

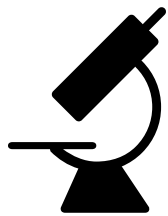


Institut de recherche
sur le cerveau
Brain and Mind
Research Institute

CONNECT. EXCITE. HEAL.

MULTIPLE SCLEROSIS RESEARCH GROUP

**"The work of the MSRG
is inspired by the
individuals and families
with lived experience
with **Multiple Sclerosis**
whom we serve"
-Dr. Mark Freedman**



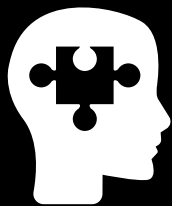
The uOBMRI Multiple Sclerosis Research Group (MSRG) brings together dedicated researchers from partner organizations throughout Ottawa who are working toward bettering the lives of those living with multiple sclerosis in the present and finding a cure for the future.

The work of our uOBMRI-MSRG members spans the spectrum of cutting edge research from basic science on cellular mechanisms of injury and neural repair to outcome evaluation of new and innovative therapies at the uOBMRI partner hospitals in Ottawa. We have a unique combination of strengths in neurology, biology, neuroscience, physics and mathematics, brain circuitry, nursing, neuropsychology, and exercise physiology.

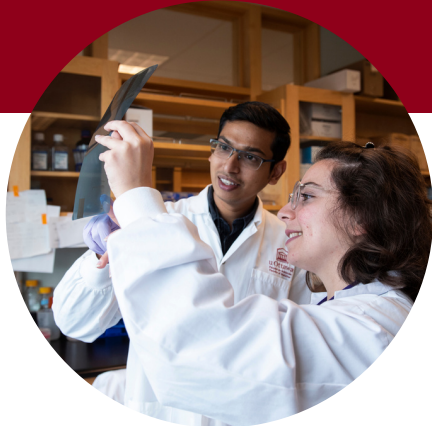


"We are uniquely positioned to further the field of MS research given the broad and diverse experience of our researchers coupled with a collaborative spirit that allows for shared projects addressing questions relevant to those with MS using an interdisciplinary approach."

- Dr. Lisa Walker



OUR ACHIEVEMENTS



Trainee Researcher in Multiple Sclerosis (TRIMS)

The MSRG supports yearly 'Trainee Researcher in Multiple Sclerosis' (TRIMS) awards to provide needed support to young researchers with burgeoning and promising careers in MS. Applicants from basic science and clinical research fields are awarded \$10,000 to support their work for one year. These awards help to ensure we support and retain talented people dedicated to improving the lives of those with MS.

Past awardees include:

Darrin Wijeyaratnam (mentor: Dr. Erin Cressman) who is studying upper extremity function, strategic control and arm reaching with assistive and resistive forces in people with MS.

Dr. Arthur Chaves (mentors: Drs. Sara Tremblay and Lara Pilutti) who is studying the use of non-invasive brain stimulation and neuromodulation methods to investigate, and potentially prime, the neuroplastic effects of exercise on the brains of people with MS.

Katherine Cardwell (mentor: Dr. Lara Pilutti) is examining resilience in care partners of those living with MS to determine which factors contribute to more adaptive coping.



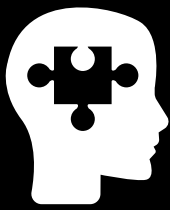
MSRG Funded Pilot Grants

The MSRG supports Pilot Grants to foster interdisciplinary collaboration between basic scientists and clinical researchers. The MSRG also provides seed funding to help obtain preliminary data to justify larger collaborative projects with funding sought from national or international funding agencies.

Past awardees include:

Drs. Jing Wang (Senior Scientist), **Lisa Walker** (Neuropsychologist) and **Mark Freedman** (Neurologist) who are studying the potential impact of Metformin treatment on cellular mechanisms (i.e., monoacylglycerol lipase levels) and social cognition in people living with MS.

This work is an example of translational research given that it evolved from Dr. Wang's laboratory research that demonstrated that Metformin promotes remyelination (i.e., repair) and improves social cognition in a mouse model of MS. The MSRG-funded pilot grant will allow for the collection of data from people living with MS and co-morbid diabetes to determine if Metformin treatment has a positive impact on both biomarkers and social cognition.



MSRG MEMBER RESEARCH PROGRAMS

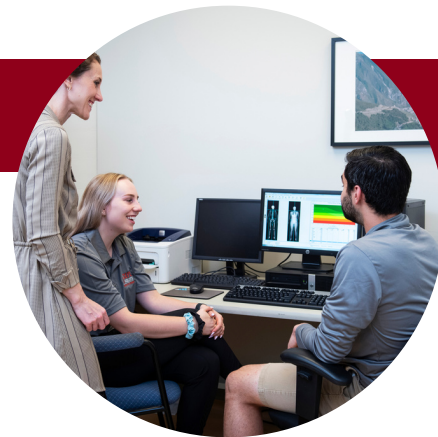


Developing Better Treatments for MS

Dr. Rashmi Kothary is investigating how molecules called microRNAs regulate gene networks responsible for the process whereby oligodendrocytes become myelin (the coating around nerve fibres in the brain and thought to be the cause of inflammation behind MS). This is an important step towards the development of better treatments for MS.

Improving Outcomes with Exercise

Dr. Lara Pilutti and members of her Clinical Exercise Physiology Laboratory are working towards improving outcomes in those with progressive forms of MS. Exercise training improves mobility in those with MS but those with substantial walking impairment have often been excluded.



International Collaboration to Examine New Stem Cell Therapies

Dr. Mark Freedman and Dr. Harry Atkins and their Stem Cell Team have done groundbreaking work demonstrating the utility of hematopoietic stem cell transplantation at halting disease activity in those with aggressive forms of MS. As part of an international collaborative group, they have also investigated the safety of mesenchymal stem cell therapy, a process that does not involve immunoablation, and may be more tolerable than other stem cell procedures.



Designing Interventions to Improve Cognitive Fatigability

Dr. Lisa Walker and members of her Cognitive Health in MS Research Lab are studying cognitive fatigability (i.e., performance decline after sustained cognitive effort) given that over 90% of people with MS report fatigue as one of their worst symptoms. They have established normative data so that measurement of cognitive fatigability can be implemented into clinical practice, and they are designing interventions in the hopes of improving cognitive fatigability.



HOW CAN YOU SUPPORT THE WORK OF THE MSRG?



"MS Research saved me from an impending life of complete and permanent disability"

- John Chafe, Father, Husband, Sport Activist.... and living with MS for over 20 years.

Our team is willing to partner with you to determine a funding opportunity that meets your needs based on any level of support, no matter the amount.

All contributions are gratefully received. If there is something specific that you would like to sponsor, we can work with you to determine an appropriate funding opportunity.

Key Areas of Support

Trainee Research in MS (TRIMS) Award: Support the next generation of researchers working in MS research.

Pilot Grant Award: A one-year study to obtain pilot data to leverage for further funding.

Team Grant Match: Fund multidisciplinary, collaborative researchers working on a common project.

Endowed Lectureship in MS: Bring an internationally renowned MS researcher to Ottawa to deliver a seminar on innovative discoveries in MS research and clinical care. This lecture will serve to inspire the next generation of scientists and clinicians, stimulate discussion, and encourage future research collaborations in MS at the uOttawa Brain and Mind Research Institute.

"We have the power to change the trajectory of brain health! Support the ground-breaking discoveries made by internationally renowned researchers at the uOBMRI right here in Ottawa"

- Dr. Ruth Slack, uOBMRI Director



For more information, please contact uOBMRI@uottawa.ca