

University of Ottawa Brain and Mind Research Institute



**ANNUAL
REPORT**
2021-2023

10 Year Special Edition

MESSAGE FROM THE DIRECTOR

On behalf of the uOttawa Brain and Mind Research Institute (uOBMRI), we are pleased to share with you this year, a special edition of the uOBMRI annual reporting of 2021-2023. Over these past two years, the uOBMRI team has highlighted some of its key achievements during this period, most notably in our research community since the implementation of our 5-year strategic plan. One of our key achievements since actioning the strategic plan is the recruitment of leadership roles for the institute's thematic research hubs that will be announced below.



In 2022, we proudly celebrated the uOBMRI's 10-year anniversary. To mark this milestone achievement, the institute hosted a commemorative research day on Friday, December 9th, at the Ottawa Conference and Event Centre. To close the research program, the institute opened its doors to a public reception that welcomed more than 390 participants from our research community and the public. To honor this milestone achievement, we have shared a timeline to review some influential moments that the institute has accomplished in a decade.

We also want to take the opportunity to thank our many incredible stakeholders who have supported us. We are particularly grateful for the many generous contributions that have supported innovative research initiatives, specifically in Parkinson's disease, Alzheimer's disease & other dementias, neuromuscular disease and multiple sclerosis. We are also very thankful and appreciative for the generous contributions in supporting our next generation of young researchers!

In addition to these few highlighted achievements, we hope that you enjoy reading this special edition of the uOBMRI's annual report and the meaningful work that is being implemented to broaden our research impact.

Sincerely,
Ruth Slack, PhD, FRSC
Director, uOBMRI

10 YEARS IN REVIEW: HISTORY

2010 - The Planning Phase

The concept of the uOBMRI was conceived by Dr. Jacques Bradwejn and Dr. Bernard Jasmin

2012 - Its Inception

The founding director, Dr. Antoine Hakim, launched the uOBMRI

2014 - Strategic Direction

Dr. David Park named its new Director and the uOBMRI's 5 year Strategic plan was developed. Stroke, Parkinson's disease, depression, dementia, neuromuscular disease and neural dynamics were identified as the uOBMRI research priorities

2016 - 2018 - Expanded Research Outreach

Concussion, Mental Health, Memory and Cognition and MS were added as research priorities.

2019 - Welcomed new Director

Dr. Ruth Slack named its new Director

2020 - Launched new Strategic Plan

Under Dr. Slack's leadership, the new 5 yr Strategic plan was developed 2021-2026. New research themes and leads identified: injury and regeneration, mental health, neuromuscular health and neurodegeneration.

2020 - 2023 - Fostering collaboration

Launch of collaborative, multi-disciplinary and multi-partner team grant opportunities

2023 - Brain-Heart Interconnectome (BHI)

Launch of BHI co-led by Dr. Ruth Slack, uOBMRI and Dr. Peter Liu, uOttawa Heart Institute



10 Years in Review: Milestones

Supporting Research

Supported research programs via multidisciplinary team grants, collaborative opportunities, recruitment, platform support, equipment, etc...

Supported our next generation of trainees with Scholarship and Fellowship opportunities (~\$330K per year)

Fostering Partnerships (examples include)

- Established the Éric Poulin Centre for Neuromuscular Disease. The Centre for Neuromuscular Disease was named in memory of Dr. Éric Poulin (2019)
- MS Society of Canada (2022)
- Institute of Music and Brain Health (2022)
- Hebrew University Collaboration (2023)
- Parkinson Canada (2023)
- Brain-Heart Interconnectome (2023)

Prioritizing Community Outreach (examples include)

Launched Brain Health Research Day and hosted over 2,500 trainees, faculty and members of our research community over 10 years (2013-2023)

Launched Brain Health Awareness Week and hosted over 5,000 participants since its inception in 2014

Hosted a variety of workshops, research spotlights, summer schools, educational and partner events, fundraising initiatives (Tea Time with the Docs)

Collaborated with the Academy of Mindfulness and Contemplative Studies including two annual events (2017 & 2019) and hosted a series on mindfulness (2021, 2022)

Launched Dementia Prevention Webinar series and website during the pandemic (2020)





Our Vision

The uOBMRI leads neurodiscovery through innovative research that transforms prevention and care for the health of individuals and society.



Our Mission



- Support world-class research on brain and mind that fosters engagement and collaboration across disciplines, partners and communities;
- Accelerate the creation and application of research-informed innovations that improve prevention, care and policies for the health and well-being of individuals and society; and
- Recruit, inspire and develop the next generation of researchers, leaders and innovators.



Quick Facts Over 10 years. We ...

Welcomed

270+

Research Members

Established

20+

New Partnerships

Supported

\$2.5M

For Our Next Generation
of Researchers

Obtained

10,000+

Community Followers

Organized

70+

Conferences,
Meetings & Events

Hosted

~20k

Attendees at Our Research
& Community Events

STRATEGIC PLAN 2021-2026



The uOBMRI have been working diligently to launch their strategic plan. The team worked very closely with its scientific council and we are very pleased to announce the leaders who will collaborate and bring our teams together from across the city to promote partnerships and accelerate our research programs.

Our thematic research pillars are led by experts in their respective fields and these include:

- Injury and Regeneration (Stroke, Concussion, Spinal Cord Injuries)
- Mental Health (Anxiety and Mood Disorders, Substance Abuse, Neuro Developmental Disorder (e.g. Autism)
- Neurodegeneration (Parkinson's disease, Alzheimer Disease and other Dementia's, Multiple Sclerosis, Huntington Disease)
- Neuromuscular Health (Motor Neuron Disease (ALS), Nerve Disorders, Neuromuscular Junction Disorders, Muscle Disorders)

We are excited to introduce our thematic research hub and cross-cutting theme leads.

We look forward to sharing their progress in the months to come!
[Learn more about our experts here](#)

INJURY AND REGENERATION

The Injury and Regeneration pillar of the uOBMRI focuses on **stroke, concussion, and spinal cord injuries**. It includes basic scientists, clinical researchers, and clinicians collaborating on projects with the common goal of pushing the limits of care for patients all around the world suffering from acute brain and spinal cord injuries.

The objectives of the pillar are to develop novel preventative and therapeutic treatments for various damages that can occur to the brain with the utmost importance being on patient care and wellbeing.

RESEARCH LEADS



Dr. Dar Dowlatshahi, is a Stroke Neurologist at The Ottawa Hospital, a Professor in the Faculty of Medicine at the University of Ottawa, and a Senior Scientist at the OHRI. His research focuses on intracerebral hemorrhage, neuroimaging, and acute stroke therapy.

Dr. Diane Lagace is an Associate Professor in the Department of Cellular and Molecular Medicine at the University of Ottawa. Her lab uses preclinical models and molecular, cellular, histochemical, and behavioural techniques to identify the mechanisms that produce new neurons and determine their functional role in the healthy and pathological adult brain.



“The Injury and Regeneration pillar brings together researchers from different fields to achieve a common goal: minimize brain and spinal cord damage and advance the science of recovery. We believe the nervous system can bounce back after injury, whether it be from stroke, concussion or spinal cord trauma. We are here to make that happen.” ~ Dr. Dar Dowlatshahi

MENTAL HEALTH

The Mental Health pillar of the uOBMRI is the newest pillar of the institute and includes basic scientists, clinical researchers, and clinicians who are **working together to understand the fundamental mechanisms and factors involved in the onset of mental health disorders** across the lifespan, to develop effective preventative measures and treatments for various mental illnesses, and to facilitate access to mental health professionals and effective multicultural clinical care.

RESEARCH LEADS



Dr. Nafissa Ismail is an Associate Professor at the School of Psychology at the University of Ottawa. She is the holder of a University Research Chair in Stress and Mental Health. Her research expertise is in neuroimmunology and neuroendocrinology. Her research program focuses on examining the mechanisms underlying stress-induced mental illnesses during critical periods of development.

Dr. Jennifer Phillips is a Scientist at the University of Ottawa Institute of Mental Health Research (IMHR) at The Royal. She is the Director of Research (Interim) and an Assistant Professor in the Department of Psychiatry at the University of Ottawa, and an Adjunct Research Professor in the Department of Neuroscience at Carleton University. Her expertise is in clinical neuroscience, focusing on depression and suicide prevention.



"The decreasing stigma around mental health makes it easier for us to confide in and support each other. To respond to increased needs, our Mental Health pillar is finding new ways to increase access to care and accelerating research into novel treatment strategies." ~ Dr. Jennifer Phillips

NEURODEGENERATION

The Neurodegeneration pillar focuses on various neurodegenerative diseases such as **Parkinson's disease, Alzheimer disease and other dementias, Huntington disease, amyotrophic lateral sclerosis and multiple sclerosis**. Members concentrate on the characterization, development and pathophysiology of these diseases and novel therapies to treat them. The pillar collaborates with basic scientists, clinical researchers and clinicians to investigate the fundamentals of disease progression and create novel therapies to treat these diseases.

RESEARCH LEADS



Dr. Baptiste Lacoste is an Assistant Professor and scientist in the Neuroscience program of the Ottawa Hospital Research Institute (OHRI). His field of interest is studying neuro-vascular interactions as an essential gain to a better understanding the brain and mental health.

Dr. Lisa Walker is an Assistant Professor of Medicine and an Adjunct Professor of Psychology at the uOttawa. She is a Clinical Neuropsychologist at The Ottawa Hospital and a Clinician Investigator with the OHRI. Her research program evaluates cognitive health in multiple sclerosis,



"The Neurodegeneration Pillar is dedicated to improve the lives of people currently affected by dementia and neurodegenerative illnesses, and target the underlying mechanisms with new treatments to ultimately eradicate these conditions. By listening to people with lived experience, and bringing together researchers with varied expertise, we aim to give people impacted by neurodegenerative conditions hope for the future." ~ Drs. Baptiste Lacoste and Lisa Walker

NEUROMUSCULAR HEALTH

The Neuromuscular Health pillar of the uOBMRI **focuses on motor neuron diseases such as ALS, nerve disorders, neuromuscular junction disorders and muscle disorders**. The pillar concentrates on the development and pathophysiology of these diseases and novel therapies to treat them.

It includes basic scientists, clinical researchers, and clinicians collaborating on projects with the common goal of expanding the limits of care for those suffering from a neuromuscular disorder.

RESEARCH LEADS



Dr. Jodi Warman Chardon is the Director of the Ottawa Neuromuscular Centre in The Ottawa Hospital. She is a clinician-scientist in the Dept. of Medicine at The Ottawa Hospital, Ottawa Hospital Research Institute in Neurosciences and Clinical Epidemiology, and Department of Genetics at the CHEO/RI.

She is also the co-Director and Associate Professor of the Centre for Neuromuscular Disease at the uOttawa. Her primary research interest focuses on identifying the molecular basis and the clinical characterization of rare neuromuscular diseases by combining next-generation sequencing (NGS) and whole-body muscle imaging to drive gene discovery and phenotypic expansion.

Dr. Robin Parks is a Professor in the Dept. of Medicine and the Dept. of Biochemistry, Microbiology, and Immunology at the uOttawa. He is also a Senior Scientist in the Regenerative Medicine program at the Ottawa Hospital Research Institute. His research interests range from characterizing various aspects of basic adenovirus (Ad) biology to exploring the efficacy of Ad-based vectors to the delivery of therapeutic genes in animal models of genetic or acquired disease.



BRAIN DYNAMICS



Dr. Jean-Claude Béïque is a Professor in the Dept. of Cellular and Molecular Medicine (CMM) at the uOttawa. His lab uses electrophysiological, imaging, computational and behavioural approaches to study the brain's synaptic, neuronal, and network dynamics. By bridging these levels of investigation, his research activities seek to identify basic computations governing behaviour in health and disease.

Dr. André Longtin is a Professor of Physics at the uOttawa, cross-appointed to CMM at the uOttawa. His research interests are nonlinear dynamics, stochastic dynamics, biological physics, and mathematical biology. The main focus of his research is on theoretical and computational studies of the nervous system. The long-term goals of his research are to understand how neurons and other biological units self-organize and perform computations and what links cellular biophysics and biological complexity.



“Our Brain Dynamics cross-cutting theme fosters world-class interdisciplinary research into the fundamental dynamical workings of brain circuits at all scales, and also brings together the associated trainees and fellows in this exciting emerging area” ~ Dr. André Longtin

NEW EMERGING THEMES



Dr. Jodi Edwards is the Director of the Brain and Heart Nexus Research Program at the University of Ottawa Heart Institute (UOTI), Assistant Professor in the School of Epidemiology and Public Health at the University of Ottawa, Co-Director of the UOHI Population Outcomes Research Unit and an ICES Scientist. Dr. Edwards' expertise is in cardiovascular epidemiology.

Dr. Richard Naud is an Associate Professor at the uOttawa. Research in the Naud lab relies on bidirectional interactions between artificial intelligence and neuroscience. The lab constructs statistical methods to extract more specific features from large-scale neural data. Complimentarily, it tests functional properties of neurons and synapses with artificial intelligence benchmarks.



TRANSLATIONAL AND IMPLEMENTATION RESEARCH



Dr. Smita Pakhalé is a Scientist at the Clinical Epidemiology Program at the Ottawa Hospital Research Institute and an Associate Professor in the School of Epidemiology, Public Health, and Preventive Medicine at the University of Ottawa.

She leads the Bridge Engagement Centre, a community research office that conducts community-based participatory action research with Ottawa's homeless, at-risk for homeless individuals, and racialized (including Indigenous) populations. Her fields of interest are chronic lung diseases, tobacco cessation, global health, health equity, social determinants of health, Indigenous health, and poverty.

NEUROETHICS, LAW, AND SOCIETY

Jennifer Chandler is a Professor of Law in the faculty of Law at the University of Ottawa and a founding member of the Centre for Health Law, Policy, and Ethics. She is cross-appointed to the Faculty of Medicine and holds the Bertram Loeb Research Chair.




Her main areas of research relate to the ethical, legal, and social issues raised by the brain sciences and neurotechnologies, as well as to organ donation and transplantation law, ethics, and policy.

“Our network pursues a unified theoretical approach to the ethical-legal assessment of intelligent neuroprostheses, informed by the perspectives of users, the neuroengineering community and other key stakeholders.”

~ Jennifer Chandler, LLB, LLM

MAKING HEADLINES

[Link for all NEWS at the uOBMRI](#)


 Institut de recherche sur le cerveau
Brain and Mind Research Institute

Connect.Excite.Heal. Series
April edition

TALLER THAN PD

Tallman Family Energizes Research to Help Alleviate Neuroinflammation in Parkinson's Disease

"Many individuals can take a simple problem and make it complicated -- not many can take a complicated problem and make it simple."



- The Tallman Family Motto

From left to right are; Don Tallman, Diana Tallman, Bev Tallman, and Gordon Tallman.

In April 2023, the family very generously committed \$655,000 towards a novel project called "Tallman Family Energizes Research to Help Alleviate Neuroinflammation in PD and nicknamed "TALLER THAN PD." Read more [here](#).

The uOBMRI was thrilled to announce a unique collaboration with Hebrew University's Faculty of Medicine and its Brain Disease Research Centre in Jerusalem, Israel (HUJI) to spearhead research in Alzheimer's Disease.

This partnership was made possible due to the generosity of Ron Prehogan, a philanthropic leader and community ambassador in the city of Ottawa and the Jewish National Fund (JNF).



Our mental health research pillar strives to develop effective treatments for individuals and society. Especially on days such as Bell Let's Talk, we are reminded of the importance in taking action and creating positive change not only through our research initiatives but by raising awareness in our greater community.

 Institut de recherche sur le cerveau
Brain and Mind Research Institute



Let's Talk About Mental Health...
Conversations at the uOBMRI

Hear From our Research Experts in Mental Health!

“
"Take care of your mental health just as you care for your physical health. You need both in order to be healthy. As researchers, we are working hard to identify the factors that contribute to the onset and of mental illness and to discover more effective treatments"



NAFISSA ISMAIL, PHD
uOttawa, Faculty of Social Sciences,
Mental Health Pillar Co-Lead, uOBMRI

 Institut de recherche sur le cerveau
Brain and Mind Research Institute

OUR RESEARCH IMPACT

uOttawa Institut de recherche sur le cerveau Brain and Mind Research Institute



IN THE NEWS

DR. SMITA PAKHALÉ

Image credit: uOttawa

Scientist, Clinical Epidemiology Program, Ottawa Hospital Research Institute; Associate Professor, Faculty of Medicine, University of Ottawa; uOBMRI

"Our research team, led by a racialized woman like me, prioritizes the inclusion of researchers and trainees from diverse experience and those with non-typical research careers"

- Dr. Pakhalé, as quoted by the Office of the Vice-President, Research and Innovation, University of Ottawa, May 2023

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IN THE NEWS

DR. ROGER ZEMEK

Senior Scientist at the CHEO Research Institute, Professor and Clinical Research Chair in Pediatric Concussion at the University of Ottawa, & uOBMRI member

"What we've learned is that rest is not always best, that waiting to be symptom-free isn't the best."

- Dr. Zemek, as quoted by *The Ottawa Citizen*, January 2023

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IN THE NEWS

SCHLOSSMACHER LAB

Discovery reveals how Parkinson's-linked gene protects the brain

As reported by the Ottawa Hospital Research Institute, April 2023

Researchers at The Ottawa Hospital and the uOBMRI recently made a major contribution to an ongoing debate in Parkinson's disease research. Their study showed that parkin acts like a powerful antioxidant that disarms potentially harmful oxidants in the brain.

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IN THE NEWS

DR. DAR DOWLATSHAHI

Stroke Neurologist at The Ottawa Hospital, Professor and Vice Chair of Research at the University of Ottawa, & uOBMRI Pillar Co-Lead

"We are hoping this is going to be the first big landmark discovery that changes this disease,"

- Dr. Dowlatshahi, as quoted by *The Ottawa Citizen*, February 2023

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IN THE NEWS

DR. NATALIA JAWORSKA

Scientist at the University of Ottawa Institute of Mental Health Research (IMHR) at The Royal, uOBMRI

"Whenever you can learn more about the neurobiology or the mechanisms of a symptom, then you can think about how to better manage that symptom"

- Dr. Jaworska, as quoted by *The Royal*, March 2023

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IN THE NEWS

DR. JING WANG

Senior Scientist at the Ottawa Hospital Research Institute and Associate Professor at the University of Ottawa, uOBMRI

"Based on our findings we advise pregnant people to limit their exposure to methylmercury by following Canadian guidelines for fish consumption,"

- Dr. Wang, as quoted by The Ottawa Hospital Research Institute, March 2023

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Dr. Slack and Dr. Dowlatshahi on CTV News

GROUNDBREAKING STROKE RESEARCH IN OTTAWA

uOttawa Institut de recherche sur le cerveau Brain and Mind Research Institute



Dr. Walker and John Chafe on CTV News

OTTAWA SCIENTISTS WORKING ON NEURODEGENERATION

uOttawa Institut de recherche sur le cerveau Brain and Mind Research Institute

Join us in celebrating the International Day of Women and Girls in Science



Joignez-vous à nous pour célébrer la journée internationale des femmes et des filles de science

uOttawa Institut de recherche sur le cerveau Brain and Mind Research Institute

International Women's Day



uOttawa Institut de recherche sur le cerveau Brain and Mind Research Institute

Journée internationale des femmes



CONNECT.EXCITE.HEAL.

SOCIAL MEDIA SERIES



In January 2023, we launched our new **Connect.Excite.Heal.** series. Each month we **connect** with our research community, explore how we **excite** innovation, or share how we support **healing**. Follow us to catch our monthly edition!



JANUARY

NEUROCOGNITIVE TESTING SERVICE

Connect.Excite.Heal. Series
January edition

The Neurocognitive Testing Service supports researchers looking to incorporate cognitive and mental health outcomes into their research programs.



Direct inquiries to
jberard@ohri.ca



Institut de recherche sur le cerveau
Brain and Mind Research Institute

"We established the Neurocognitive Testing Service based on feedback from patients about what matters to them."

- **LISA WALKER, PhD, C. Psych.**
Consulting Psychologist, Neurocognitive Testing Service



JASON BERARD, PhD
Clinical Research Program Manager,
Neurocognitive Testing Service



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Continue following the Connect.Excite.Heal. Series to learn more!

FEBRUARY



Institut de recherche sur le cerveau
Brain and Mind Research Institute

Connect.Excite.Heal. Series
February edition

NEW STUDY - Return to school sooner, and recover faster?

"As a pediatric emergency physician who treats hundreds of youths with new and persistent concussion symptoms, I see far too many kids who are told to avoid school until they are symptom-free which can cause more harm and delay the recovery process. The results of this study provide strong evidence that an early return to school is associated with better outcomes."



- **Dr. Roger Zemek**

Senior Scientist at the CHEO Research Institute, Professor and Clinical Research Chair in Pediatric Concussion at the University of Ottawa, & senior author on the study



Institut de recherche sur le cerveau
Brain and Mind Research Institute

Is returning to physical activity 3 days post-concussion beneficial?

Connect.Excite.Heal. Series | February edition

"The study confirms that early return to physical activity is safe, can reduce concussion symptoms and reduces the rate of delayed recovery. **Gone are the days of resting in a dark room.**"

- **Dr. Andrée-Anne Ledoux,**
Scientist at the CHEO Research Institute, Professor at the University of Ottawa, & study's corresponding author.



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Brain and Mind Research Institute

Connect.Excite.Heal. Series
February edition

Can mindfulness-based intervention help improve concussion symptoms?



"This is the first study in the world to examine the potential of mindfulness delivered through a mobile platform with artificial intelligence, to improve recovery from acute concussion. [...] In order to provide objective evidence of the benefits of intervention, a subset of 60 study participants will undergo brain imaging pre- and post-treatment."

- **Dr. Andrée-Anne Ledoux,**
Scientist at the CHEO Research Institute, Professor at the University of Ottawa, & the study's Principal Investigator.

MARCH

Meet the uOBMRI's Research Lead in Neuroethics, Law, and Society

"Our network pursues a unified theoretical approach to the ethical-legal assessment of intelligent neuroprostheses, informed by the perspectives of users, the neuroengineering community and other key stakeholders."



- Jennifer Chandler, LLB, LLM

Vice-Dean, Research, Faculty of Law & Bertram Loeb Research Chair, University of Ottawa Centre for Health Law, Policy and Ethics

uOBMRI's Jennifer Chandler Featured in MIT Technology Review

Challenges Faced with Remote Brain Stimulation



"Both approaches involve collecting, storing, and sharing brain data, which might reveal the state of the brain at any given time and hint at what the person is doing or feeling at that moment."

Is this a problem?

Jennifer Chandler, who studies legal, ethical, and policy issues in neuroscience at the University of Ottawa in Canada, asked the audience.

It depends how it will be used."

-MIT Technology Review

APRIL

TALLER THAN PD

Tallman Family Energizes Research to Help Alleviate Neuroinflammation in Parkinson's Disease

"Many individuals can take a simple problem and make it complicated -- not many can take a complicated problem and make it simple."



- The Tallman Family Motto

From left to right are; Don Tallman, Diana Tallman, Bev Tallman, and Gordon Tallman.

Celebrating our PRC's Young Researcher Fellowship Awardees



Faranak V. Ansari

Benjamin Nguyen

Allison MacDonald

Anjanta Chatterji

Dennis Chan

Karim Zahr Eddin



MAY

Hope for Hemorrhagic Stroke Recovery: FASTEST Trial



"We are thrilled to be the Canadian lead for the global FASTEST clinical trial. If successful, we will have the first proven therapy for the most severe form of stroke: intracerebral hemorrhage."

- Dr. Dar Dowlatshahi

Co-Lead, uOBMRI Injury and Regeneration Pillar

Scientist, Ottawa Hospital Research Institute; Professor, University of Ottawa; Stroke Neurologist, The Ottawa Hospital; Director of Research, Ottawa Stroke Program

Introducing the Injury and Regeneration Pillar Co-Leads

Dr. Diane Lagace

Associate Professor, Faculty of Medicine, University of Ottawa

Interested in defining the molecular mechanisms that underlie stem cell proliferation, neuronal differentiation, and ultimately integration into existing neural and synaptic circuits.



Dr. Dar Dowlatshahi

Scientist, Ottawa Hospital Research Institute; Professor, University of Ottawa; Stroke Neurologist, The Ottawa Hospital; Director of Research, Ottawa Stroke Program

Interested in intracerebral hemorrhage, neuroimaging and hyper-acute stroke, and acute stroke therapy.

CELEBRATING OUR TRAINEES



From 2021-2022, the uOBMRI launched a series of promotional research videos. Check out some of the exciting work being done by *Our Future Generation of Researchers* below.



TRAINEES & AWARDS 2022-2023

TRAINEE RESEARCHERS IN MULTIPLE SCLEROSIS AWARDS

Awarded to Tamanna Islam

Title: “Anodal Transcranial Direct Current Stimulation to Improve Cognitive Fatigability in Multiple Sclerosis”

Mentor: Dr. Lisa Walker

Awarded to Arthur Chaves

Title: “Sinergetic Effects of Aerobic Exercise Paired with Non-invasive Brain Stimulation to Prime Neuroplasticity in MS”

Mentors: Drs. Lara Pilutti & Sara Tremblay

MARK AND GAIL MARGOGLIESE GRADUATE SCHOLARSHIP FOR RESEARCH

Awarded to Meggan Porteus

Title: “Understanding the Biological Factors Contributing to Shallow Sleep in Insomnia Cooccurring with Depression”

Mentor: Dr. Rebecca Robillard

Awarded to Pavel Kotchetkov

Title: “Cellular and Molecular Mechanisms Underlying Altered Brain Metabolism in Autism Mouse Models”

Mentor: Dr. Baptiste Lacoste

SAROJ AND KISHORI LAL FAMILY SCHOLARSHIP

Awarded to Adelaide Jensen

Title: “Memory and "the Pill": Reconciling the Objective and Subjective Cognitive Effects of Short- and Long-term Oral Contraceptive use”

Mentor: Dr. Patrick Davidson



MENTAL HEALTH TRAINEE RESEARCHER AWARDS

Awarded to Patricia Burhunduli

Title: “Metabolic Correlates of Antidepressant Response to Ketamine & Electroconvulsive Therapy: A pilot FDG-PET study”

Mentors: Drs. Pierre Blier & Jennifer Phillips

Awarded to Marie Huc

Title: “Sex Differences in Emotional Processing and Associated Electroencephalographic (EEG) Profiles”

Mentor: Dr. Natalia Jaworska

Audrey Grant Parkinson's Research Fellowship

Awarded to Allison MacDonald

Title: "Investigating the Role of Alpha-synuclein in Host Immunity"

Mentor: Dr. Michael Schlossmacher

Bonnie and Don Poole Parkinson's Research Fellowship:

Awarded to Dennis Chan

Title: "Utilization of a DNA-based Aptamer to Impede Protein Aggregation Properties of Alpha-synuclein"

Mentor: Dr. Matthew Holahan

Dave and Jill Hogg Family Fellowship

Awarded to Karim Eddin

Title: "Characterization of a-synuclein Pathology in Models of Nervous System Infections Induced by Neurotropic Viruses"

Mentor: Dr. Michael Schlossmacher

Francis Mathew Memorial Fellowship

Awarded to Faranak Vahid-Ansari

Title: Depression in Parkinson's Disease

Mentor: Dr. Paul Albert



2 -Year Funding

Shelby Hayter Research Fellowship

Awarded to Ajanta Chatterji

Title: "Study Redox-protective Role of Human Parkin Against Dopamine-stress Induced Nigral Cell Degeneration in Parkinson's Disease"

Mentor: Dr. Michael Schlossmacher

Larry Haffner Research Fellowship:

Awarded to Benjamin Nguyen

Title: Reverse Engineering Parkinson's Disease Risk in a Dish by Evaluating Gene x Environmental Interactions"

Mentor: Dr. Max Rousseaux

TRAINEES & AWARDS 2022-2023

ERIC POULIN CENTRE FOR NEUROMUSCULAR DISEASE SCHOLARSHIPS IN TRANSLATIONAL RESEARCH (STAR) AWARDS

Awarded to Nicolas Collao

Title: “The Effect of Resistance Endurance Training on FAPs Dynamics and Neuromuscular Junction Integrity Following Radiation Exposure.”

Mentor: Dr. Mike De Lisio

Awarded to David Datzkiw

Title: “Mapping the Planar Cell Polarity Interactome in Muscle Stem Cells”

Mentor: Dr. Michael Rudnicki

Awarded to Kaela O'Connor

Title: “Deciphering the Interplay Between Mitochondria and Neuromuscular Transmission Using iPSC-derived Models.”

Mentor: Dr. Hanns Lochmuller

Awarded to Terry Suk

Title: “Characterizing the role of TDP-43 SUMOylation in Amyotrophic Lateral Sclerosis”

Mentor: Dr. Maxime Rousseaux

Awarded to: Angelica Tristani

Title: “Role of LC3 Homologues in Degradation of TDP-43”

Mentor: Dr. Derrick Gibbings

MICHAEL T. RICHARD CLINICAL AWARDS

Awarded to Augusto Lio Da Mota Goncalves Filho

Title: “Deep neural network-based computer-assisted detection of post-endovascular treatment complications of cerebral aneurysms in Vessel Wall MR angiography”

Mentor: Dr. Richard Aviv & Dr. Eduardo Portela de Oliveira

Awarded to Ryan Vimukthie Sandarage

Title: “Characterization of proliferation and differentiation of endogenous human neural stem and progenitors cells compared to rodent and porcine models”

Mentor: Dr. Eve Tsai

TRAINEES & AWARDS 2021-2022

TRAINEE RESEARCHERS IN MULTIPLE SCLEROSIS AWARDS

Awarded to Katherine Cardwell

Title: "Examining Resilience Among MS Care Patients"

Mentors Dr. Lara Pilutti

Awarded to Darrin Wijeyaratnam

Title: "Forcing Your Hand: Strategic Control in People with Multiple Sclerosis When Reaching with Assistive and Resistive Forces"

Mentor: Dr. Erin Cressman

Awarded to Simon Thebault

Title: "Dried Blood Spots for Blood Neurofilament Testing in Patients with MS: A Feasibility Study"

Mentors: Drs. Mark Freedman, Ron Booth

MARK AND GAIL MARCOGLIESE GRADUATE SCHOLARSHIP FOR RESEARCH

Awarded to Alex Castro

Title: "The Great Age Divide: Exploring The Role of Acetylcholine at Different Stages of Memory Using Transcranial Magnetic Stimulation"

Mentor: Drs. Patrick Davidson & Sara Tremblay

Awarded to Edward (Yiren) Sun

Title: "Pathological Reductions in Axon Connectivity and Synaptic Function Impairs SVZ Neurogenesis Within The 3xTg Alzheimer's Disease Mouse Model"

Mentor: Dr. Jing Wang

SAROJ AND KISHORI LAL FAMILY SCHOLARSHIP

Awarded to Jessica Drodge

Title: "A TMS-EEG and Neuroimaging study: Investigating Memory Performance in Schizophrenia"

Mentors: Drs. Synthia Guimond and Sara Tremblay

KANTA MARWAH ENDOWMENT FOR PARKINSON'S RESEARCH

Awarded to Vanessa Jabr

Title: "Enhancing Mitochondrial Integrity Using Mcl1-matrix Could Rescue Neuronal Impairment in PD"

Mentor: Dr. Ruth Slack

PARKINSON RESEARCH CONSORTIUM

Audrey Grant Parkinson's Research Fellowship

Awarded to Luis Angel Albarran-Ponce

Title: "A Novel Mouse Model to Genetically Assess the Lewy Body "ceramide hypothesis" in vivo"

Mentor: Dr. Steffany Bennett

Toth Family Fellowship

Awarded to Haley Geertsma

Title: "Elucidating the Neurotoxic Mechanisms of Nuclear alpha-synuclein in a Novel Parkinson's Disease Mouse Model"

Mentor: Dr. Max Rousseaux

Bonnie and Don Poole Parkinson's Research Fellowship:

Awarded to Maria Bilen

Title: Restoring Mitochondrial Integrity to Prevent Neurodegeneration in Parkinson's

Mentor: Dr. Ruth Slack

Dave and Jill Hogg Family Fellowship

Awarded to Zoe Fisk

Title: "Elucidating the Endogenous Distribution, Topography and Cells-of-Origin of a-synuclein"

Mentor: Dr. Max Rousseaux

ÉRIC POULIN CENTRE FOR NEUROMUSCULAR DISEASE SCHOLARSHIPS IN TRANSLATIONAL RESEARCH (STAR) AWARDS

Awarded to Giulia DelGobbo

Title: "Application of RNA Sequencing to Identify Genetic Causes of Neuromuscular Disorders"

Mentor: Dr. Kym Boycott

Awarded to Adnie Etienne

Title: « Vérifier l'affinité de la distribution d'EVs (Extracellular Vesicles) provenant de différents types de cellules, pour différents organes »

Mentor: Dr. Derrick Gibbings

Awarded to Maria Madana

Title: "Modulating Human Skeletal Muscle Stem-like Cell Division with WNT7A and EGF"

Mentor: Dr. Michael Rudnicki

Awarded to Naomi Misquitta

Title: "Investigating the Therapeutic Potential of AMP-activated Protein Kinase in Myotonic Dystrophy Type 1"

Mentor: Dr. Bernard Jasmin

Awarded to Aoife Reilly

Title: "Investigating Liver Intrinsic Defects in Spinal Muscular Atrophy"

Mentor: Dr. Rashmi Kothary

MICHAEL T RICHARD CLINICAL AWARDS

Awarded to Mohamed Alshardan

Title: "Accelerating the clinical translation of a growth factor releasing duraplasty to promote stroke recovery"

Mentor: Dr. Eve Tsai

Awarded to Janine Hsu

Title: "Deep Learning Algorithm to Automate Cerebral Vasospasm Detection"

Mentor: Dr. Howard Lesiuk

The uOBMRI Celebrates 10 Years!

In 2022, the uOBMRI proudly celebrated its 10-year anniversary. To honor this milestone achievement, the institute hosted an honorary research day event to highlight the important work of our research members and trainees, hear from a world-class keynote, and facilitated research networking. The theme for the day was dedicated towards *neurodegeneration and mental health*.

The full day was well-received by 390 participants overall. To close the research day, we welcomed the community for a public lecture on *Merging Mind and Machine: Where are we going and why does it matter? Where we learned from experts in neuroscience, neurosurgery, and neuroethics* who discuss the implications of artificial intelligence. Much of this achievement could not have been accomplished without the continuous support from our research community for their contributions over the years.

While the institute honored 10 years in service, the uOBMRI team has been actively contributing towards to successful delivery of numerous educational, awareness, and outreach seminars, conferences and events. Below is a list of highlights from the uOBMRI Research Day, along with a list of events organized from the 2021-2023 annual reporting period.



Research Day In Review



390
Participants



109 Poster
Presentations



13 Presenter
Awards

BRAIN HEALTH RESEARCH DAY 2021

- 253 Virtual Attendees
- 97 Poster Presentations
- Published in Special Edition of the UOJM

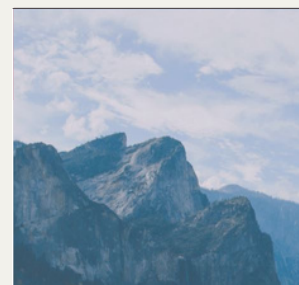


BRAIN HEALTH AWARENESS WEEK 2021

- 1,321 Participants
- Proclaimed by Dr. Mona Nemer, Canada's Chief Scientific Officer
- [Click Here](#) to watch the recordings!

MINDFULNESS SERIES 2022

- Hosted 3 Virtual Series
- Total of 220 Attendees
- Topics: Intrinsic Practice, Daoism, Fostering Mindfulness



MS IN MOTION 2022 & 2023

- 70 Attendees
- \$40K Funds Raised
- CTV News Coverage

TEA TIME WITH THE DOCS 2022

- 150 + Tickets sold
- 3 CTV Interviews
- Featured Coverage by Star Motors





END MS SUMMER SCHOOL 2022

- Welcomed 60 Students Across Canada
- Participants interacted with people living with MS and networked with peers in MS research from across Canada

BRAIN HEALTH RESEARCH DAY 2022

- 170+ Participants
- 73 Poster Presenters
- Published in the UOJM



CENTER FOR NEURAL DYNAMICS SPOTLIGHT 2022

- 167 Participants
- Hosted by the Neural Dynamics research pillar
- Announced New Centre for Neural AI

UOBMRI RESEARCH DAY

- 10-Year Anniversary Event
- Total of 390 Participants
- 109 Poster Presentations
- 13 Presenter Awards Valued at \$14K



PARKINSON'S UPDATE 2023: MOVING FORWARD TOGETHER

- 200+ Attendees
- Perspective of people living with Parkinson's disease
- Interactive Trainee Sessions

THANK YOU TO OUR PARTNERS, AFFILIATED NETWORKS AND COLLABORATORS



Canadian Partnership for Stroke Recovery

Carleton University

CARE for RARE

Centre for Neural Dynamics and AI

endMS National Education and Training Office

Éric Poulin Centre for Neuromuscular Disease

Hebrew University of Jerusalem

Parkinson Canada

Parkinson Research Consortium

Mitochondrial Innovation Initiative (MITO2i)

Multiple Sclerosis Research Group

uOttawa Music and Health Research Institute

A MESSAGE TO OUR DONORS

Change the future of brain health by supporting the uOBMRI today.



As the uOBMRI celebrated its 10-year anniversary in 2022, much reflection has been made on the important contributions that have shaped the institute's growth over the past decade. As of today, the uOBMRI is considered one of the largest brain research institutes in Canada with more than 250 research members. As a virtual institute, we have achieved a strong research network within the Ottawa community that branches out to partnerships on a national and international level. These networks have helped solidify greater research impact and innovative approaches in brain and mind-related research in both prevention, treatment, and care.

With a goal to improve education and awareness in the community, one of the leading contributions towards our growth and research achievements is through the generous support from our donors. With a combination of monetary and in-kind support, the uOBMRI has been able to achieve greater research objectives by funding research grants, trainee scholarships and fellowships, as well as bringing education and awareness initiatives back to the very community that supports these initiatives.

As we look forward to continuing our outreach efforts, we are grateful to have the backing from our community and hope to strengthen this relationship for years to come.

HOW TO LEARN MORE...



NEW WEBSITE

Did you know that the uOBMRI has a new website? [Click here](#) to see what is new.



OUR RESEARCH

[Click here](#) to learn more about the uOBMRI's *Thematic Research Priorities*.



OUR MEMBERS

The uOBMRI has more than 250 research members. To view the full list, [click here](#).



NEWS ARTICLES

Stay up-to-date with what's happening in the uOBMRI community. [Click here](#) to view the latest news.



OUR COMMUNITY OUTREACH

[Click here](#) to learn how the uOBMRI promotes education and awareness on brain and mind-related health in the community.



SOCIAL MEDIA

Click to subscribe to our social media channels below.



Meet the uOBMRI Team



Director

- Ruth Slack, PhD, FRSC

Program Manager

- Natasha Hollywood

Liaison and Communications Officer

- Candace Fortier

Academic Writer

- Sarah Schock, PhD

Program Officer

- Jordan Pumphrey

Communications & Special Projects Coordinator

- Aisling Sasaki