Sharing our successes as we move forward together
# Table of Contents

1. Message from the Dean
2. Message from Advancement
3. Faculty of Medicine Homecoming Weekend
4. Philanthropy at Work: Profile of an All-Star Student
5. Alumni Spotlight: Reconstructing Bodies, Rebuilding Lives
6. Your Gifts Make a Difference: One Family’s Story
7. Spotlight on Our Undergraduate Programs
   - Undergraduate Medical Education
   - Translational and Molecular Medicine
8. Spotlight on Our Research
   - The University of Ottawa Brain and Mind Research Institute
   - Centre for Infection, Immunity and Inflammation
   - Research Successes
   - Faculty of Medicine Major Research Events
9. Faculty Affairs
10. Francophone Affairs
11. Internationalization and Global Health
Dear Faculty of Medicine alumni, donors and friends,

In our ongoing efforts to share the groundbreaking work in research and education at the Faculty of Medicine, we present to you the inaugural issue of MedExtra. Included are recent success stories from our various academic programs, as well as profiles that illustrate the great strides we are making in basic and clinical research.

The past 12 months have been a period of impressive recognition for some of our faculty, including Dr. Antoine Hakim, awarded the 2017 Canada Gairdner Wightman Award for his pioneering work in stroke research and recovery, and Dr. Mona Nemer, named Chief Science Advisor to the Prime Minister of Canada.

Taking time to look back on 2017 and celebrate the year’s accomplishments makes it all the more exciting to look ahead to the coming year and beyond. Every day brings new discoveries and better treatment for patients. Carrying on the legacy of our alumni, we continue to strive for excellence and foster a culture of advancement and innovation.

With open minds and curiosity alongside the incredible talent and expertise for which this Faculty is known, one can only imagine the possibilities. I look forward to sharing more updates with you in future issues of this publication.

With sincere gratitude for your support,

Bernard Jasmin, PhD
Interim Dean
Faculty of Medicine
We are exceptionally grateful to our alumni and donors who continue to play an integral role in building the vibrant reputation of this Faculty.

As alumni, you are world-class health care leaders making a positive impact in your communities. You are a network of over 11,000 graduates striving toward excellence and, above all, dedicated to innovation in research, education and patient care. Across medical offices, community health centres, hospitals, universities, research institutes and governmental agencies, your contributions are fundamental and long-lasting. You have helped shape the strength of our Faculty throughout your own careers and by giving back as our precious advisors and ambassadors through mentorship and academic programs.

As donors, you play a vital role in advancing our mission. In support of the Defy the Conventional (DTC) campaign, your gifts have generated over $90 million toward our $100 million campaign goal. This is a significant milestone in the growth of the Faculty and it would not be possible without your meaningful contributions. Thank you!

Your support strengthens the student experience. It advances innovations and discoveries in research, carried out in laboratories across disciplines, where the brightest minds work together to solve some of the most complicated issues facing health care today.

We wish to thank you for your tremendous commitment. Please connect with the uOttawa Faculty of Medicine Alumni Office at: advancement.med@uOttawa.ca or by calling 613-562-5800 x8707.

We look forward to hearing from you!

Sharon Rowan
Director of Development, Faculty of Medicine
Faculty of Medicine Homecoming Weekend

September 28 to 30, 2018

Welcome Reception: Homecoming Kick-Off
Friday, September 28, 2018 – 5 to 7 p.m.
Lago Bar & Grill, 1001 Queen Elizabeth Drive, Ottawa (Dows Lake)
Admission: Free

Reunite with classmates and colleagues to celebrate the opening of Homecoming with a private cocktail reception.

Panda Game: Ottawa Gee-Gees vs. Carleton Ravens
Saturday, September 29, 2018 – kick-off 1 p.m.
TD Place Stadium, 1015 Bank Street, Ottawa

Let’s join forces to bring Pedro the Panda back to uOttawa!
Pricing and registration available late summer 2018. Pre-game event for alumni and fans at 11 a.m. at the Aberdeen Pavilion (building next to stadium).

Alumni and Friends Awards and Farewell Brunch
Sunday, September 30, 2018 – 10 a.m. to 1 p.m.
Shaw Centre, 55 Colonel By Drive, Ottawa
Admission: Free

The Faculty of Medicine will be conferring its most distinguished awards for alumni, the Lifetime Achievement Award and the Rising Star Award. Please join us for the short ceremony (10 to 11 a.m.) and come say farewell to your classmates at our relaxed gourmet brunch (11 a.m. to 1 p.m.)

If you have any questions about Homecoming, please contact Christel Alexis (advancement.med@uOttawa.ca or 613-562-5800 x8707). Room discounts will be available for a limited number of rooms at the Sheraton Ottawa and Les Suites Hotel Ottawa. Please use code “Faculty of Medicine Homecoming.”
Philanthropy at Work: Profile of an All-Star Student

Your support helps students like Eric Locke, captain of the University men’s hockey team and a Governor General’s Top 8 Academic All-Canadian.

By Chonglu Huang

uOttawa MD student and men’s hockey captain Eric Locke has juggled athletics and academics for as long as he can remember. He recalls being in grade school playing many sports, taking piano lessons and doing his homework after school.

“I have always been passionate about lifelong learning,” he says. “It doesn’t matter what subject, I enjoy learning new things and I’ve always loved sports.”

Growing up, Locke played soccer, football and baseball and did track and field, but he took a special liking to hockey more than any other sport, describing it as a way to get outside during Canada’s long winter months.

Locke’s dedication to his interests paid off in his youth and throughout his post-secondary education. While completing a Bachelor of Science in Human Kinetics at St. Francis Xavier University (StFX), he was also captain of the X-Men hockey team and he excelled both on and off the ice.

Locke graduated from StFX with a 94% average in his final year; led the X-Men to back-to-back Atlantic University Sport (AUS) conference championship banners; and was named the 2016 StFX male athlete of the year.

Since beginning his MD program at uOttawa, he continues to play varsity hockey as the captain of the uOttawa men’s hockey team.

Already a three-time Academic All-Canadian (a recognition for U SPORTS student-athletes who maintain an average of 80% or better while competing on a university varsity team), Locke was selected as a 2017 Governor General’s Top 8 Academic All-Canadian, along with fellow uOttawa student Katherine Bearne. They were honoured in a ceremony with Her Excellency the Right Honourable Julie Payette on December 8, 2017 in Quebec City.

“It’s a pretty big honour,” says Locke. “I want to thank my coaches, athletic directors and teammates at StFX for the incredible experience I had there. I also want to thank the University of Ottawa for being so supportive and accommodating with helping me maneuver my medical school schedule and my hockey practices.”

Locke says he is attracted to a career in medicine for many of the same reasons he loves sports—for the teamwork, leadership development and continuous learning. “I really enjoy navigating and solving problems in an environment where you’re constantly learning new things, while building communications and leadership skills.”
There’s a lot more to the field of reconstructive surgery than meets the eye.

At surface level, reconstructive surgeons restore damaged or malformed limbs, facial features or other physical structures, explains uOttawa alumna Siba Haykal (BSc ’04, MD ’07). Her work has already ranged from cutting-edge research to treating North American cancer and accident survivors to operating on victims of war during an international mission to Ukraine.

However, the invisible impact of this work is often as important as the more obvious restorations.

“We restore function but we also restore a sense of psychological well-being, which can change the way a patient approaches life,” Dr. Haykal says. “Really, a big part of what we do is mental health.”

That fact was driven home to her during a 2014 mission to Ukraine organized by Operation Rainbow Canada, a voluntary organization that provides free reconstructive surgery around the world. Led by craniofacial plastic surgeon Dr. Oleh Antonyshyn of Toronto’s Sunnybrook Health Sciences Centre, with whom Dr. Haykal had studied, the mission to Ukraine aimed to repair some of the catastrophic injuries suffered by unarmed civilians during the Euromaidan protests of 2013–14.

“We restore function but we also restore a sense of psychological well-being, which can change the way a patient approaches life.”

— Dr. Siba Haykal,
Reconstructive Surgeon
The protest movement, which ultimately toppled the government, met with extreme violence from security forces.

"Many of the patients we operated on had very serious injuries that were horrible in the way they occurred," she recalls. "I remember one child who wasn’t even near the protests when he had acid thrown in his face and suffered extensive burns. But despite their horrific experiences, these were very resilient people."

The mission has had many positive spin-offs. Patients continue to receive follow-up care, and Ukrainian specialists have since travelled to Canada to upgrade their skills.

"The doctors and nurses in Ukraine have fewer resources, but their skills are amazing," Dr. Haykal says. The experience also provided her with important lessons she took back to North America, such as simply feeling grateful to live in a peaceful environment with access to health care.

After earning an undergraduate degree in biochemistry at the University of Ottawa, Dr. Haykal’s early fascination with reconstructive surgery was reborn.

"At uOttawa’s medical school, we were able to do ‘observership’ electives early on," says Dr. Haykal, a graduate of the Francophone stream of the MD Program. "And while shadowing Dr. Joan Lipa at Toronto General Hospital, I saw different things, including breast cancer reconstruction, and got a better idea of what plastic surgeons do."

After a few years performing reconstructive surgery for cancer patients and trauma victims in Albany, New York, Dr. Haykal has now taken a position at the University Health Network in Toronto. She will continue working as a surgeon while also resuming her research in the area of tissue engineering and regenerative medicine.

Specifically, she’s developing a means for patients who have lost part of their airway, due to cancer, trauma or a birth defect, to receive a trachea transplant without the use of anti-rejection drugs. Her method involves removing all the cells from a donor’s trachea to leave behind a scaffold, and then repopulating that scaffold with the patient’s own cells, making it safe for transplantation.

Still, she hopes to find the time to participate in other humanitarian missions in the future. “We can make a difference in the lives of people who have been through a lot," she says. “We can help them to have hope.”

---

A longer version of this article was published in January 2018 in Tabaret.
Your Gifts Make a Difference: One Family’s Story

Thank you to the Marcogliese family who donated to the Mark and Gail Marcogliese Graduate Scholarship for Research at the University of Ottawa Brain and Mind Research Institute (uOBMRI). This fund will directly benefit learners working at the uOBMRI.

“We have experienced times of ups and downs being directly impacted by mental illness within our immediate family. We wanted to give back to the community that could potentially lead to something positive for mankind—a better understanding, a treatment or a cure for a brain-related disease. It will also be a legacy that our family and our family’s future generations will continue to perpetuate.”

– The Marcogliese family
Spotlight on Our Undergraduate Programs

The University of Ottawa Faculty of Medicine delivers a spectrum of academic offerings designed to teach and train some of the brightest medical and scientific minds in the world.

Whether one is looking for an MSc in Biochemistry, Microbiology and Immunology, a PhD in Cellular and Molecular Medicine, a Postdoc in Epidemiology, or even a combined MD/PhD, this is just a sample of what the uOttawa Faculty of Medicine has to offer potential learners. In this inaugural issue we highlight our Undergraduate Medical Education Program and our unique undergraduate program in Translational and Molecular Medicine.
Undergraduate Medical Education

The University of Ottawa's Undergraduate Medical Education Program (UGME) is ranked as one of the top medical programs in Canada by the Association of Faculties of Medicine of Canada (AFMC). Our unique curriculum is available in an English stream and a French stream, and offers a variety of learning methods including electronic media, self-study, lectures, laboratories and case-based learning. As well, our Indigenous Program recruits and supports Indigenous students throughout their medical education and clinical training. We are fully engaged in working toward the University's goals as identified in uOttawa's Destination 2020, specifically focusing on enhancing the student experience while maintaining our support for bilingualism, research and internationalization.

UGME Successes

Administration
- Social Accountability Program
- Distinguished Teacher Program (31 graduates)
- 10-year anniversary of the Indigenous Program

Curriculum
- Interprofessionalism Program
- Humanities Program (Evidence-based; UGME)
- Global Health electives (increased funding)
- Global Health Program (new stand-alone program)
- Mindfulness curriculum
- Clinician Investigator Program in collaboration with the Department of Medicine

Financial Support
- Creation of Undergraduate Medical Education Scholarship
- Creation of William Commanda Scholarship for Indigenous MD students
- Summer studentships (10 per year)
- Awards in Education for students and faculty members: awards based on competencies with online nomination system to increase engagement
- 2,330 bursaries and 577 bursary applications processed per year

Students
- Enhancement of Student Affairs services
- Renovation of the Aesculapian Society Office
- University of Ottawa Journal of Medicine (UOJM), the world's first peer-reviewed, bilingual journal
- New dedicated student lounge space

Quick Facts
- Only fully bilingual MD Program in North America
- Students have over 1,620 teachers
- Indigenous stream (100 graduates by 2020)
- Among top medical schools in Canada for residency matches
- Among highest mean GPA in Canada
- Top 3 highest number of applicants in Canada (over 4,000 per year)
### Summer Research Work Program

One of our offerings to medical students is the Summer Research Work Program, open to first- and second-year MD students looking to grow their experience in research.

The Faculty offers $5,000 bursaries to students who are selected to participate. The program is competitive, with 70 to 80 applications each year and only 50 projects receiving funding. Students spend the summer working closely with a supervisor in their chosen field of research (basic science or clinical), followed by a poster presentation of their work in September.

Students with the best poster presentations go on to present once more at the Canadian National Medical Student Research Symposium in Winnipeg.

### 2017 Winners

**#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

### Innovative Learning: The University of Ottawa Skills and Simulation Centre

A draw for many of our learners is the University of Ottawa Skills and Simulation Centre (uOSSC). Born out of a partnership between the University and The Ottawa Hospital, it is one of the largest centres in Canada and throughout North America. The uOSSC strives to be an international leader in collaborative, simulation-based education and innovative research to enhance medical education and quality patient-centred health care.
The Honours Bachelor of Science in Translational and Molecular Medicine (TMM) is a collaborative effort between the researchers at the University of Ottawa Faculty of Medicine and its affiliated health research institutes. TMM is truly revolutionary in integrating theoretical and practical courses, offering students the most advanced and innovative learning experience in Canada. In this new program launched in 2016, 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.

**TMM Successes**
- The first cohort of TMM students are graduating this year. Forty percent of these students have already enrolled in a graduate program while 50% of them have been accepted in Medicine.
- These numbers reflect the quality of the learning environment in TMM and in the Faculty of Medicine as well as the professional opportunities they create.
- Accordingly, 75% of TMM third-year students have obtained a scholarship to complete a research project in a laboratory this summer.

**Quick Facts**
- With only 40 new students per year, TMM learners get an unrivaled learning experience in small classes.
- One-on-one tutorials with worldwide experts in specific areas expose the students to current biomedical issues.
- Largest number of advanced laboratories for an undergraduate program in Canada including, but not limited to, bioinformatics, immunology, neurobiology and behavioural sciences, cancer biology, high-end microscopy techniques, systems biology and protein X-Ray crystallography.
- TMM is the only program at uOttawa that offers a course in Science Communication. This course helps students improve their presentation skills and their networking skills.
- The program is offered in both French and English.
Spotlight on Our Research

As one of Canada's leading research-intensive institutions, the Faculty of Medicine has a long history of conducting world-class basic and clinical research. Many of our high-profile research projects are in partnership with affiliated teaching hospitals and research institutes.

These partnerships lead to biomedical discoveries that have a significant impact on health care, not only within Canada but around the world. In the process, they educate the next generation of Canadian scientists. In this issue, we focus on two of our areas of research excellence, followed by some highlights and initiatives of particular pride to us across the research spectrum.
The Faculty of Medicine has a number of major research initiatives that are aligned with the University’s current strategic plan, Destination 2020. Building on our demonstrated track record of research excellence, the Faculty and affiliated hospital-based research institute partners will focus efforts during the coming decade on a number of integrated strategic areas.

In this issue, we spotlight the University of Ottawa Brain and Mind Research Institute and our Centre for Infection, Immunity and Inflammation.

The University of Ottawa Brain and Mind Research Institute (uOBMRI)

The uOBMRI continues to enjoy major growth and development. In the past several years, the Institute has 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. Its initial programs focused on the development of exceptional clinical care and research of brain-related illnesses in stroke, Parkinson’s disease, depression and neuromuscular disease. These initiatives 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, uOBMRI also initiated efforts in emerging areas: understanding concussion injury and cognitive memory processes.

New uOBMRI Research has Potential for Treatment of Huntington’s Patients

Anyone who has seen the devastating effects of Huntington disease (HD) firsthand wouldn’t be surprised that the Huntington Society of Canada likens it to having Alzheimer’s, Parkinson’s and Amyotrophic Lateral Sclerosis (ALS) all in one disease. One in 7,000 Canadians suffer from HD, while one in 1,000 know someone who does. What makes a diagnosis of HD particularly difficult to hear is that there is currently no cure. But new research published by Dr. Stephen Ferguson of the University of Ottawa Brain and Mind Research Institute has shown reduced Huntington disease symptoms in mice, results with great potential for treatment in humans.

A professor in the Department of Cellular and Molecular Medicine at the Faculty of Medicine, Dr. Ferguson studies how cells communicate with each other, which is often via the transfer of proteins to another cell’s protein receptor. Patients with HD experience a buildup of a particular mutated form of a protein, referred to as the ‘huntingtin’ protein. Cell death results, leading to progressive incapacitation and death within 15-20 years. Based on past research successes with Alzheimer’s, Dr. Ferguson and his team correctly hypothesized that blocking a receptor in the brain, called mGluR5, would block the buildup of the mutated huntingtin protein and prevent the progression of Huntington’s disease. Their results were published recently in *Science Signaling*.

The researchers gave mice with HD a compound called CTEP, which blocks mGluR5. CTEP also activates a pathway that stimulates the breakdown of the built-up mutant huntingtin proteins. The mice showed a reduction in cell death in their brain tissue, and decreased Huntington pathology in their brains. “CTEP works to reduce HD-like symptoms in mice because it affects the levels of huntingtin in their brains,” says Dr. Ferguson. “It also turns on the pathways that are currently turned off in someone who has Huntington disease,” Bev Heim-Myers, CEO of the Huntington Society of Canada, explains the potential of the work of Dr. Ferguson’s team and others to transform HD research. “The answers we find will likely lead to better understanding of treatments for other neurological diseases such as Parkinson’s, Alzheimer’s and ALS,” she says.
Centre for Infection, Immunity and Inflammation (CI3)

Chronic infectious and inflammatory diseases involve interactions between the cardiovascular, immune, neurological, endocrine and other biological systems. Unravelling this complexity therefore requires a systems biology approach. The uOttawa Centre for Infection, Immunity and Inflammation (CI3) was created with the objective of bringing together basic and clinical scientists with diverse expertise, experimental models and approaches from the fields of immunology, microbiology, virology, biochemistry, neurobiology, cardiovascular biology, metabolism and pathology. Its collaborative, innovative and multidisciplinary research projects explore the mechanisms of inflammation underlying chronic diseases, foster knowledge translation and dissemination, and train the next generation of scientists in multidisciplinary research in infection, immunity and inflammation.

Sebastien’s Story: CI3 Researchers Tackle Crohn’s Disease and Ulcerative Colitis in Children

Rather than spending his weekends on the toboggan hill and playing in the snow with his friends, six-year-old Sebastien spent most of this past winter on the couch. He was plagued with fatigue, weight loss and abdominal pain.

“He was too tired to even play with his LEGO,” says Sebastien’s mom, Michelle Lalonde. “He had stopped growing, his teeth stopped coming in and he even had a few white hairs. We had no idea what was wrong with him.” Only after a long series of tests did she learn that her son was suffering from Crohn’s disease. Crohn’s disease and ulcerative colitis are the two main forms of inflammatory bowel disease (IBD). Crohn’s can be very hard to diagnose in children because many of its symptoms are non-specific. Children like Sebastien can end up being very ill for a long time before they are diagnosed. Even when the condition is identified and a suitable treatment is found, it is still a difficult diagnosis to hear because, while the symptoms of the disease can be managed with medication, it is not curable.

Earlier this year, a team of researchers at the University of Ottawa and CHEO was awarded $9.1 million by Genome Canada to help crack the mystery of this disease and find better treatments. With these funds, the team expects to make a significant difference in the lives of children like Sebastien. The 12-person research team, co-led by Dr. Alain Stintzi of the University of Ottawa Faculty of Medicine and Dr. David Mack of the CHEO Research Institute, will spend the next four years getting intimate with the microbial community inhabiting the gastrointestinal tract. Alterations to it are thought to cause the chronic inflammation of the bowel wall that characterizes Crohn’s disease and ulcerative colitis.

The team hopes to significantly impact the lives of IBD patients by understanding how the microbial community works and reorganizing its composition—no small feat. This highly complex collection of microorganisms is estimated in the hundreds of trillions.
Not only will the team attempt to considerably reduce the amount of time it takes to diagnose a patient and improve treatment, they are also looking to develop treatments targeting the actual cause of Crohn’s disease. “Current treatments target different aspects of a person’s immune system that cause bowel inflammation, but they’re not targeting the cause of that inflammation,” says Stintzi. “We are essentially trying to reset the microbiome back to a non-inflammatory environment.”

“Over-treatment and under-treatment is a challenge in patients with Crohn’s disease and ulcerative colitis currently,” says Dr. Mack. “Our hope is that we can change the way we manage IBD by making treatment more efficient, less complex and safer for the patients.”

While the task of trying to understand hundreds of millions of microorganisms may be daunting, Drs. Mack and Stintzi are optimistic about what they will achieve during the course of this four-year study.

“Our ultimate goal is of course a cure—but at the very least our study will lead to dramatically better outcomes for patients like Sebastien,” says Stintzi. “And that’s what drives our work every day.”

This work was funded by the Government of Canada through Genome Canada and the Ontario Genomics Institute (OGI-149).
Research Successes

Major Awards 2017–2018
- 1 Canada Gairdner Wightman Award
- 1 Brockhouse Canada Prize (NSERC)
- 2 Royal Society of Canada Fellowships
- 5 Early Researcher Awards in 2017 and 2 more in 2018

Recruitment
- 38 professors in the basic sciences including several with affiliated research institutes since 2015
- 40% of new recruits and new Canada Research Chairs are women

Core Facilities
- The Research Office (RO) and affiliated research institutes have pooled major research infrastructure to develop, maintain and expand core facilities with strategic grant applications to the Canada Foundation for Innovation (CFI) and the Natural Sciences and Engineering Research Council of Canada (NSERC)
- The 13 core facilities are recognized as being well managed by Office of the Vice-President, Research and CFI
- Support cutting-edge research for over 1800 scientists/trainees
- More than $1.5 million invested each year from the Faculty and University to maintain the cores
- Reviewed annually for sustainability and relevance

Infrastructure
In an effort to maintain cutting-edge facilities and accommodate a major influx of researchers in the Faculty, the RO has led the development and submission of major infrastructure applications to CFI. Since 2015, the RO has successfully submitted:
- 21 CFI-John Evans Leaders Funds application totaling more than $13.2 million in new equipment and research space
- 6 CFI Innovation Fund projects totaling $74 million

Research Chairs in 2017–2018
External Chairs:
- 17 Canada Research Chairs (3 new Canada Research Chairs, 11 renewals since 2015)
- 23 Endowed and Sponsored Chairs

Quick Facts
- $651 million in research funding in last 5 years
- The Faculty attracts nearly 50% of all external research funds received by the University
- The FoM has experienced significant growth in research intensity over the last two decades
- We consistently rank among the top 5 in Canada for research intensity
A Sample of Our Outstanding Research Accomplishments

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, 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, affect mood. It also provides means to design better treatments for mood-related disorders such as major depression and anxiety disorders.

Dr. Guy Trudel Teams up with Astronauts on the ISS to Uncover the Implications of Deep Space Exploration

The MARROW study, a collaboration with the Canadian Space Agency, is investigating the effects of microgravity on the bone marrow of astronauts. Lead investigator Dr. Guy Trudel, uOttawa professor and clinician at The Ottawa Hospital, hopes to shed light on what might happen to the human body during deep space exploration, such as a manned mission to Mars.

Experiments on Earth mimicking an astronaut’s situation in outer space with redirected gravity, such as studies on long-term bed rest, have shown that that fat accumulates in bone marrow during prolonged sedentary conditions. This has shown to be irreversible and may inhibit the production of red and white blood cells. Without the marrow working properly and producing enough blood cell counts, humans can die. The MARROW study is crucial to understanding how to prevent or reverse space anemia and degradation in blood cell count. Participating astronauts submit blood and breath samples before flight, collect their own blood and breath samples while on the International Space Station (ISS) using specialized equipment, and submit to further testing after returning to Earth. “Because of the dream to man missions in space that are a year, two years, even three years long, we need to understand what happens to bone marrow in space,” says Trudel.

Flow Cytometry Goes Nano at the Faculty of Medicine

Dr. Marc-André Langlois’ team at the Faculty of Medicine’s Department of Biochemistry, Microbiology and Immunology has developed a technology called nanoscale flow cytometry allowing for the analysis of extracellular vesicles, exosomes and viruses using flow cytometry. Their revolutionary work was published recently in Nature Scientific Reports. Flow Cytometry is just one of 13 core facilities at the uOttawa Faculty of Medicine.

Ottawa Researchers Kill Brain Cancer in Mice with Combination Immunotherapies

A promising combination of immunotherapies delivers a one-two punch to brain cancer tumours with high cure rates in mice, scientific evidence published by uOttawa in Nature Communications says. Dr. Robert Korneluk, distinguished professor at the Faculty of Medicine and senior scientist at the Children’s Hospital of Eastern Ontario (CHEO) Research Institute, says, “You could say it takes two to tango. We believe that it takes a combination strategy to impact cancer cure rates.”
Recent Accolades

Former Director of Francophone Affairs Inducted into Order of La Pléiade

Dr. Jeanne Drouin, former director of uOttawa Faculty of Medicine’s Francophone Affairs, received the grade of Knight (Chevalier) of Ontario’s Order of La Pléiade on March 19, 2018.

Preventing Hip Problems in Young Athletes: Ottawa Researchers Receive Prestigious Award

A team of researchers from the University of Ottawa, The Ottawa Hospital, Carleton University and the Children’s Hospital of Eastern Ontario (CHEO) has received the Kappa Delta Award. This is only the second time since 1950 that a Canadian group has won this international prize for orthopaedic research, given by The American Academy of Orthopaedic Surgeons. The team leader is Dr. Paul Beaulé, Head of the Division of Orthopaedic Surgery at uOttawa and The Ottawa Hospital.

Three Ottawa Researchers Among “World’s Most Influential Scientific Minds”

The Faculty of Medicine’s Drs. Mark Freedman, Jeremy Grimshaw and David Moher were recently ranked among the world’s top 3,300 “most influential scientific minds.” This puts them in the top 0.05% of the estimated 7.8 million full-time researchers worldwide. The list, compiled by Clarivate Analytix, is based on analyzing how often a given research paper is cited or referenced by other research papers.

Mona Nemer Named Canada’s Top Scientist

Prime Minister Justin Trudeau announced the appointment of Dr. Mona Nemer, professor at the Faculty of Medicine as well as former vice-president, research at uOttawa, as Canada’s Chief Science Advisor in 2017, saying that “Dr. Nemer brings a wealth of expertise to the role. Her advice will be invaluable and inform decisions made at the highest levels. I look forward to working with her to promote a culture of scientific excellence in Canada.”

Dr. Nemer brings a wealth of expertise to the role. Her advice will be invaluable and inform decisions made at the highest levels.

– Justin Trudeau, Prime Minister of Canada
**Director of MD Indigenous Program Recognized by AFMC for Improving Diversity in Medicine**

Dr. Darlene Kitty has been recognized for her academic leadership in diversity by the Association of Faculties of Medicine of Canada, with one of several awards celebrating excellence in medical education in Canada. Dr. Kitty contributes to Indigenous-relevant initiatives, research and publications through active collaboration with stakeholders, and sees the care, teaching and advocacy of her work as a valuable avenue in addressing and improving Indigenous health and social issues, particularly reconciliation.

**From Cell Science to Selling Science: Leading uOttawa Experts Elected to Royal Society of Canada**

Two of the top researchers in their fields from the Faculty of Medicine were announced as recipients of one of the premier accolades in science. Dr. Ruth Slack and Dr. Ian Graham were elected by their peers to join the Royal Society of Canada (RSC) as Fellows, emblematic of their innovation and renown as the best in their fields.

**uOttawa Faculty of Medicine’s Radiologist Dr. Carlos Torres Honoured with Three International Awards**

Namely, Dr. Torres was honoured with:
- National Order of Merit Award in the Rank of Officer from the Republic of Colombia
- 2017 RSNA Honored Educator from the Radiological Society of North America (RSNA)
- Distinguished Professor of Radiology at Henan Provincial People's Hospital, Zhengzhou University in China

**Mona Nemer and Katey Rayner Receive 2018 CSMB Scholarly Awards**

The two leading uOttawa Faculty of Medicine researchers received a 2018 Scholarly Award from the Canadian Society for Molecular Biosciences (CSMB).

**Dr. Syed Sattar Receives American Society for Testing and Materials’ (ASTM) Highest Recognition for Contributions to Developing Standards**

The emeritus professor’s work has led to seven globally referenced standards in assessing antimicrobial activity.

**Former VP Research Mona Nemer Only Canadian Elected to Prestigious American Academy of Arts and Sciences**

Founded in 1780, the AAAS is one of the oldest learned societies in the USA and gathers some of the world’s most accomplished scholars, scientists, artists, and business and civic leaders.

**Dr. Robert Milin Receives AACAP’s Elaine Schlosser Lewis Award for Research on Attention-Deficit Disorder**

The award is granted by the American Academy of Child and Adolescent Psychiatry (AACAP) to the writer of the best scientific paper in the *Journal of the American Academy of Child and Adolescent Psychiatry*.

**Pioneering Work by uOttawa Researchers Earns Prestigious NSERC Prize**

A team of researchers from the University of Ottawa was rewarded with the prestigious Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering. The award, sponsored by the Natural Sciences and Engineering Research Council of Canada, recognizes outstanding teams that engage in research based on their combined knowledge and skills to produce a record of excellent research achievement in the natural sciences and engineering. The prize comes with a research grant of $250,000. The award was presented to Leonard Maler of the Faculty of Medicine’s Department of Cellular and Molecular Medicine and André Longtin of the Department of Physics.

**uOttawa Prof Assists in Selecting Winner of Prestigious Japan Prize**

Dr. Tofy Mussivand, Professor of Surgery, was invited to join an elite group of official nominators for the Japan Prize, which ranks with the Nobel Prize among top prestigious awards globally.
Gairdner Lecture Series
On Tuesday, October 24, 2017, the Faculty of Medicine hosted the 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 is restored. He also led the charge to set up the Canadian Stroke Network, a network of centres 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 into one that is treatable; it also earned him the 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 31, 2017, the University of Ottawa and the friends of the Canadian Institutes of Health Research (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 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.

Further Distinguished Lectures of Recent Years at the Faculty of Medicine
Dr. Bruce Beutler
Dr. Beutler, a Nobel Laureate (Physiology or Medicine, 2011) of the University Southwest Texas, Dallas, Texas, USA, was the convocation speaker at the MD/PhD program convocation in May 2017.

Dr. Jennifer Doudna
In October 2016, Dr. Jennifer Doudna, of the University of California, Berkeley, USA, was the proudly featured speaker of uOttawa’s Gairdner Lecture Series as the 2016 Canada Gairdner Global Health Award winner. Dr. Doudna has been named one of Time magazine’s 100 most influential people in the world (2015).
Faculty Affairs

The Faculty Affairs (FA) office provides faculty members with guidance and support during their careers at the Faculty of Medicine. The services are provided through FA’s three offices and programs: The Office of Equity, Diversity and Gender Issues (EDG), the Faculty Wellness Program (FWP), and the Office of Professionalism (OP). The FA oversees the clinical faculty appointment process, annual reviews, academic promotion and other academic issues, faculty relations, wellness initiatives, and mentorship for faculty members and postdoctoral trainees, among other services.

FA supports a total of 2,891 faculty members. Its work spans 12 clinical departments and four basic science departments.

In March 2018, an all-female panel of four Faculty of Medicine researchers took the stage to discuss the challenges facing women and minorities in science and academia.

Read about their personal observations, perceptions of what is contributing to these inequities, and their suggestions for moving forward: All-female panel reflects on challenges facing women and minorities in science.

Francophone Affairs

Francophone Affairs continues to work hard on many fronts to realize its ambitious mandate of developing French educational programs at the undergraduate and postgraduate levels as well as in continuing professional development. Francophone Affairs also leads initiatives to recruit students and professors for the French undergraduate program and to identify opportunities for electives and national and international exchanges in French-speaking environments.

bafmed@uOttawa.ca

Quick Facts

- Graduates from Francophone stream since 1996: 773
- Students in Francophone stream per year: 48
- Residents in Montfort programs per year: 17
- Participants in recruitment mini-courses: 3,668
- National rotations through the Consortium national de formation en santé (CNFS): 426
- International exchanges: outgoing 102, incoming 50
Internationalization and Global Health

The Faculty of Medicine is making great strides on the international scene—from developing new international research partnerships, to hosting important international events, to supporting our faculty and learners in their global health endeavors.

Not only is this in line with Destination 2020, the University’s strategic plan, but these opportunities and successes enrich the experience of our learners and contribute to bilingualism and research excellence by providing international training and research collaboration opportunities. To build on our recent successes within our Internationalization portfolio, the Faculty has created a task force that has spent the spring looking at where we’ve come from and where we want to go with our global activities. Stay tuned for highlights of their work in future issues.

Internationalization Successes

Global Health Program (GHP)

- Provides training and support to faculty members participating in international education, research, health care and capacity-building in low-resource settings so that these may be carried out safely and ethically.
- Helps faculty members establish strategic and sustainable initiatives that facilitate the engagement of learners and faculty with the goal of improving health care in Canada and in low-resource communities worldwide.
- Supports international electives in undergraduate medical education (UGME) and postgraduate medical education (PGME) with pre- and post-training and ongoing support in-country during these electives.
- Offers an undergraduate Global Health curriculum and Global Health concentration that culminate in a Global Health certificate.

Student Builder Program (SBP)

- Sponsors up to four students annually to complete projects that contribute to the development of the uOttawa-Shanghai partnership and improve the uOttawa medical education and/or research. Each research project is co-supervised by a professor from uOttawa and a counterpart in Shanghai.

Medicine and Humanities International Program (MHIP)

Launched in July 2017, MHIP aims to deliver common teaching material to students at the partner universities (the University of Lyon, Shanghai Jiao Tong University School of Medicine, and Shanghai University of Traditional Chinese Medicine) to facilitate student exchanges and summer school opportunities and to initiate related joint research. MHIP enables students and professors to experience the history of medicine, art, literature, philosophy and human sciences across cultures to foster critical thinking and the development of empathy.

The Benin Project

The Benin Project is an initiative of the Faculty of Medicine and coordinated by Francophone Affairs. Donations toward the Benin Project allow Francophone Affairs to accomplish the project’s mission, including:

- Improving the international health knowledge of the students in our Francophone stream to train the leaders of tomorrow.
- Supporting the reform initiated by the University of Abomey-Calavi in Benin, Africa to introduce primary health education into the curriculum.
- Introducing the model of primary health care into an African village to reduce infant mortality rate and improve the health of its population.
The dean would like to hear from you.

Please share ideas, feedback and future content ideas via infomed@uOttawa.ca