



uOttawa

Institut de recherche  
sur le cerveau

Brain and Mind  
Research Institute

# uOBMRI ANNUAL REPORT

ANNUAL REPORT  
FOR 2019-2020





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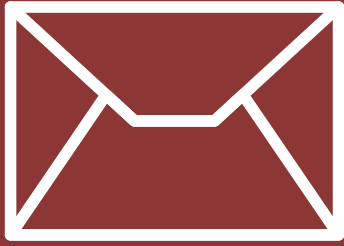
## CONNECT. EXCITE. HEAL

The University of Ottawa Brain and Mind Research Institute (uOBMRI) is Ottawa's largest assembly of basic researchers and clinician scientists who are focused on brain and mind related health.

The uOBMRI accelerates research discoveries by promoting innovation through collaboration and networking between researchers from diverse disciplines at the basic discovery and clinical research level. It does so by helping to coordinate research efforts among its research members at the various uOttawa faculties, local hospitals, affiliated networks and local research institutes.

The uOBMRI supports its members by promoting an interactive research environment, providing access to funding and resources, supporting our top trainees and participating in the recruitment of top researchers to Ottawa.

**In collaboration with our partners and our community leaders, we are working together to promote awareness and education of brain and mind related health in the community.**



**First and foremost, I hope you and your families are all well and staying safe amid this pandemic.** It has been inspiring to see how our community has come together and risen to the challenge of COVID-19. This annual report looks back at uOBMRI success stories from Spring 2019 to Spring 2020. I hope you enjoy learning about the major accomplishments last year, such as the creation of the NeuroMuscular Disease for Canada (NMD4C) network, how our early career investigators are leading research innovation, and more.

It goes without saying that our research and training environment has changed dramatically over the course of 2020. However, I am proud to say that uOBMRI researchers, along with their trainees have continued to share ground-breaking research and raise brain health awareness by adapting to our new, more virtual world. In April 2020, it was inspiring to see how our research community came together by leading the PPE donation and collection efforts to support our friends and colleagues in the Ottawa healthcare community. Our researchers have since safely returned to their labs, albeit at reduced capacity, to continue innovative research, but continue their outreach and education efforts over Zoom and more.

On another important note, the uOBMRI has kicked off strategic planning to define a new path forward at the uOBMRI in January 2020. This process, facilitated by Christine Fitzgerald, has been a great success and presents an exciting future for the uOBMRI. I would like to thank our Strategic Plan Action Committee members, researchers, community and stakeholders for their invaluable input to the development of this exciting Strategic Plan.

While 2021 may bring on new challenges, I am confident that the uOBMRI will continue to flourish and establish itself as a leader in brain health at the international level.

Thank you for your continued support and collaboration,  
Dr. Ruth Slack  
**uOBMRI Director**



# MESSAGE FROM OUR uOBMRI TEAM



"From Our Homes to Yours" is a common phrase our team has used in the past several months. Like many others, we've embraced our new virtual office and moved our research and outreach activities online. Most notably, we produced the Dementia Prevention Webinar Series with Dr. Antoine Hakim in Spring 2020. From our homes to yours, we were dedicated to sharing the importance of brain health and healthy aging practices.

We look forward to producing more educational content and planning more virtual events in 2021.

All the best,  
The uOBMRI team

## STRATEGIC PLAN UPDATE

In January 2020, the uOBMRI recruited Christine Fitzgerald to facilitate the Strategic Planning Action Committee and facilitate the development of the strategic plan. Christine has extensive leadership experience in the strategic planning and strategic positioning of institutes and government organizations.

From January to October 2020, the uOBMRI Strategic Planning Action Committee worked long hours, taking into account a broad consultation process with members and stakeholders to develop a new strategic plan. We are excited to share this new strategic plan with everyone in early 2021.

Thank you to our committee, our members and our stakeholders for your invaluable contribution towards creating a shared vision for the future of the uOBMRI.

**Dr. Ruth Slack & the uOBMRI Team**

# OUR MEMBERS AT A GLANCE

*“The uOttawa Brain and Mind Research Institute is home to international leaders in brain health, who conduct groundbreaking research to further our understanding of neurological disorders and develop better treatments. Their innovative work ultimately improves patient care.”*

**-Sylvain Charbonneau, Vice-President,  
Research, uOttawa**

## 255 +

**TOTAL MEMBERS**

*From across multiple faculties, partners  
and areas of expertise*

## 8

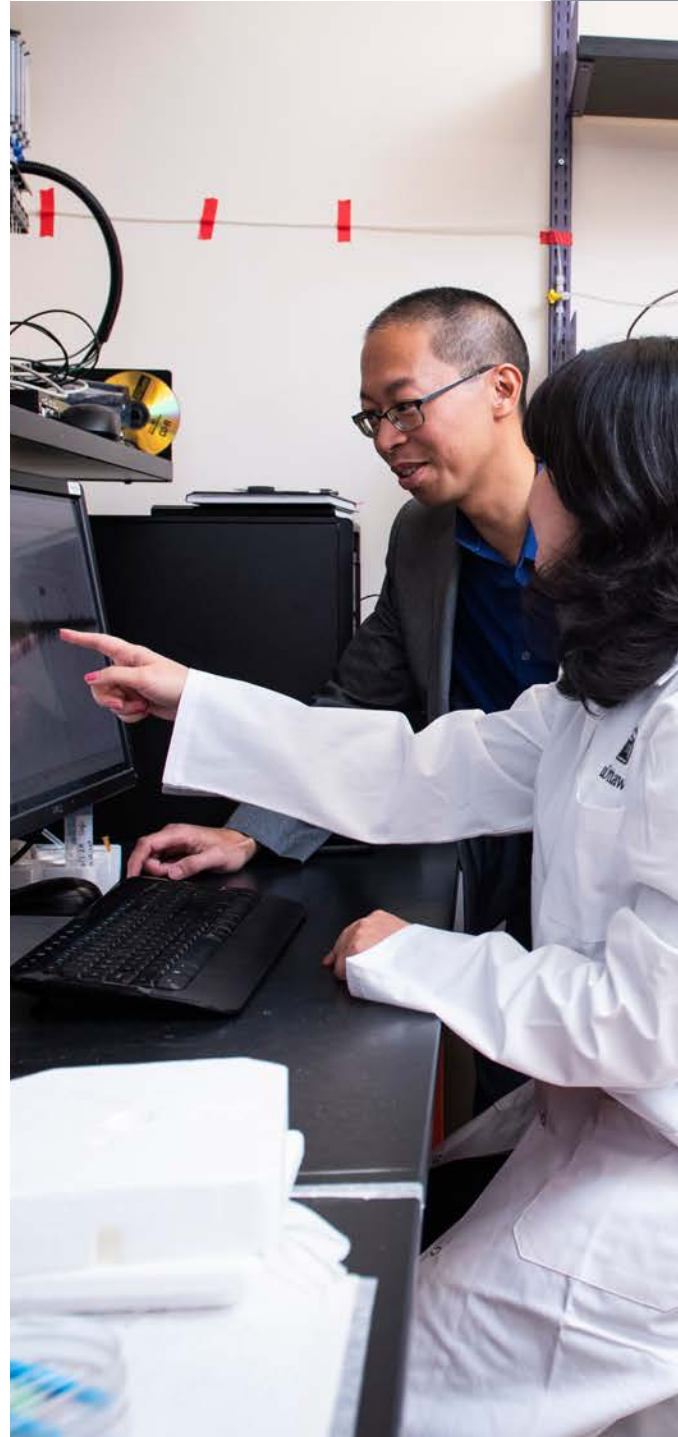
**FACULTIES**

*Including: uOttawa Faculties of  
Medicine, Science, Social Sciences,  
Health Sciences, Education, Art,  
Engineering and Law.*

## 6

**PARTNERS**

*Including: Bruyère Continuing Care/BRI,  
CHEO/CHEO-RI, The Royal/IMHR, Hôpital  
Montfort /ISM, The Ottawa Hospital/OHRI, and  
Carleton University*



# WHO ARE WE?

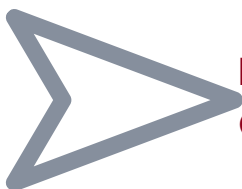


We currently have over 250 scientific members. Our members include clinicians, clinician scientists, basic discovery and medical researchers from across numerous specialties, who work to understand the nervous system (central and peripheral) in order to make an impact on brain health.

To view our membership profiles, **please visit our [website here](#).**

## MEMBER BENEFITS:

- Funding opportunities for collaborative projects to serve as seed funding for larger initiatives
- Trainee support at all levels
- Networking opportunities
- Opportunities to participate in collaborative uOBMRI Projects
- Programs and groups within the uOBMRI that facilitate interactions and provide direction to brain research activities within Ottawa
- **And more!**



**Learn how to join uOBMRI:  
Contact Us: [uobmri@uottawa.ca](mailto:uobmri@uottawa.ca)**



# LEADING NEUROMUSCULAR DISEASE RESEARCH ADVANCEMENTS

## **uOBMRI Researchers Canadian Neuromuscular Network dedicated to connecting patients, scientists and clinicians**

In early 2020, a new national network called NMD4C (NeuroMuscular Disease for Canada) was launched in hopes to bring together patients, scientists and clinicians to improve care, research and treatment. Ottawa researchers are playing a big role in the network. This is led by Dr. Hanns Lochmüller, with Drs. Jodi Warman Chardon and Rashmi Kothary serving on the Steering Committee.

The network will advance research and collaboration on Duchenne muscular dystrophy, spinal muscular atrophy and myotonic dystrophy, as well as many other rare genetic neuromuscular diseases, which collectively affect more than 64,000 Canadians. NMD4C will develop tools for better collaborative research, including a pan-Canadian biobanking infrastructure to allow researchers to find the samples they need.





**Dr. Kym Boycott and Dr. Michael Rudnicki elected to the Royal Society, the world's oldest & most prestigious scientific institution**

**In the past year, Dr. Kym Boycott and Dr. Michael Rudnicki were elected Fellows of the Royal Society, the most prestigious and oldest scientific institution in the world.**

Dr. Kym Boycott is a renowned clinical geneticist, who leads a Canadian consortium of clinicians and scientists dedicated to identifying genes linked to hundreds of rare diseases, with a view to incorporate genomic sequencing into routine diagnostics and patient care.

Dr. Boycott and the consortium's remarkable research has led to the discovery of 150 new disease genes and has provided diagnoses to thousands of patients.

Dr. Michael Rudnicki is an internationally recognized thought leader in molecular genetics and regenerative medicine. One of his key discoveries was the identification and characterization of muscle stem cells, a finding that has fueled the development of possible approaches to the treatment of muscular dystrophy and other neuromuscular disorders.



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**Trainees have been supported by uOBMRI CNMD STaR awards in recognition of their research excellence.**

**\*for 2019-2020**

# EARLY CAREER EXCELLENCE

\*for May 2019-May 2020

*"Early Career Researchers are the driving force behind some of the most cutting edge, innovative work in Ottawa and beyond. The uOBMRI is proud to support these researchers"*  
-Dr. Ruth Slack, uOBMRI Director

## **Dr. Tiago Mestre, Dr. Lara Pilutti and Dr. Adam Shuhendler receive Ontario Early Researcher Awards:**

- In April 2020, **Dr. Tiago Mestre, Dr. Lara Pilutti, and Dr. Adam Shuhendler** each received the Ontario's Early Researcher Award, which recognizes research excellence and promising potential.
- **"For our researchers, receiving the Early Researcher Award is a testimony of their research excellence and promising potential,"** said Vice-President, Research Sylvain Charbonneau. **"We applaud the fact that their research work will be reinforced with the creation of a new team and encourage them to pursue their quest for excellence."**

## **Our CIHR Success Stories:**

- **Dr. Maxime Rousseaux** received a 5-year CIHR project grant for his work to understand the mechanisms of neuronal demise via a-Syn mislocalization in neurodegenerative diseases.
- **Dr. Jodi Edwards** was awarded a CIHR project grant dedicated to examining how structural and electrical changes in the heart's shape can increase the risk of dementia in aging, with the goal of reducing risk for dementia.
- **Dr. Greg Silasi** was awarded a CIHR project grant, focused on assessing how microinfarcts alter brain function and recovery after a major stroke.
- **Dr. Pierre Mattar** was awarded two CIHR project grants for his research focused on uncovering how neural stem cells are generated during development using the eye as a model.

## **Innovative research in Mental Health and Aging:**

- **Dr. Natalia Jaworska** is the Director of the Clinical Electrophysiology Laboratory. Her research involving depression and youth and the benefits of exercise has important implications on mental health care.
- **Dr. Amy Hsu** led a study that revealed the changing health profiles of new long-term care residents in Ontario and highlighted the need for increasing care needs of aging adults.



**Dr. Tiago Mestre**



**Dr. Lara Pilutti**



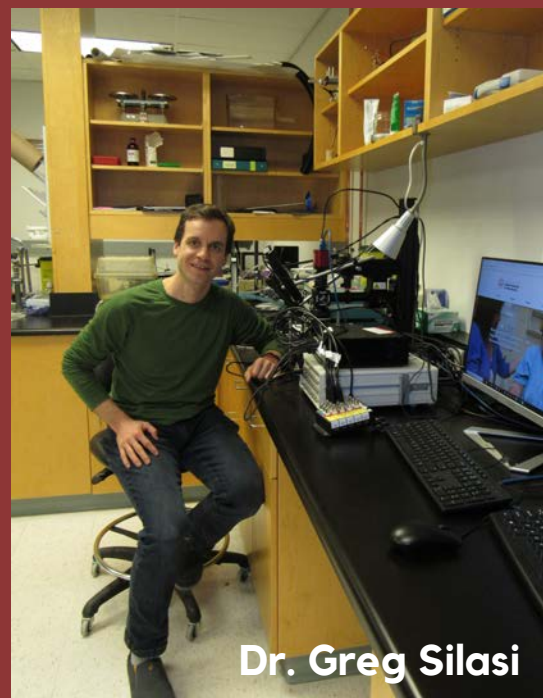
**Dr. Adam Shuhendler**



**Dr. Maxime Rousseux**



**Dr. Jodi Edwards**



**Dr. Greg Silasi**



**Dr. Pierre Mattar**



**Dr. Natalia Jaworska**



**Dr. Amy Hsu**  
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# OUT & ABOUT

From fundraising events to virtual educational webinars, the uOBMRI has spent the past year advocating for brain health awareness in our community.

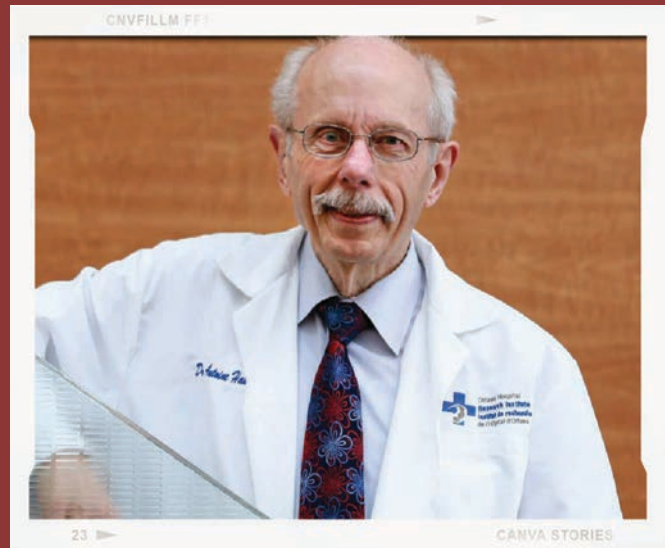


## **A Night Out Under the Stars in Support of Alzheimer's Disease Research**

In June 2019, Tavern on the Hill/Tavern on the Falls hosted the uOBMRI at their 2nd annual Night at the Falls event, which supports the uOBMRI and its mission to advance Alzheimer's research, treatment and care. It was an exciting night for attendees, who enjoyed gourmet food and had a chance to hear research updates from the uOBMRI Director Dr. Ruth Slack and researchers Dr. Nafissa Ismail, Dr. Stephen Ferguson and Dr. Diane Lagace. This event is a continued success thanks to community advocates and leaders like the Schad Family.

***Many thanks to the Schad Family for their generous support!***

**2,000+  
Viewers  
Reached**



## **The uOBMRI Goes Virtual: Dementia Prevention Web Series**

**What do we know about dementia? Do we have the power to prevent or delay dementia?** In May 2020, the uOBMRI launched the Dementia Prevention Webinar Series with Dr. Antoine Hakim to answer these vital questions. Each episode of the Dementia Prevention Webinar Series shared the latest research on factors that contribute to dementia—from stroke and blood pressure to physical activity. This uOBMRI is dedicated to promoting dementia prevention research and healthy living practices in our community. **[Watch the Dementia Prevention Web Series here.](#)**



**Thank you to  
Rowan and  
Avery for all  
of your hard  
work!**

## **MapleWishes awarded for their advocacy and fundraising efforts in Parkinson's Disease**

The uOBMRI is honoured to have Rowan and Avery as dedicated supporters of the Parkinson Research Consortium (PRC). Their fundraising and outreach efforts through their "Butterfly Project" have helped raise awareness for Parkinson's Disease Research in Ottawa. In February 2020, the PRC nominated Rowan and Avery from MapleWishes as a part of the CTV Myers Amazing Kid Award Series for their incredible work fundraising for Parkinson's research in Ottawa.

# ANSWERING THE COVID-19 CALL



When the COVID-19 pandemic posed an unprecedented challenge to the world, the uOBMRI Community responded with innovative research initiatives, community outreach and more.



**Dr. Smita Pakhalé launched a study to examine the impact of the COVID-19 pandemic on the city's most vulnerable people**

**From the Ottawa Citizen:** Dr. Smita Pakhalé and her team were awarded \$225,000 to examine how the pandemic has affected the lives and health of the city's homeless and others living on the margins. People living at the margins of society face unique, daily challenges, many of which have been intensified by the pandemic. **"What we want to do is to capture the whole societal impact on their food insecurity, their housing, their well-being, their addictions, their mental health,"** Pakhalé said. **"We've designed this project to see what's happening and to bring that picture forward."**

## **Dr. Patrick Giguère led drug screening efforts in hopes of combatting COVID-19**



In April 2020, Dr. Giguere and his team began screening existing medications to see if they could treat the symptoms of COVID-19. They chose candidates from a vast library of FDA approved drugs and others that have been previously shown to be safe for clinical trials. The team tested the effects of the drugs using a pseudotype virus in human cell lines.



## **uOttawa Staff and Volunteers Led PPE Collection in April 2020**

Staff and volunteers at uOttawa collected a haul of personal protective equipment to help front-line health care workers in the COVID-19 fight. The equipment was collected from the Faculties of Medicine, Health Sciences, Science and Engineering. This equipment was usually used for both teaching and research. We thank our entire community for their generous support!



# OUR TRAINEES

**The uOBMRI is proud to support the next generation of brain health researchers by distributing several trainee fellowships and awards in the past year.**

Trainee awards encourage excellence in both basic and clinical research at graduate and post-doctoral levels. Our scientists and clinicians are building a brighter future by training the next generation of brain health researchers in Canada.

## **Here's a look at our trainee awardees for 2019-2020:**

**Irina Alecu, Crabtree Family Fellowship**  
**Anjali Patel, Toth Family Fellowship**  
**Quinton Hake-Volling, Audrey Grant Parkinson's Research Fellowship**  
**Nima Raman, Bonnie & Don Poole Parkinson's Research Fellowship**  
**Christopher Rousso, Shelby Hayter Fellowship**  
**Michaela Lunn, Larry Haffner Fellowship**

**Alex Green, CNMD StaR Awardee**  
**Jarred Lau, CNMD StaR Awardee**  
**Christine Peladeau, CNMD StaR Awardee**  
**Anjali Patel, CNMD StaR Awardee**  
**Aoife Reilly, CNMD StaR Awardee**

**Kim Thériault, Saroj and Kishori Lal Family Scholarship**  
**Michael Lynn, Mark and Gail Marcogliese Graduate Fellowship for Research**  
**Karim Ibrahim, Mark and Gail Marcogliese Graduate Fellowship for Research**

**"The PRC Fellowship has given me the opportunity to expand my research project and learn new techniques that have significantly elevated my research abilities"**

**-HALEY GEERTSMA, PRC Fellowship Awardee**





## **uOBMRI Welcomes over 1,200 attendees for Brain Health Awareness Week (BHAW) 2019**

BHAW is the uOBMRI's annual five-day event dedicated to advancing public awareness about brain health. We kicked off the week with 250+ attendees learning about the power of dementia prevention.



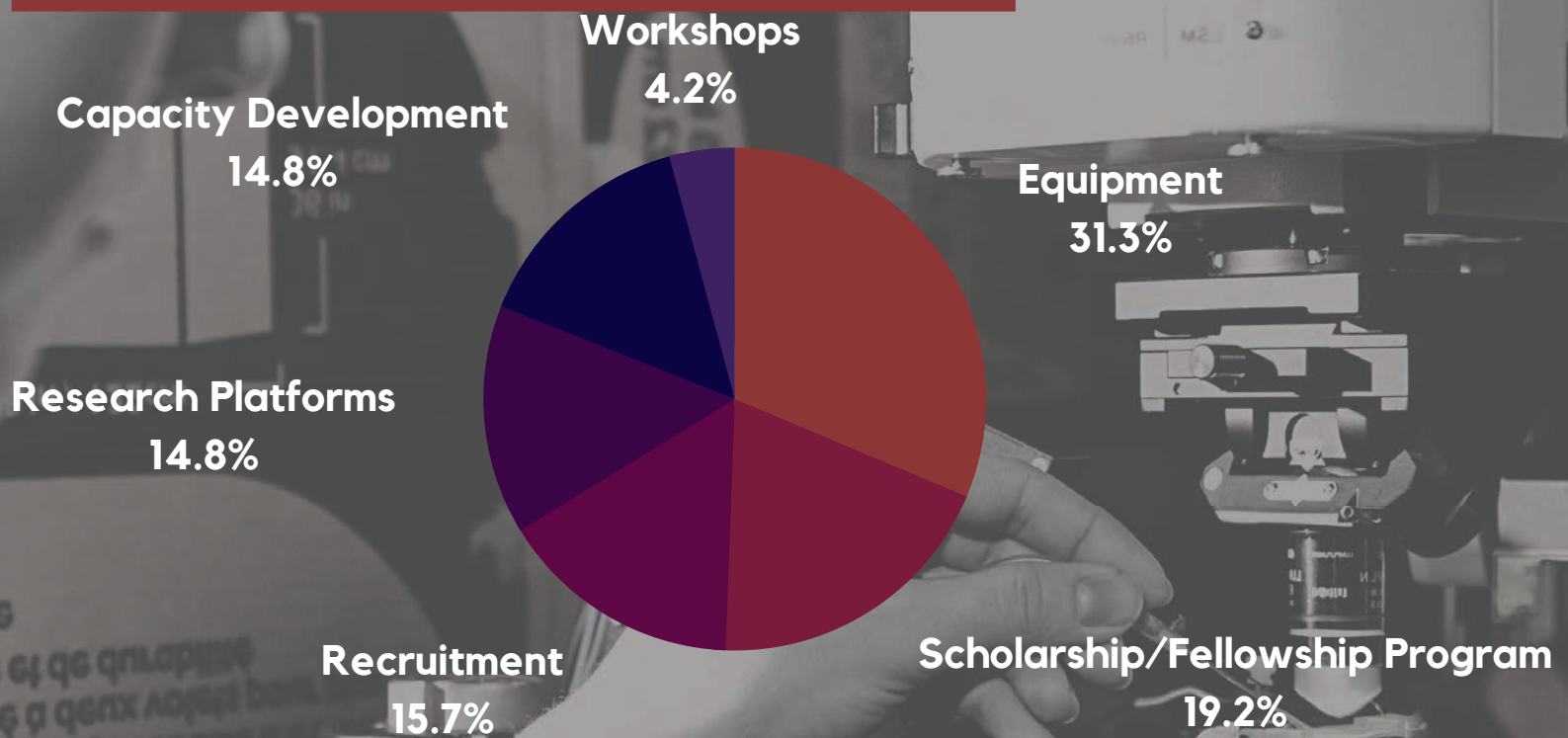
Photo credit: Zhaoyi Chen

## **uOBMRI Shines at Doors Open Ottawa 2019**

On June 2, 2019, the uOBMRI, partnered with the Ottawa Faculty of Medicine, welcoming more than 350 visitors to Roger Guindon Hall for Doors Open Ottawa. Community members of all ages were welcomed into our labs to learn about how movement is generated by the brain and more!

# uOBMRI FUNDING AT A GLANCE

## uOBMRI Funded Initiatives 2019-2020



# uOBMRI SHOWCASE



\*May 2019-May 2020



## **Dr. Paul Albert awarded the 2019 Grimes Research Career Achievement Award**

In November 2019, Dr. Paul Albert was awarded the Grimes Research Career Achievement Award for his leadership in neuroscience, as well as his innovative work on what causes depression and how to treat it. "By managing depression, we are improving life-long health in a big way," said Albert.

## **Dr. Maia Fraser & Dr. Georg Northoff lead a interdisciplinary, international AI research team as a part of the Canada-UK Artificial Intelligence Initiative**

These research teams, co-led by principal investigators from both countries, will advance understanding of important AI challenges, such as helping neurosurgeons perform surgery, and creating technology to better detect and monitor global disease outbreaks.



## **Dr. Roger Zemek led the publication of the Living Guideline for Diagnosing and Managing Pediatric Concussion**

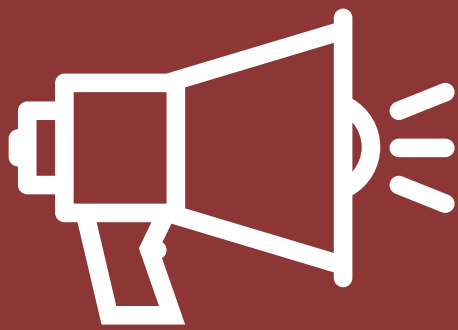
The Living Guideline for Diagnosing and Managing Pediatric Concussion is the first ever guideline of its kind in the world. This guideline is frequently updated and gives physicians, caregivers and patients the latest evidence on best treatment practices. "That's important because research is being published at a brisk pace" said Dr. Roger Zemek, adding that "It's essential that professional providers have the latest and greatest evidence."



## **Dr. Sylvia Grosjean appointed Research Chair in International Francophonie**

Dr. Sylvie Grosjean was appointed Research Chair in International Francophonie on Digital Health Technologies. Her chair will aim to improve understanding of issues related to the use and design of digital health technologies in light of the specific challenges encountered in the francophone world.





# uOBMRI SHOWCASE

\*May 2019-May 2020

## **Parkinson Research Consortium members Dr. David Grimes, Dr. Michael Schlossmacher and Dr. Tiago Mestre facilitated creation of the updated "Canadian guideline for Parkinson disease"**

With the aim of enhancing care for all Canadians with Parkinson disease, this guideline is based on the best published evidence, involves expert consensus when there is a lack of evidence, offers practical clinical advice, takes patient choice and informed decision-making into account and is relevant to the Canadian health care system. **"We hope this guideline will help physicians and other health care professionals improve the care of people with Parkinson disease"**, says Dr. David Grimes.



## **Dr. Monnica Williams is named Canada Research Chair in Mental Health Disparities**

Dr. Williams seeks to understand and improve the psychological wellbeing of the entire Canadian population in all its diversity. More specifically, her research looks at the behaviours related to the health of members of racialized and stigmatized groups, for whom mental health treatments need to become more effective.

## **Dr. Ruth Slack awarded a \$1.03 million dollar grant from the Krembil Foundation**

Dr. Slack, along with collaborators Dr. Louis-Eric Trudeau, Dr. David Park and Dr. Michelle Desjardin, was awarded a grant from the Krembil Foundation for \$1.03 million dollars. The grant, "Reshaping Mitochondrial Efficiency and Integrity to Treat Parkinson's Disease" aims to find a novel approach to treat PD.



## **Dr. Bill Gardner sheds light on a concerning uprise in self harm in youth**

Emergency department visits for self-harm in adolescents have more than doubled in Ontario in the past 10 years. Dr. Gardner's study brought a concerning trend to light and called for better tools to predict and prevent repeat self-harm injuries.

# OUR GOVERNANCE

\*in the May 2019-2020 Period



## Governing Council:

- **Sylvain Charbonneau (Chair)**
- Jason Berman
- Pierre Blier (Interim)
- Guy Chartrand
- Marc Ekker
- Bernard Jasmin
- Kevin Kee
- Bernard Leduc
- Brian Ray
- Michael Schlossmacher
- Ruth Slack
- John Sylvestre

## Scientific Council:

- **Ruth Slack (Chair)**
- Paul Albert
- Jean-Claude Béïque
- Richard Bergeron
- Dennis Bulman
- Kym Boycott
- Tuan Bui
- Dale Corbett
- Dar Dowlatshahi
- Stephen Ferguson
- Andrew Frank
- William Gardner
- Patrick Giguère
- David Grimes
- Simon Hatcher
- Nafissa Ismail
- Diana Koszycki
- Baptiste Lacoste
- Diane Lagace
- Clare Liddy
- André Longtin
- Leonard Maler
- Shawn Marshall
- Claude Messier
- Georg Northoff
- Kathleen Pajer
- Robin Parks
- Adam Sachs
- Michael Schlossmacher
- Andra Smith
- Heidi Sveistrup
- Giorgio Tasca
- Jean-Philippe Thivierge
- Lisa Walker
- Jodi Warman
- Sharon Whiting
- Roger Zemek



## Advisory Board:

- **Ruth Slack (Chair)**
- Louis Barriault
- Richard Barwell
- Pierre Blier
- Sylvain Charbonneau
- Guy Chartrand
- Jocelyn Côté
- Daniel Figeys
- Bernard Jasmin
- Kevin Kee
- Bernard Leduc
- Maurice Lévesque
- David Lohnes
- Alex Munter
- Martin Osmond
- Kathleen Pajer
- Catherine Plowright
- Denis Prud'homme
- Michael Schlossmacher
- Heidi Sveistrup
- Duncan Stewart
- Christine Suurtamm
- Lucie Thibault
- Phil Wells



# OUR COMMUNITY LEADERS

The White Coat Cabinet is a committee of community leaders in Ottawa who are passionate advocates for brain health research. We are honoured to count these members as uOBMRI supporters.

## White Coat Cabinet Members:

- Subhas Bhargava (Chair)
- Brian Reinke
- Derek Finley
- Dr. Ray Singhal
- Dr. Antoine Hakim
- Dr. Ruth Slack
- Young-Hae Lee

## Welcome to new Chair, Subhas Bhargava:

Through his leadership, advocacy and support, Mr. Bhargava has been key to the development of several research initiatives and awareness campaigns in Ottawa. His continuous efforts have successfully positioned Ottawa as a leader in brain health research.



## Thank You to Brian Reinke for his leadership:

The uOBMRI owes much of its success to community brain health advocates like Brian Reinke. Mr. Reinke is a passionate leader of the White Coat Cabinet committee and fostered the can-do spirit the committee has today.



# OUR PARTNERS

The success of the University of Ottawa Brain and Mind Research Institute depends on its institutional members: The Ottawa Hospital and the Ottawa Hospital Research Institute, The Royal Ottawa Health Care Group and The Royal's Institute of Mental Health Research, affiliated with the University of Ottawa, Bruyère Continuing Care and the Bruyère Research Institute, the Children's Hospital of Eastern Ontario (CHEO) and the CHEO Research Institute, as well as, Hôpital Montfort and Institut de recherche de l'Hôpital Montfort.

Our University of Ottawa faculties include; the faculties of Medicine, Science, Social Sciences, Health Sciences, Arts, Education, Engineering, and Law



Institut de recherche sur le cerveau

Brain and Mind Research Institute



The Ottawa Hospital | L'Hôpital d'Ottawa



The Royal's Institute of Mental Health Research  
affiliated with the University of Ottawa

# OUR INTEGRATED NETWORKS

Our integrated networks result from our efforts to help bridge the gap between the needs of the community and the research going on at the uOBMRI. These networks are primarily comprised of our members, patients, caregivers, community leaders and ambassadors of the uOBMRI. We come together to share ideas, build awareness and ultimately thrive to advance community outreach and engagement.

- Parkinson Research Consortium (PRC)
- Centre for Neural Dynamics (CND)
- Centre for Neuromuscular Disease (CNMD)
- Multiple Sclerosis Research Group (MSRG)
- Stroke Research Consortium (SRC)
- Concussion Advisory Group (CAG)
- Memory and Cognition Group (MCG)
- Neuromuscular Disease Network for Canada (NMD4C)
- The Academy of Mindfulness and Contemplative Studies (AMCS)
- Canadian Partnership for Stroke Recovery (CPSR)



## **Work with our Team:**

### **Director:**

Dr. Ruth Slack

### **Program Manager:**

Natasha Hollywood

### **Administrative Coordinator:**

Candace Fortier

### **Communications Coordinator:**

Victoria Racher

### **Scientific Writer:**

Sarah Schock

### **Follow us:**

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[www.uottawa.ca/brain](http://www.uottawa.ca/brain)  
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