and graduate students. The two institutions will establish a scientific committee of eminent scientists from the University of Ottawa and SIMM to explore further development and to build an international collaborative team.

### **UNIVERSITY OF OTTAWA / THE SHANGHAI INSTITUTES FOR BIOLOGICAL SCIENCES (SIBS)**

In November 2011, the University of Ottawa and SIBS partnered to promote collaborative links between our two institutions in systems biology. This will go a long way in promoting the exchange of professors and graduate students to:

- Organize a symposium on systems biology to be held at uOttawa and at SIBS on a rotating basis

- Invite researchers from both institutions for short stays or for complete sabbaticals to develop collaborative projects or to be trained in specialized techniques
- Encourage scientists to develop joint research projects and make applications to national and international funding agencies supporting work in areas of mutual interest
- Promote international research experience and training for graduate students, postdoctoral fellows and clinical staff





#### **UNIVERSITY OF OTTAWA / OTTAWA HOSPITAL RESEARCH INSTITUTE / THE OTTAWA HOSPITAL / INSTITUTE OF ZOOLOGY / SHANGHAI INSTITUTES OF BIOLOGICAL SCIENCES**

In September 2005, the University of Ottawa, the Ottawa Hospital Research Institute and the Ottawa Hospital, together with the Institute of Zoology and the Shanghai Institutes of Biological Sciences formalized a collaborative agreement for research and academic exchange in the area of reproductive biology with the goals to:

- Develop links in reproductive biology research
- Promote the exchange of research personnel to carry out joint research and academic meetings
- Develop a plan for the establishment of joint teams in reproductive health research and education so as to facilitate and intensify academic exchanges and research collaboration

#### **UNIVERSITY OF OTTAWA / UNIVERSITÉ PARIS – DESCARTES**

Following informal communications between both universities, several opportunities for cooperation in the area of neuroscience, a field in which informal collaborations already existed, became evident. Increased collaboration, medical leadership and the creation of a conference to bring together key players in doctoral training were all identified as areas of potential partnership. In November 2009, a five-year memorandum of understanding formalized this intent. The partnership was renewed for an additional five years in 2014.



#### **UNIVERSITY OF OTTAWA / DALIAN INSTITUTE OF CHEMICAL PHYSICS**

In June 2011, the University of Ottawa and the Dalian Institute of Chemical Physics established a formal agreement to promote collaborative links in proteomics and systems biology. The joint research laboratory will have an initial focus on:

- Proteomics and systems biology technology development and application
- Clinical application of proteomic and systems biology
- Mechanistic study of traditional Chinese medicine
- Biological validation of proteomics and systems biology
- Bioinformatic software development and application



### UNIVERSITY OF OTTAWA / SHIGA UNIVERSITY OF MEDICAL SCIENCE

Through the efforts of the University of Ottawa Centre for Research in Biopharmaceuticals and Biotechnology, an agreement between uOttawa and the SHIGA University of Medical Science was signed. The overall objective of this new partnership is to develop academic and scientific collaborations by initially establishing an exchange of information in programs and course offerings as well as research programs and scientific projects. Emphasis will be placed on developing links in several areas, but primarily in brain and mind sciences, cardiovascular science and medical pedagogy.

### UNIVERSITY OF OTTAWA FACULTY OF MEDICINE / SHANGHAI JIAO TONG UNIVERSITY SCHOOL OF MEDICINE

In October 2013, the University of Ottawa and SJTU launched the Ottawa–Shanghai Joint School of Medicine. In September 2015, uOttawa welcomed the first group of Chinese medical students from SJTU. In October 2015, the Joint School of Medicine opened the first Canadian-style family physician clinic in China. To support the Joint School of Medicine's on-going research activities in medicine and medical education, uOttawa and SJTU set up a significant research fund.

### UNIVERSITY OF OTTAWA FACULTY OF MEDICINE/ UNIVERSITÉ CLAUDE BERNARD LYON 1

The Faculty of Medicine is leading the way in the internationalization of Canadian medical research and education. Over the past year, the University of Ottawa, Université Claude Bernard Lyon 1 and the Hospices Civils de Lyon developed a cooperation agreement to support the development of stronger ties for conducting research in the biomedical sciences and to develop new joint research programs and conferences. Given the international prominence and history of research excellence of these two Universities in neuromuscular disease research, a joint collaborative research program has been launched between the University of Ottawa's Centre for Neuromuscular Disease (CNMD) and l'Université Claude Bernard Lyon 1 Institut NeuroMyoGène (INMG). This program will support collaborations between the two institutions in basic and clinical neuromuscular disease research, and will foster the development of novel collaborations and international research teams.



#### From left to right:

Frédéric Fleury, président, Université Claude Bernard Lyon; Laurent Schaeffer, professeur des universités – praticien hospitalier, et directeur de l'Institut NeuroMyoGène; Kareen Rispal, ambassadrice, Ambassade de France; Bernard Jasmin, doyen intérimaire, Faculté de médecine, uOttawa; Jacques Frémont, recteur et vice-chancelier, uOttawa



# CURRENT RESEARCH CHAIR HOLDERS

## Canada Research Chairs

### TIER ONE

**Dr. Pierre Blier (2004)**

Chair in Psychopharmacology

**Dr. Daniel Figeys (2004)**

Chair Proteomics and Systems Biology

**Dr. Stephen Ferguson (2015)**

Chair in Brain and Mind

**Dr. Jeremy Grimshaw (2002)**

Chair in Health Knowledge Transfer and Uptake

**Dr. Ronald Labonté (2004)**

Chair in Contemporary Globalization and Health Equity

**Dr. Julian Little (2005)**

Chair in Human Genome Epidemiology

**Dr. Georg Northoff (2009)**

Chair in Mind Brain Imaging and Neuroethics

**Dr. Michael Rudnicki (2001)**

Chair in Molecular Genetics

**Dr. William Stanford (2011)**

Chair in Integrative Stem Cell Biology

**Dr. Peter Tugwell (2002)**

Chair in Health Equity

### TIER TWO

**Dr. Ian Colman (2011)**

Chair in Mental Health Epidemiology

**Dr. Marceline Côté (2015)**

Chair in Molecular Virology and Antiviral Therapeutics

**Dr. Jean-François Couture (2008)**

Chair in Structural Biology and Epigenetics

**Dr. Patrick Giguère (2015)**

Chair in Molecular Pharmacology and Drug Discovery

**Dr. Marc-André Langlois (2010)**

Chair in Molecular Virology and Intrinsic Immunity

**Dr. Seung-Hwan Lee (2011)**

Chair in Viral Infection and Immunity

**Dr. Michael Schlossmacher (2006)**

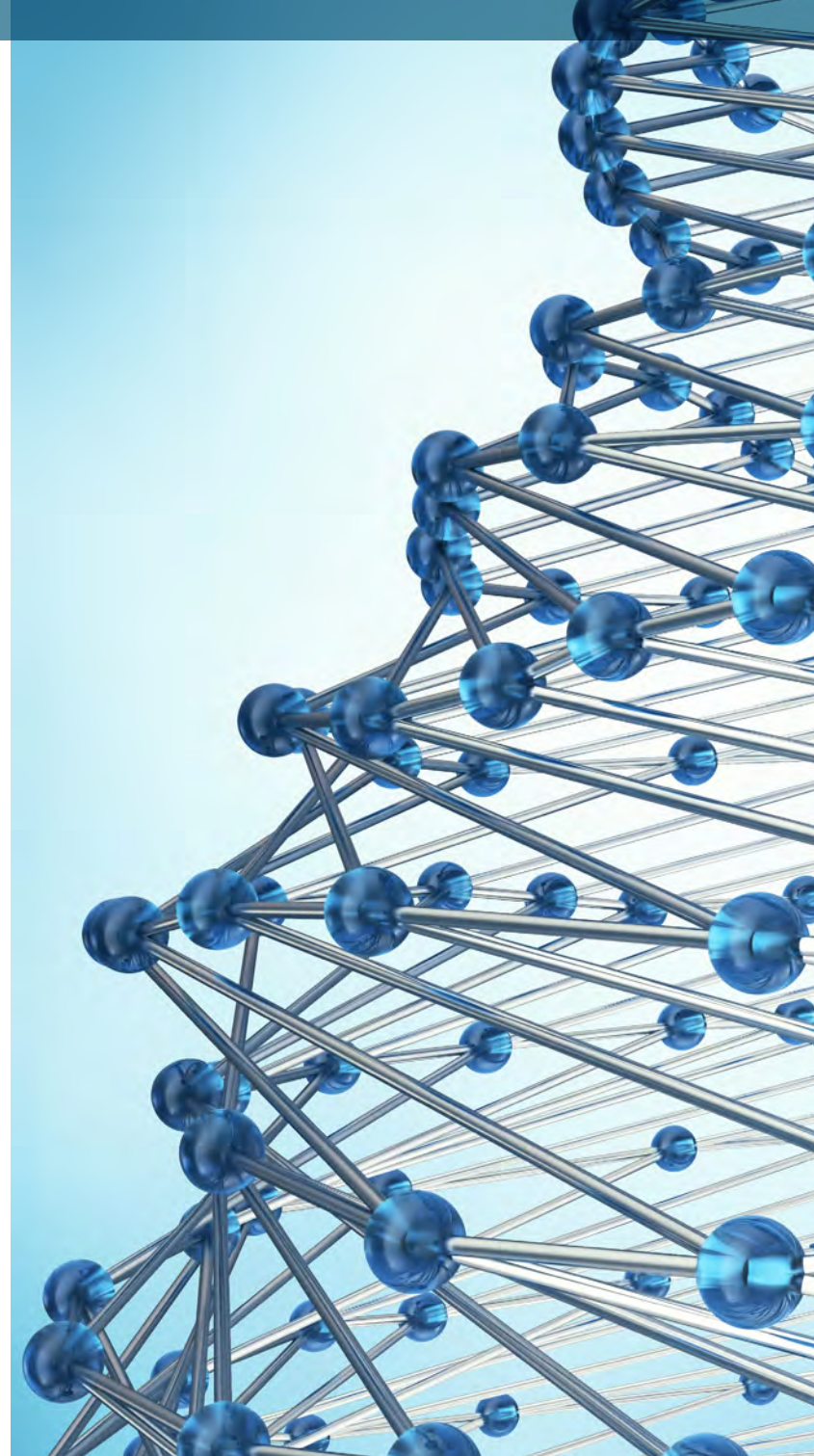
Chair in Parkinson's Diseases

**Dr. Simon Chen (2016)**

Chair in Neural Circuits and Behaviour

**Dr. Mireille Ouimet (2017)**

Chair in Cardiovascular Metabolism and Cell Biology



# UNIVERSITY RESEARCH CHAIRS

**Dr. David Moher**

University Research Chair (2006)  
Chair in Systematic Reviews

**Dr. Ruth Slack**

University Research Chair (2003)  
Accelerating recovery after an acute  
brain injury

**Dr. Steffany Bennett**

University Research Chair (2011)  
Chair in Neurolipidomics

**Dr. Beth Potter**

University Research Chair (2016)  
Health Services for Children with  
Rare Diseases

**Dr. Mary-Ellen Harper**

University Research Chair (2016)  
Mitochondrial Bioenergetics

## ENDOWED AND SPONSORED CHAIRS

**Dr. Ben Chow**

Saul & Edna Goldfarb Chair in Cardiac  
Imaging Research

**Dr. Barbara Vanderhyden**

Corinne Boyer Research Chair Ovarian  
Cancer

**Dr. Catherine Tsilfidis**

Donald and Joy MacLaren Chair for  
Vision Research

**Dr. Ciarán Duffy**

Endowed Chair Pediatrics

**Dr. Daniel Krewski**

NSERC/SSHRC/McLaughlin Chair  
Population Health Risk Assessment

**Dr. David Birnie**

Endowed Chair in Electrophysiology

**Dr. Dean Fergusson**

OHRI/uOttawa Clinical Epidemiology  
Program Endowed Chair

**Dr. Duncan Stewart**

Evelyn and Rowell Laishley Chair for the  
OHRI CEO and Scientific Director

**Dr. Sudhir Sundareshan**

Wilbert J. Keon Chair of the Department  
of Surgery

**Dr. Eve Tsai**

Suruchi Bhargava Brain & Cord  
Regeneration

**Dr. Frans Leenen**

Pfizer Research Chair Hypertension

**Dr. Ian Lorimer**

A.&E. Leger Memorial Fund for  
Oncology Research Chair

**Dr. Ian Stiell**

Research Chair in Emergency Medicine

**Dr. Lyall Higginson**

Donald S Beanlands Chair Cardiology  
Education

**Dr. Marc Ruel**

Chair Cardiac Surgery Research

**Dr. Marc Ruel**

Michael Pitfield Chair Cardiac Surgery

**Dr. Marino Labinaz**

Chair Interventional Cardiology  
Leadership

**Dr. Michael Schlossmacher**

Bhargava Research Chair for  
Neurodegenerative Diseases

**Dr. Pierre Blier**

Endowed Chair of Research Mood  
and Anxiety Disorders

**Dr. Robert Beanlands**

Vered Chair of Cardiology

**Dr. Robert Beanlands**

Saul and Edna Goldfarb Chair in  
Cardiac Imaging Research

**Dr. Rodney Breau**

Urology Oncology Research Chair

**Dr. Ruth McPherson**

Merck Frosst Canada Chair  
Atherosclerosis

**Dr. Seymour Brownstein**

Les Amis Research Chair

**Dr. Sood Manish**

Siv L. Jindal Chair for Kidney  
Disease Prevention Research

**Dr. Steven Gilberg**

Chair of the Eye Institute

**Dr. Susan Lamb**

Jason Hannah Chair for the  
History of Medicine

**Dr. Thierry Mesana**

Gordon F. Henderson Chair  
Leadership

**Dr. Thierry Mesana**

Chair Cardiac Surgery Valve  
Research



# CLINICAL RESEARCH CHAIRS

**Dr. Shawn Aaron**

Department of Medicine  
Tier 1 Chair in Obstructive Lung Disease

**Dr. Rob Beanlands**

Department of Medicine  
Tier 1 Chair in Cardiovascular Imaging Research

**Dr. David Birnie**

Department of Medicine  
Tier 1 Chair in Cardiac Arrhythmia Research

**Dr. Gregory Knoll**

Department of Medicine  
Tier 1 Chair in Clinical Transplantation Research

**Dr. Grégoire LeGal**

Department of Medicine  
Tier 1 Chair in Diagnosis VTE

**Dr. Alex MacKenzie**

Department of Paediatrics  
Tier 1 Chair in Rare Neurologic Disease Therapeutics

**Dr. Marc Alan Rodger**

Department of Medicine  
Tier 1 Chair in Venous Thrombosis and Thrombophilia

**Dr. Ian Stiell**

Department of Emergency Medicine  
Tier 1 Chair in Acute Cardiac Conditions

**Dr. Gonzalo Alvarez**

Department of Medicine  
Tier 2 Chair in Tuberculosis in Canadian Aboriginal Communities

**Dr. Rebecca Auer**

Department of Surgery  
Tier 2 Chair in Perioperative Cancer Therapeutics

**Dr. Kym Boycott**

Department of Pediatrics  
Tier 2 Chair in Neurogenetics

**Dr. Marc Carrier**

Department of Medicine  
Tier 2 Chair in Cancer and Venous Thromboembolism

**Dr. Darryl Davis**

Department of Medicine  
Tier 2 Chair in Cardiac Regeneration

**Dr. David Dymant**

Department of Pediatrics  
Tier 2 Chair in Translational Epilepsy Research

**Dr. Claire Liddy**

Department of Family Medicine  
Tier 2 Chair in Family Medicine

**Dr. Kusum Menon**

Department of Pediatrics  
Tier 2 Chair in Pediatric Shock

**Dr. Lisa Mielniczuk**

Department of Medicine  
Tier 2 Chair in Heart Failure and Pulmonary Hypertension Research

**Dr. Jeffrey Perry**

Department of Emergency Medicine  
Tier 2 Chair in Emergency Neurological Research

**Dr. Amy Plint**

Department of Pediatrics  
Tier 2 Chair in Pediatric Emergency Medicine

**Dr. Giorgio Tasca**

Department of Psychiatry  
Tier 2 Chair in Psychotherapy Research

**Dr. Christian Vaillancourt**

Department of Emergency Medicine  
Tier 2 Chair in Emergency Medicine

**Dr. Leanne Marie Ward**

Department of Pediatrics  
Tier 2 Chair in Pediatric Bone Health

**Dr. Roger Zemek**

Departments of Pediatrics and Emergency Medicine  
Tier 2 Chair in Pediatric Concussion



# JUNIOR CLINICAL RESEARCH CHAIRS

**Dr. Angel Arnaout**

Department of Surgery  
Junior Clinical Research Chair in “Window of Opportunity” Clinical Trials in Surgical Oncology

**Dr. Lise Bjerre**

Department of Family Medicine  
Junior Clinical Research Chair in Pharmacoepidemiology and Medication Appropriateness

**Dr. James Bonaparte**

Department of Otolaryngology  
Junior Clinical Research Chair in Otolaryngology

**Dr. Innie Chen**

Department of Obstetrics and Gynecology  
Junior Clinical Research Chair in Reproductive Population Health and Health Services

**Dr. Warren Cheung**

Department of Emergency Medicine  
Junior Clinical Research Chair in Medical Education with the Department of Emergency Medicine

**Dr. Girish Dwivedi**

Department of Medicine  
Junior Clinical Research Chair in Vascular Inflammation and Atherosclerosis Research

**Dr. Rustum Karanjia**

Department of Ophthalmology  
Junior Clinical Research Chair in Neuro-ophthalmology

**Dr. Matthew Lines**

Department of Pediatrics  
Junior Clinical Research Chair in Mitochondrial Disorders

**Dr. Daniel McIsaac**

Department of Anesthesiology  
Junior Research Chair in Perioperative Health Systems and Outcomes Research

**Dr. Abigail Ortiz**

Department of Psychiatry  
Junior Clinical Research Chair in Mood Disorders

**Dr. Nicola Schieda**

Department of Radiology  
Junior Clinical Research Chair in Radiology

**Dr. Jodi Warman Chardon**

Department of Medicine  
Junior Clinical Research Chair in Novel Gene Discovery in Neuromuscular Disease

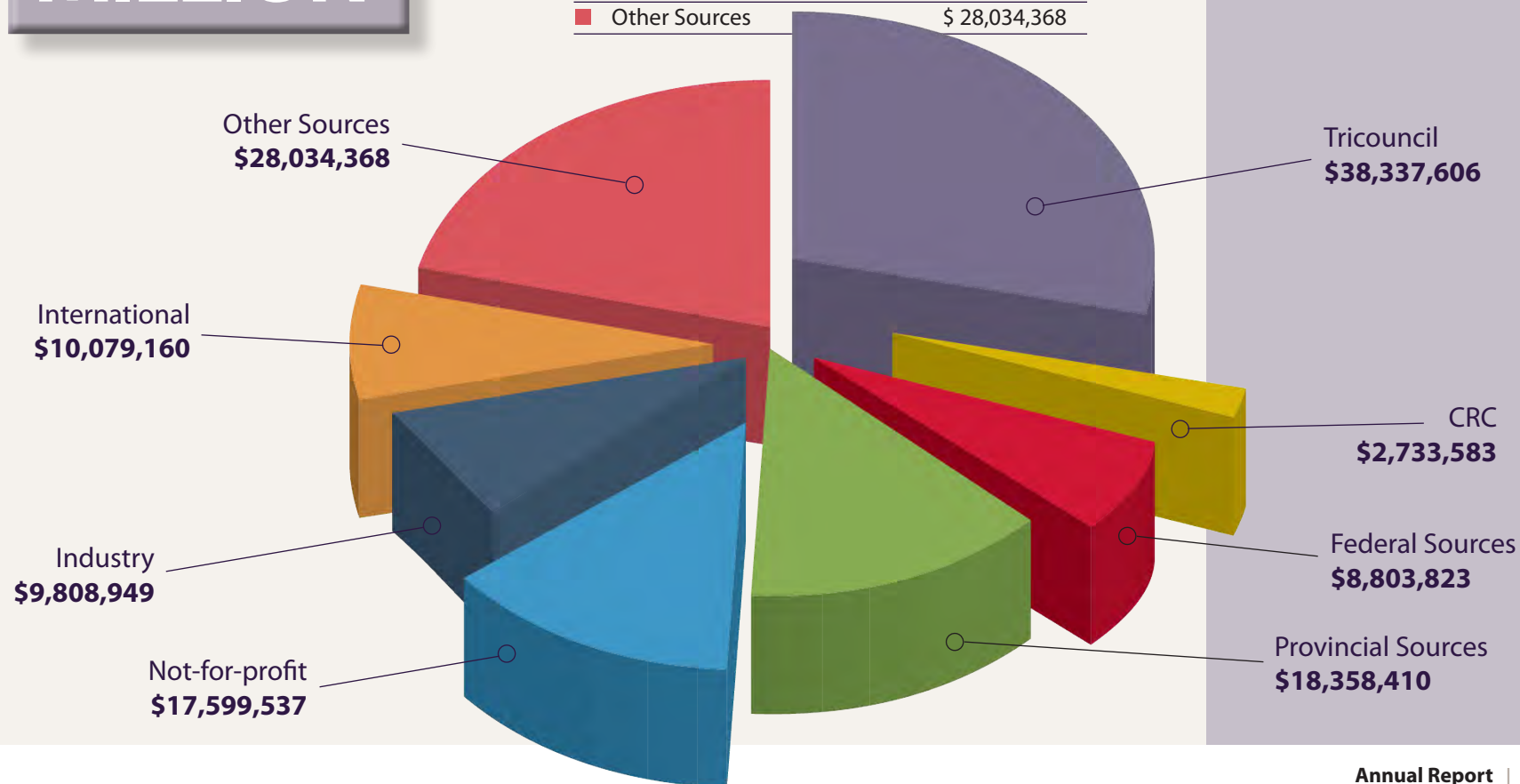


# Research Funding

UNIVERSITY OF OTTAWA | FACULTY OF MEDICINE | 2016–2017

**\$134  
MILLION**

RESEARCH FUNDING	AMOUNT
Tricouncil	\$ 38,337,606
CRC	\$ 2,733,583
Federal Sources	\$ 8,803,823
Provincial Sources	\$ 18,358,410
Not-For-Profit	\$ 17,599,537
Industry	\$ 9,808,949
International	\$ 10,079,160
Other Sources	\$ 28,034,368



## RANKINGS AND PERFORMANCE

**#2** Medical/Science Grants  
(Maclean's 2018)

**#3** In Canada, Universities that  
impact access to medicines  
(UAEM 2017)

**#5** U15 for Research Intensity (U15)

**#81** Worldwide Top 100 Clinical  
Medical Research (NTU Rankings  
2017 up 14 positions since 2014) ↑



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FACULTY OF MEDICINE | RESEARCH OFFICE

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