



RESEARCH AND INNOVATION

Faculty of Medicine | Research Office
ANNUAL REPORT 2014-2015



uOttawa

TABLE OF CONTENTS

3	Message from the Vice-Dean
4	Highlights
7	Goals of the Research Office
8	Our Departments and Partners
9	Research Priorities of the Faculty
11	Core Facilities
12	Outstanding Research Accomplishments
14	Research Office Major Events
16	International Collaborations
19	Current Research Chair Holders
23	Research Funding



Annual Report 2014-2015



The Faculty of Medicine 2014/2015 academic year has resulted in significant achievements on several fronts. Through strategic planning with all of our partners, we were able to increase and strengthen our major research initiatives which focus on the brain and mind, cardiovascular and vascular science, epidemiology, public health and practice-changing research. In addition, several strategic discussions with all stakeholders have taken place to develop a novel initiative centered on immunology, infection and inflammation. Major recruitment efforts continue to develop at the Faculty level to capitalize on emerging opportunities with our partners. A key element in the Faculty's growth is the alignment of our priorities with those included in Destination 2020, the University's strategic plan. The coordination between our collective visions has allowed for greater optimization of human and operational resources as well as better infrastructure planning and support.

Over the last decade, the Faculty of Medicine has experienced significant growth in our student population and our research intensity. We now attract more than 50% of all external research funds received by the University, making us the most research-intensive Faculty at the University of Ottawa. This level of funding also allows us to lead the way in developing novel and integrated research initiatives spanning multiple sectors. Our dedicated faculty members and leadership have thus placed the Faculty of Medicine among the nation's best.

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



Highlights of significant accomplishments during 2014-15 which make us all very proud:

Success in obtaining over \$35M in infrastructure support:

The Faculty of Medicine was awarded more than \$35M in infrastructure support from the Canada Foundation for Innovation (CFI), Ontario Research Fund (ORF), and eligible partners in support of four major health research infrastructure projects. Each of these projects is completely aligned with the University's 'Health' strategic area of development in research, supporting research in Brain and Mind Health, Vascular Health, Genetics and Systems Biology, and Regenerative Medicine.

Funded projects include:

- ***'Deciphering brain network disruptions in neurological disorders: A pivotal step***

in therapeutic intervention' led by Dr. David Park (Dept. Cellular and Molecular Medicine/uOttawa Brain and Mind Research Institute)

- ***'Research Program for Rare Pediatric Diseases (RaPiD)'*** led by Dr. Kym Boycott (Dept. Pediatrics/Children's Hospital of Eastern Ontario Research Institute) in collaboration with UdeM/SJUHC, Dalhousie, and UBC
- ***'Stem Cell Epigenetics and Therapeutics'*** led by Dr. Michael Rudnicki (Dept. Medicine/Ottawa Hospital Research Institute)
- ***'Centre of Original Medical Target Evaluation & Translation: Accelerating First in Human Innovation Strategy (COMET-Alpha)'*** led by Dr. Peter Liu (Dept. Medicine/uOttawa Heart Institute)

These investments will further develop the national and international reputation of the University of Ottawa, which overall received the second highest funding rate nationally for the 2015 CFI Innovation Fund competition.

Creation of the School of Epidemiology Public Health and Preventive Medicine (SEPHPM):

Through strategic planning with all stakeholders, the Faculty of Medicine transformed its Department of Epidemiology and Community Medicine into the SEPHPM. The mission of SEPHPM is to contribute to health promotion and disease prevention and control, through research and training in epidemiology and related disciplines, and by offering expertise and advice to people and agencies in other fields that need such support. The School is interdisciplinary, comprising members with a wide variety of academic backgrounds and interests, and has also developed strong links with other groups and units, including the clinical epidemiology research programs and methods centres at hospital-based research institutes affiliated with the Faculty, the Public Health Department of the City of Ottawa, the Public Health Agency of Canada, Health Canada and the Local Health Integration Network. The interdisciplinarity

and linkages of the School have enabled the achievement of greater research intensity in the areas of descriptive and analytical epidemiology, and applied and clinical epidemiology.

Creation of the Translational and Molecular Medicine (TMM) Undergraduate Program:

The TMM Program is a collaborative effort between the researchers at the University of Ottawa, Faculty of Medicine, and affiliated research institutes. TMM is truly revolutionary in integrating theoretical and practical courses with e-learning techniques to offer students the most advanced and innovative learning experience in Canada. In TMM, students not only learn about biologically-relevant medical issues in the largest health network in Eastern Ontario, but they also acquire the technical knowledge to confront the complex biomedical challenges of tomorrow for enhanced impact of health. TMM offers the largest number of advanced laboratories for an undergraduate program

in Canada including, but not limited to, bioinformatics, immunology, neurobiology and behavioral sciences, cancer biology, high-end microscopy techniques, systems biology and protein X-Ray crystallography.

Major International Research Efforts through the creation of two additional international partnerships:

University of Ottawa Faculty of Medicine/ Shanghai Jiao Tong University School of Medicine (SJTUSM): In October 2013, the University of Ottawa's Faculty of Medicine and Shanghai Jiao Tong University School of Medicine (SJTUSM) signed a 5-year memorandum of agreement that proposed contributions of \$1M from each institution to establish a joint medical research program for ongoing and new research linkages between scientists at both universities. Two rounds of the uOttawa-SJTUSM Collaborative Research Program have contributed to novel research collaborations between the institutions. Successful groups were

awarded financial support of up to \$50,000 CAD (\$25,000 CAD to uOttawa plus \$25,000 CAD to SJTUSM) for up to two years. Both universities agreed to establish the following joint areas of collaboration: system biology, diabetes and other metabolic diseases, Alzheimer's disease and other neurological degenerative diseases, and cardiovascular diseases. In parallel, the Ottawa-Shanghai Joint School of Medicine (OSJSM), a branch campus of the University of Ottawa, Faculty of Medicine and the outcome of its long-standing partnership with SJTUSM, was officially launched in October 2014. OSJSM is the world's first Sino-Canadian joint medical school, introducing North American undergraduate medical education to China.

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*

Highlights



Civils de Lyon developed a cooperation agreement to support the development of stronger ties for conducting research in 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, a joint collaborative research program was launched between the University of Ottawa's Centre for Neuromuscular Disease (CNMD) and L'Université Claude Bernard Lyon 1 Institute NeuroMyoGene (INMG). This program will support collaborations between the two institutions in basic and clinical neuromuscular disease research.

Continued success and growth for the Faculty of Medicine Clinical Research Chair Program:

In April 2010, the Faculty of Medicine, University of Ottawa launched a new clinical research program, The Faculty of Medicine, University of Ottawa Research Chair Award Program. This award is funded on a 30/70 ratio basis via the Faculty of Medicine and Clinical Department Practice Plans and Registered Partnerships and administered by the Central Finance Department. The program aims to support excellence in clinical research with an ultimate view to improving health and or patient care. The process entertains 2 levels of awards:

- Level 1: Outstanding researcher at Associate or Full professor level up to \$200,000 /year, up to a maximum of 5 years
- Level 2: Assistant or Associate professor level up to \$100,000/year, up to a maximum of 5 years

Together with our clinical departments and affiliated research institutes, it is with great pride that we were able to further highlight growth and expansion to double the number of chair holders for a total of 23 Clinical Research Chair Awards (8 Tier 1 and 13 Tier 2). This flagship program supports excellence in clinical research with the goal of advancing health knowledge and patient care.

Our challenge now is to continue our rise in success and the development and support of major research initiatives at a time when external funding constraints are surfacing and potentially impacting our research capacity. A clear advantage for the Faculty is that concomitant with our recent growth and many achievements, a true spirit of enhanced collaboration and communication has allowed us to become better integrated with our partners and to design and implement first class, large-scale research initiatives. It is through this collegial environment that the Faculty will maintain our upward trajectory in research thereby greatly benefiting our professors, scientists and, most importantly, our students and trainees.

Goals of the Research Office

Through a series of consultations and strategic planning exercises, the Research Office established the following priorities and objectives, which have been met with great success. This includes the successful review of the Vice-Dean Research Office over the last five years and the renewal of the Vice-Dean Research mandate for a second term.

- Increase 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, while also creating a pleasant and stimulating work environment for both academic and support staff
- Provide leadership in establishing and promoting key scientific priorities and broad-based international collaborations
- Actively promote interdisciplinary group research activities within the Faculty of Medicine and across other faculties, leading to major concerted funding applications
- Enhance the visibility of ongoing research initiatives and graduate programs while promoting scientific accomplishments
- 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
- Build trusting and functional partnerships between the Faculty of Medicine, our Basic and Clinical Departments, other faculties and hospital-based research institutes by developing an appropriate model for productive and focused discussions concerning all aspects of the research agenda, including implementation and future coordinated growth
- Develop transparent, fair, efficient and comprehensive procedures to prioritize resource allocation according to the strategic needs of our research initiatives and graduate programs



Our Departments and Partners

Basic Science Departments

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

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

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

Research Centres and Institutes

- Canadian Partnership for Stroke Recovery
- Centre for Neural Dynamics
- Centre for Neuromuscular Disease
- Centre for Research in Biopharmaceuticals and Biotechnology
- Kidney Research Consortium
- The Ottawa Institute of Systems Biology
- University of Ottawa Brain and Mind Research Institute
- University of Ottawa Eye Institute

OUR STAFF

Dr. Bernard Jasmin

Vice Dean, Research
jasmin@uottawa.ca

Dr. Jocelyn Côté

Assistant Dean, Research and Special Projects
jcote@uottawa.ca

Ms. Gillian Lord

Research Office Manager
613-562-5800 x 8363
glord@uottawa.ca

Dr. Jennifer Robinson

Research Facilitator
613-562-5800 x 8731
jrobinso@uottawa.ca

Ms. Charlene Clow

Research Facilitator
613-562-5800 x 8343
cclow@uottawa.ca

Ms. Julie Castonguay

Administrative Assistant
613-562-5800 x 8116
jcaston2@uottawa.ca

Ms. Manon Danneau

Administrative Assistant
613-562-5800 x 8116
mdanneau@uottawa.ca



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 our 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) is now in a major phase of growth and development. 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 programs will advance the development of exceptional clinical care and research of brain-related illnesses such as stroke, Parkinson's disease, depression and neuromuscular disease. This initiative cuts across basic, clinical and human population studies, emphasizing translation of research into practice, particularly in the development of novel therapeutics and diagnostics.



UNIVERSITY OF OTTAWA
HEART INSTITUTE
INSTITUT DE CARDIOLOGIE
DE L'UNIVERSITÉ D'OTTAWA

CARDIOVASCULAR AND VASCULAR BIOLOGY

Historically through the University of Ottawa Heart Institute (UOHI), the Faculty of Medicine has had a strong track record of research excellence in cardiovascular disease. In addition to this intense research activity, a number of other scientists within the Faculty and our affiliated research institutes have begun to show great promise. This has led to a concerted effort to develop a multi-disciplinary and inter-institutional initiative centered on cardiovascular diseases and vascular biology with key additional participation from the UOHI, the Ottawa Hospital Research Institute and the Faculty's Basic Science Departments. Strategic planning sessions have taken place with the view of soliciting input from all stakeholders to develop the necessary vision and strategies to ensure the success of this new initiative. A first and major outcome of these planning sessions is a five-year strategic plan called the

Ottawa Region for Advanced Cardiovascular Research Excellence (ORACLE), which will focus on further enhancing research activities thereby enabling ORACLE to become a key Canadian leader in cardiovascular innovation and knowledge translation. This will put the Ottawa region well on the road to be recognized among the top international hubs in cutting-edge cardiovascular and vascular research.





SCHOOL OF EPIDEMIOLOGY, PUBLIC HEALTH AND PREVENTIVE MEDICINE

The School of Epidemiology, Public Health and Preventive Medicine (SEPHPM) came into being on January 1, 2015. SEPHPM 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.

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, 11 cores have been established. 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.

Animal Behavior:	Dr. Diane Lagacé
Bioinformatics:	Dr. Theodore Perkins, Dr. Ilya Ioshikhes
Cell Biology and Image Acquisition:	Dr. John Copeland
Common Equipment and Technical Expertise:	Dr. Jocelyn Cote
Containment Level 3:	Dr. Bernard Jasmin
Flow Cytometry:	Dr. Marc-Andre Langlois

Genomics (StemCore):	Dr. Michael Rudnicki
Histology:	Dr. John Veinot
Preclinical Imaging:	Dr. Thanh Nguyen
Proteomics:	Dr. Daniel Figes
Transgenic:	Dr. David Lohnes

For more information, please visit med.uottawa.ca/research/corelabs

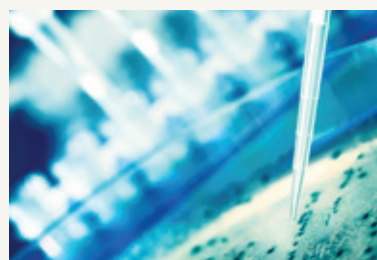


Outstanding Research Accomplishments



USING REGENERATIVE MEDICINE TO TREAT HEART DISEASE IN DIABETICS

Diabetes is a growing epidemic with more than 9 million Canadians living with this disease. Unfortunately many patients will not survive for long. People with diabetes are up to 6 times more likely to develop heart disease and 75% of diabetics die from cardiovascular disease. In a 2014 paper published in *Circulation*, **Dr. Darryl Davis**, Associate Professor in the Department of Medicine, explored ways diabetes changes the regenerative capacity of a patient's own cardiac stem cells. By preventing the accumulation of toxic metabolites related to diabetes, he and his team were able to rejuvenate cardiac stem cells from diabetic patients so they regain their regenerative potential. The results of this work will be used to tailor effective cardiac stem cell products for diabetic patients most at risk for needing regenerative therapies in the future to combat heart disease.



BEATING DRUG RESISTANCE

Autophagy is an important self-degradation process involving vesicle formation within the cytoplasm of cells to help clear pathogens, damaged organelles, and misfolded proteins. A surprisingly large proportion of the human genome is composed of retrotransposons. These ancient 'friend and foe' mobile genetic elements are responsible for both driving evolutionary change and causing a number of genetic disorders, due to their copy-paste mode of replication and reinsertion into the genome. In this paper published in *Nature Communications*, **Dr. Derrick Gibbings**, Assistant Professor in the Department of Cellular and Molecular Medicine and his team found that RNA from retrotransposons is degraded by autophagy. Importantly, they demonstrated that this autophagic degradation prevents the insertion of new retrotransposons into the genome, thereby protecting the genome from insertional mutagenesis. This promising research may have exciting implications for understanding and one day curing diseases such as amyotrophic lateral sclerosis and cancer.



STUDYING EPIGENETIC INHERITANCE AT THE ATOMIC LEVEL

Epigenetic signaling is mediated by DNA packaging histone proteins that have the ability to alter chromosome structure in order to hide or unveil genes to the transcriptional and translational machineries. In their paper published in *Science*, a University of Ottawa multi-disciplinary research team led by **Dr. Jean-Francois Couture**, Associate Professor in the Department of Biochemistry, Microbiology and Immunology, reported that a unique histone variant influences the activity of the histone lysine methyltransferase ATXR5 to license specific chromatin region to stay hidden from the transcriptional and translational machineries. This study shed lights on the interplay between histone variants and lysine methylation and highlighted a novel role for histone proteins in controlling epigenetic signaling. This research will ultimately help us better understand diseases linked epigenetic signaling such as cancers.



DISCOVERY OF SIGNALING MECHANISMS THAT LEAD TO CELL NECROSIS

Millions of cells die on a daily basis and yet this is considered to be necessary for normal functioning of the body. In contrast, death of cells in response to infection by virulent pathogens follows a different mechanism, called necrosis, which results in rupture of the cell, release and dissemination of the intracellular contents. Some of the intracellular molecules that are released are highly inflammatory, which results in massive and irreversible amplification of inflammation. In extreme situations, this results in septic shock, a disease with a very high mortality rate (50%). **Dr. Subash Sad**, Professor in the Department of Biochemistry, Microbiology and Immunology, and his laboratory have been deciphering the mechanisms that lead to this form of inflammatory cell death. In a recent publication in the ***Proceedings of the National Academy of Sciences***, USA, they showed that interferons, which are highly expressed during infection with virulent pathogens, induce necrotic cell death. They further revealed that this involves the assembly of a transcriptional complex, called ISGF3, which is composed of STAT1, STAT2 and IRF9, which mediates the expression of various genes that induce necrotic cell death, inflammation and sepsis. This discovery opens up avenues for blocking an entire necrotic program so that a major hub of inflammatory network can be blocked.



RESEARCHERS FIND GENE CRITICAL FOR DEVELOPMENT OF BRAIN MOTOR CONTROL CENTRE

When a stem cell commits to becoming a specific cell type (eg. neuron) it must tightly package and silence genes that are not needed for function and fully activate those genes that are required to specify that cell type. To manage this process, cells have developed a complex series of proteins to control the structure of chromosomes and the regulation of genes. When this process is defective, cells cannot divide, differentiate or initiate gene expression effectively. Indeed, mutations in these chromosome regulators cause a variety of human diseases, including developmental disorders with severe intellectual disability. In a study published in ***Nature Communications***, a team led by **Dr. David Picketts** from the Department of Medicine, identified a key role for the chromatin remodeling protein Snf2h in the development of the cerebellum, a master control centre in the brain for balance, fine motor control and complex physical movements. Without the *Snf2h* gene, the cellular chromatin is decompacted and disorganized, gene expression programs are deregulated, and there is limited growth and maturation of the cerebellar Purkinje and granule neurons. These cellular defects result in a cerebellum that is severely reduced in size leading to motor dysfunction, commonly known as ataxia. A thorough understanding of these developmental processes is a prerequisite to determining disease pathogenesis and for engineering novel treatment strategies.



INCREASING VALUE AND REDUCING WASTE IN RESEARCH

Biomedical research is essential for improving health, but evidence suggests that we are not deriving maximum benefit from the research that's being done. This can be because of poor research questions, poor study design and poor (or no) reporting of results. **Dr. David Moher**, Associate Professor in the Department of Medicine, played a key role in a groundbreaking series on the topic, published in the top medical journal ***The Lancet***. The series and an accompanying symposium resulted in 17 concrete recommendations for enhancing health research, spanning everything from mandating systematic reviews before undertaking new research to increasing access to raw data. Dr. Moher also led a follow up study in *The Lancet* which catalogues progress being made in implementing the recommendations. One example of progress in Ottawa is the creation of a Centre for Journalology to help researchers publish their results in a way that maximizes impact. The Centre is led by Dr. Moher, who is also a senior scientist at The Ottawa Hospital.

Research Office Major Events

New Professor Seminar Series

Dr. Manisha Kulkarni, Assistant Professor School of Epidemiology, Public Health and Preventive Medicine

Dr. Kulkarni's research program investigates the socio-ecological determinants of infectious disease emergence and risk in global settings, with a focus on malaria and other vector-borne diseases. Her current research applies population survey methods, entomological field sampling, molecular analyses and GIS to examine seasonal and spatial patterns of disease transmission and identify populations at risk, with projects in Canada and East Africa. Dr. Kulkarni is also co-leading a cluster randomized trial of community-based interventions to improve maternal health in Ethiopia. She has long-standing collaborations in Tanzania on the evaluation of vector control interventions to improve the effectiveness of disease prevention efforts, and contributes widely to capacity building in resource poor settings.



Dr. Michael Downey, Assistant Professor Department of Cellular and Molecular Medicine

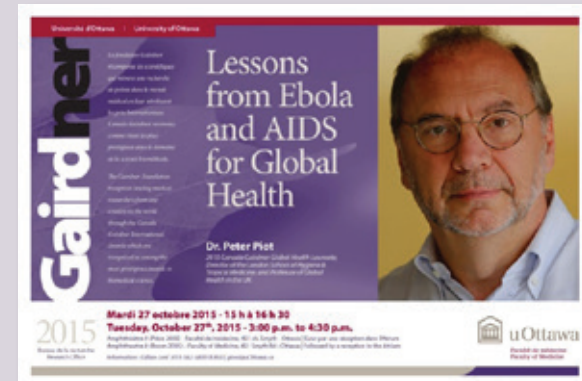
Dr. Downey carried out post-doctoral work at the University of California, San Francisco. He uses the yeast model system and human cell culture to study a protein modification called acetylation. Acetylation has been implicated in preventing cancer, premature ageing and a variety of metabolic disorders. Dr. Downey hopes that his work will provide molecular details that can be exploited in the design of drugs to prevent or reverse these conditions.



Research Office Major Events

Gairdner Global Health

The Faculty of Medicine was proud to host the 2015 Canada Gairdner Global Health Award winner, Dr. Peter Piot, as part of the Gardiner seminar series in October. Dr. Piot received the prestigious Canada Gairdner Global Health Award for his co-discovery of the Ebola virus, his many contributions to HIV/AIDS research, and his extraordinary leadership in the global response to the HIV/AIDS epidemic, especially in Africa. His lecture entitled “Lessons from Ebola and Aids for Global Health” was a great success and attended by a crowd of over 250 people. Dr. Piot is Director of the London School of Hygiene & Tropical Medicine, and Professor of Global Health in the UK. The Gardiner Foundation recognizes leading medical researchers around the world through its Canada Gairdner International Awards, which are regarded as among the most prestigious awards in biomedical science.



Friesen International Prize

The Faculty of Medicine was proud to host The Henry G. Friesen International Prize in Health Research Award winner, Sir Paul Nurse, in December. Paul Nurse is a geneticist and cell biologist who has worked out, using yeast as a model organism, how the eukaryotic cell cycle is controlled and how cell shape and cell dimensions are determined. His major work has been on the cyclin dependent protein kinases and how they regulate the cell cycle. He is President of the Royal Society and Director of the Francis Crick Institute in London and has served as Chief Executive of Cancer Research UK and President of Rockefeller University (New York City) 2003-2011. In 2001 he shared the Nobel Prize in Physiology or Medicine and has received the Albert Lasker Award, the Gairdner Award and the Royal Society's Royal and Copley Medals. Sir Paul was knighted in 1999 and received the Legion d'honneur in 2003. 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.



Events

International Collaborations



Through its strategic plan, the University of Ottawa has placed a strong emphasis on globalization. The Faculty of Medicine has therefore established or grown a number of partnerships with leading international institutions. These programs serve to enhance our research capacity by working with leaders around the globe and furthering our strategic goals.

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, which provides joint medical training and awards the first-ever North American M.D. degree in China. 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 Institute NeuroMyoGene (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.

UNIVERSITY OF OTTAWA / HEBREW UNIVERSITY

Since June 2008, the University of Ottawa's International Research Office has explored opportunities for increased engagement with key Israeli universities. Impressed with the research and development activities at Hebrew University in Jerusalem, our former university president initiated an official collaborative program between the uOttawa Faculty of Medicine and Hebrew University's Institute of Medical Research Israel-Canada (IMRIC). As a result, a memorandum of understanding between the Faculty of Medicine and IMRIC was established to build collaborative links between the universities' research arms with expertise in areas of common interest including neuroscience, bioinformatics and computational biology, women's health, and cancer research.

Research Chair Holders

Canada Research Chairs



Pierre Blier (2004)

Chair in Psychopharmacology

Daniel Figeys (2004)

Chair Proteomics and Systems Biology

Stephen Ferguson (2015)

Chair in Brain and Mind

Jeremy Grimshaw (2002)

Chair in Health Knowledge Transfer and Uptake

Ronald Labonté (2004)

Chair in Contemporary Globalization and Health Equity

Julian Little (2005)

Chair in Human Genome Epidemiology

Georg Northoff (2009)

Chair in Mind Brain Imaging and Neuroethics

Michael Rudnicki (2001)

Chair in Molecular Genetics

William Stanford (2011)

Chair in Integrative Stem Cell Biology

Peter Tugwell (2002)

Chair in Health Equity

Michael Wolfson (2010)

Chair in Population Health Modelling/
Populomics



Kristin Baetz (2005)

Chair in Chemical and Functional Genomics

Marjorie Brand (2004)

Chair in Regulation of Gene Expression

Ian Colman (2011)

Chair in Mental Health Epidemiology

Jocelyn Cote (2005)

Chair in RNA Metabolism

Marceline Cote (2015)

Chair in Molecular Virology and Antiviral
Therapeutics

Jean Francois Couture (2008)

Chair in Structural Biology and Epigenetics

Jeffrey Dilworth (2005)

Chair in Epigenetic Regulation of Transcription

Khaled El Emam (2005)

Chair in Electronic Health Information

Patrick Giguere (2015)

Chair in Molecular Pharmacology
and Drug Discovery

Marc André Langlois (2010)

Chair in Molecular Virology and Intrinsic
Immunity

Mads Kaern (2004)

Chair in Systems Biology

Seung-Hwan Lee (2011)

Chair in Viral Infection and Immunity

Andrew P. Makrigiannis (2010)

Chair in Resistance to Emerging Pathogens

Michael Schlossmacher (2006)

Chair in Parkinson's Disease

Endowed and Sponsored Chairs

Robert Beanlands

Vered Chair of Cardiology

Robert Beanlands

Saul and Edna Goldfarb Chair in Cardiac Imaging Research

Anthony Bella

Greta and John Hansen Chair Men's Health Research

Pierre Blier

Endowed Chair of Research Mood and Anxiety Disorders

Seymour Brownstein

Les Amis Research Chair

Ciarán Duffy

Endowed Chair Pediatrics

Dean Fergusson

OHRI/uOttawa Clinical Epidemiology Program Endowed Chair

Lyall Higginson

Donald S Beanlands Chair Cardiology Education

Steven Gilberg

Chair of the Eye Institute

Daniel Krewski

NSERC/SSHRC/McLaughlin Chair Population Health Risk Assessment

Marino Labinaz

Chair Interventional Cardiology Leadership

Frans Leenen

Pfizer Research Chair Hypertension

Ian Lorimer

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

Ruth McPherson

Merck Frosst Canada Chair Atherosclerosis

Thierry Mesana

Gordon F. Henderson Chair Leadership

Thierry Mesana

Chair Cardiac Surgery Valve Research

Eric Poulin

Wilbert J. Keon Chair of the Department of Surgery

Marc Ruel

Chair Cardiac Surgery Research

Marc Ruel

Michael Pitfield Chair Cardiac Surgery

Michael Schlossmacher

Bhargava Research Chair for Neurodegenerative Diseases

Duncan Stewart

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

Catherine Tsilfidis

Donald and Joy MacLaren Chair for Vision Research

Barbara Vanderhyden

Corinne Boyer Research Chair Ovarian Cancer

Clinical Research Chairs

Shawn Aaron

Department of Medicine
Tier 1 Chair in Obstructive Lung Disease

Rob Beanlands

Department of Cardiology
Tier 1 Chair in Cardiovascular Imaging Research

David Birnie

Department of Medicine Cardiology
Tier 1 Chair in Cardiac Arrhythmia Research

Gregory Knoll

Department of Medicine
Tier 1 Chair in Clinical Transplantation Research

Gregoire LeGal

Department of Medicine
Tier 1 Chair in Diagnosis VTE

Alex MacKenzie

Department of Paediatrics
Tier 1 Chair in Rare Neurologic Disease Therapeutics

Marc Alan Rodger

Department of Medicine
Tier 1 Chair in Venous Thrombosis and Thrombophilia

Ian Stiell

Department of Emergency Medicine
Tier 1 Chair in Acute Cardiac Conditions

Gonzalo Alvarez

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

Rebecca Auer

Department of Surgery
Tier 2 Chair in Perioperative Cancer Therapeutics

Kym Boycott

Department of Paediatrics
Tier 2 Chair in Neurogenetics

Marc Carrier

Department of Medicine
Tier 2 Chair in Cancer and Venous Thromboembolism

Darryl Davis

Department of Medicine
Tier 2 Chair in Cardiac Regeneration

David Dymant

Department of Paediatrics
Tier 2 Chair in Translational Epilepsy Research

Claire Liddy

Department of Family Medicine
Tier 2 Chair in Family Medicine

Kusum Menon

Department of Paediatrics
Tier 2 Chair in Pediatric Shock

Lisa Mielniczuk

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

Jeffrey Perry

Department of Emergency Medicine
Tier 2 Chair in Emergency Neurological Research

Amy Plint

Department of Pediatrics
Tier 2 Chair in Pediatric Emergency Medicine

Giorgio Tasca

Department of Psychiatry
Tier 2 Chair in Psychotherapy Research

Christian Vaillancourt

Emergency Medicine
Tier 2 Chair in Emergency Medicine

Leanne Marie Ward

Department of Paediatrics
Tier 2 Chair in Pediatric Bone Health

Roger Zemec

Department of Paediatrics and Emergency Medicine
Tier 2 Chair in Pediatric Concussion

University Health Research Chairs

Rashmi Kothary

University Health Research Chair (2006)

Ian Stiell

University Health Research Chair (2006)

University Research Chairs

Dr. David Moher

University Research Chair (2006)

Chair in Systematic Reviews

Dr. Ruth Slack

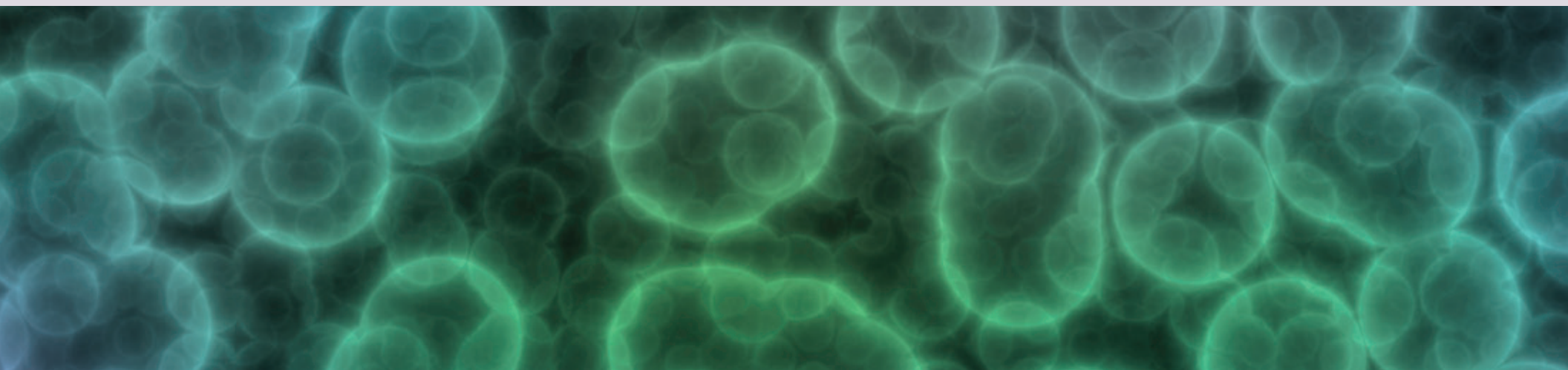
University Research Chair (2003)

Chair in Accelerating recovery after an acute brain injury

Dr. Steffany Bennett

University Research Chair (2011)

Chair in Neurolipidomics

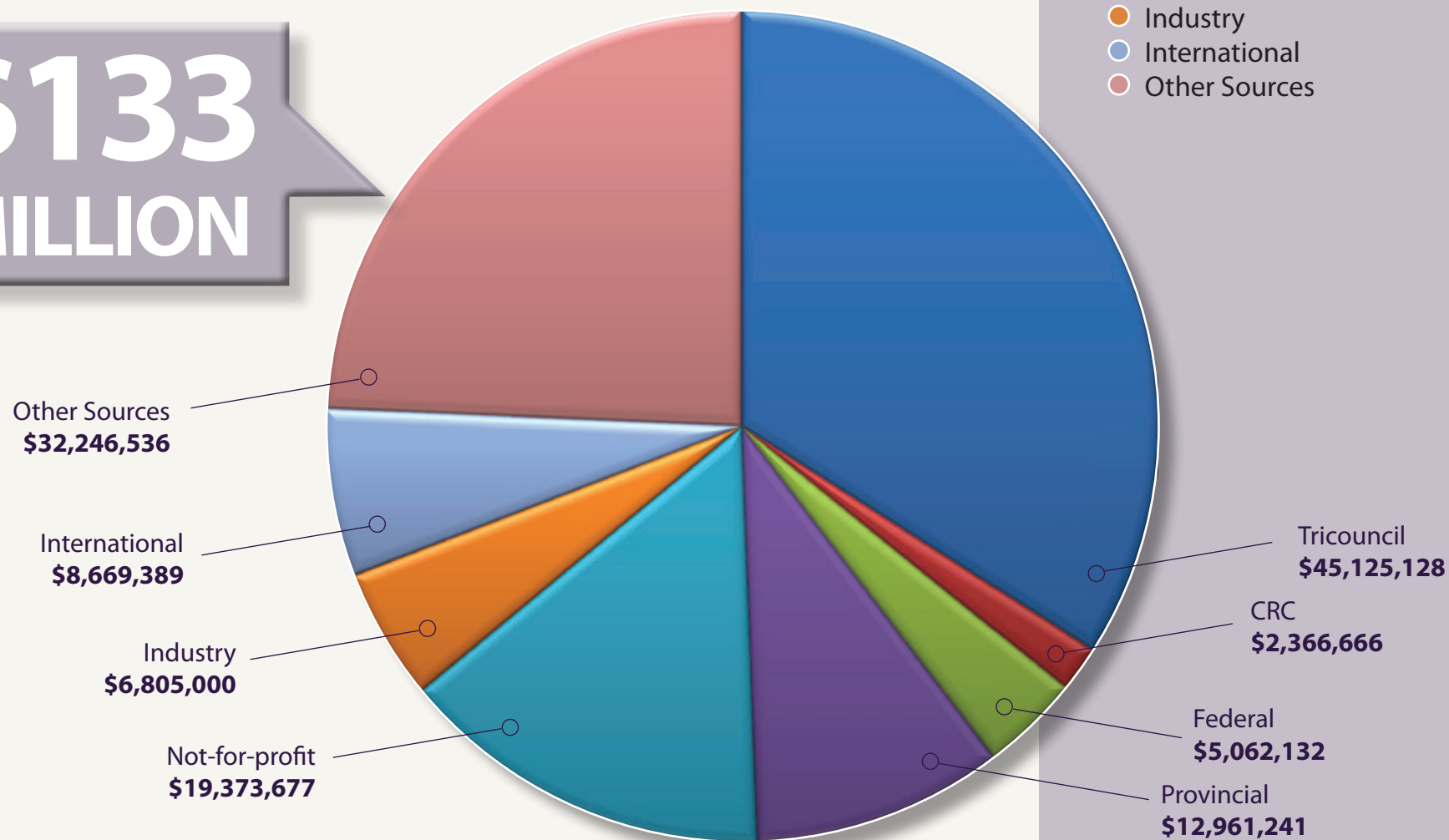


Research Funding

UNIVERSITY OF OTTAWA | FACULTY OF MEDICINE | 2014-2015

- Tricouncil
- CRC
- Federal Sources
- Provincial Sources
- Not-For-Profit
- Industry
- International
- Other Sources

**\$133
MILLION**



www.med.uottawa.ca/research/eng/index.html

Roger Guindon Hall
Room 2033
451 Smyth Road
Ottawa, Ontario, Canada
K1H 8 M5

T | 613 562-5800 x 8116
F | 613-562-5457
resmed@uOttawa.ca