



McGill

**McGILL UNIVERSITY
RESEARCH CENTRE
FOR STUDIES IN
AGING
(MCSA)**



6825 BOUL. LASALLE
MONTREAL, QUÉBEC
H4H 1R3
TEL: 514-766-2010
FAX: 514-888-4050

A WORD FROM OUR SCIENTIFIC DIRECTOR



MCSA serves as a global hub for advanced research in aging, excellence in patient care, and teaching. Our research community includes leading Canadian and International clinicians and scientists devoted to fundamental and clinical aspects of aging. We strive for advancing knowledge on dynamic biological, physiological, environmental, psychological, behavioral, and social processes associated with aging.

Our work has been internationally recognized for its research on personalized dementia prevention and early diagnosis of neurodegenerative conditions particularly Alzheimer's Disease. However, we also conduct research to maintaining health, advancing therapies, and clinical care for those with other age-related diseases.

Education constitutes one of our major strengths. We have developed a strong educational program for scientists, health care professionals, and the next generation of aging researchers, such as the International Dementia Conference Series. We have also sought to address our community, clinical population, and caregivers through our Brainy Boomers Lecture Series by bringing practical knowledge from the latest discoveries in aging research.

This booklet is designed to encourage you to participate in our mission. The centre welcomes everyone to join our quest for discovering the basis of healthy, happy, and graceful aging.

Sincerely,

Dr. Pedro Rosa-Neto, MD, Ph.D.
Director, McGill University Research Centre for Studies in Aging
Professor, Departments of Psychiatry, Neurology and Neurosurgery, McGill University

MCGILL UNIVERSITY RESEARCH CENTRE FOR STUDIES IN AGING (MCSA)

Established in 1985 to develop and offer specialized services for the elderly, the McGill University Research Centre for Studies in Aging (MCSA) has grown into a multi-disciplinary academic unit dedicated to gerontological research and postgraduate teaching. The MCSA research scope is broad, encompassing mechanisms of aging as well as prevention of age-associated disorders. The Centre's mandate reflects the emergence of novel frontiers in the field of aging research.

The MCSA is committed to investigating causes and possible treatments of the dementias, especially Alzheimer's disease. The MCSA has played a pioneering role in identifying genetic abnormalities leading to an increased risk for Alzheimer's disease in the past, and the scientists of the Centre were among the first to test anti-dementia drugs approved in Canada. The Memory Clinic of the Alzheimer's Disease Research Unit is focusing on improved therapies, long-term treatment of subjects affected by dementia, and enhancing the quality of life of patients and caregivers.



MISSION STATEMENT

The Centre's vision is to advance dementia prevention & therapies via the integration of excellent patient care transformative research & world class knowledge dissemination.

The Centre's mandate has been modified to reflect the emergence of novel frontiers in the field of aging research. The current objectives of the Centre are:

- I. To actively promote research that will identify the underlying causes of age-related disease with particular emphasis on prevention and early diagnosis of age-associated cognitive decline.
- II. To actively engage in knowledge transfer and public education, designed to sensitize both scientists and the lay public at large, to health and social issues related to aging.
- III. To contribute to the training of Canadian and international undergraduate and graduate students as well as post-doctoral fellows, who focus their research on diseases of the aging population.
- IV. To strengthen the relationship of the Centre with community non-government organizations (NGOs) dedicated to age-related diseases.
- V. To deliver the compassionate and exceptional clinical care to our patients.

The MCSA vision, mission statement and values conform to McGill's Mission Statement and Principles.

MCSA'S CLINICAL ACTIVITES

HEALTH BRAIN AND MEMORY CLINIC

Memory decline can be part of the normal aging process but may also be due to other causes such as sleep apnea, depression, or medication side effects. The Memory Clinic evaluation includes a cognitive assessment, blood tests and PET scans for diagnosis, and if required - treatment, follow-up, and referral to medical and community resources for support. The Memory Clinic utilizes the best clinical practices and cutting-edge technologies for the diagnosis of medical conditions associated with memory problems. Our Clinic's focus is evaluation to provide treatments - both symptomatic and preventive - to ensure long-term stabilization for patients and to enhance the quality of life for patients and caregivers.

EARLY ONSET DEMENTIA CLINIC

According to Canadian and International guidelines, memory, or cognitive deficits in patients younger than 65 years old should be systematically investigated. Although Alzheimer's disease can be a cause of dementia in younger people, there are other causes that must be investigated such as Lewy body dementia, frontotemporal dementia, head injuries, or problems with the blood supply to the brain. Furthermore, dementia symptoms can be mistaken for other neurological diseases or health issues such as stress, anxiety, menopause, or depression. At the MCSA early onset dementia clinic, we carry out a range of tests to diagnose and propose the best therapies for early dementias.



MCSA'S EDUCATIONAL ACTIVITIES

MCSA EDUCATION COMMITTEE EXCELLENCE IN KNOWLEDGE DISSEMINATION & COMMUNITY OUTREACH



With the goal to emphasize knowledge translation and outreach to the community, the MCSA's Education

Committee lead by Dr. Dolly Dastoor, introduced the *Brainy Boomers Lecture Series* in 2007. The objective of these lectures is to disseminate knowledge regarding brain health and promote healthy lifestyle choices among the elderly. Between 2007 and 2020, the Centre offered 287 lectures reaching nearly 13,000 attendants within the community. The Education Committee plays an essential role in designing and innovating health information dissemination to our elderly population. The MCSA reacted and adjusted rapidly to the COVID-19 pandemic, by creating more online versions of each and every already designed outreach material and research activity. Within this context, the MCSA has focused on the usual themes, but also in providing accurate information about prevention of COVID-19 and its consequences affecting our patient population, such as social isolation among the elderly.

BRAINY BOOMERS LECTURE SERIES

The goal of our public series is to present practical steps to improve brain health, prevent age related disorders and promote healthy lifestyle choices for our senior population. Topics include successful aging, exercise for seniors and culinary cooking classes.



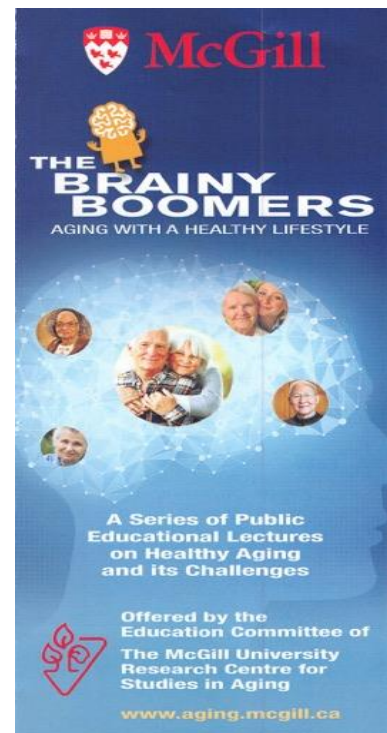
For further information please email us at:

brainy.boomer-mcsa@mcgill.ca



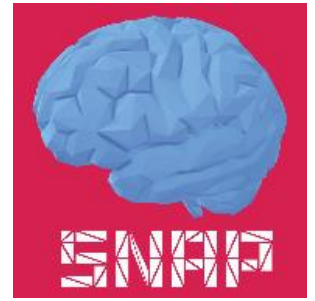
To register please follow the Eventbrite link below:

<http://cmev.eventbrite.com/>



ONLINE COGNITIVE ASSESSMENT

THE NEW MAJOR FOCUS OF AGING RESEARCH: SNAP – SCREENING OF NEUROBEHAVIORAL ABNORMALITIES IN THE AGING POPULATION

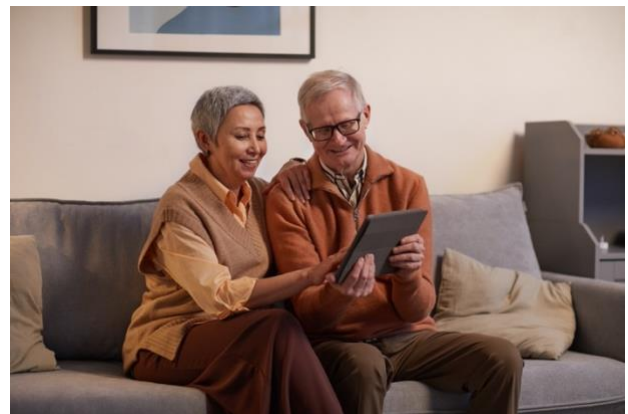
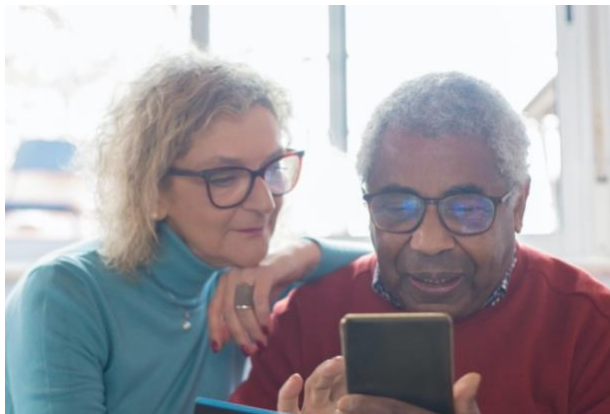


SNAP is a platform able to incorporate novel tests and multiple languages, a very important and inclusive aspect of our mission within Quebec, a rich multi-ethnic and multi-cultural population setting. In the present version, in addition to cognitive assessments, SNAP encompasses a more comprehensive approach by incorporating functional assessments (<https://snap.research.mcgill.ca>). SNAP's diagnostic and predictive performance will be tested in TRIAD, as it was also designed to benchmark cognitive biomarkers. Due to its flexibility, we anticipate that SNAP will enhance collaborations within the entire McGill and the international community of cognitive researchers.

SNAP aims to characterize both normal aging and disease, as well as risk and protective factors. SNAP features a website that provides free online cognitive assessments and encompasses a comprehensive approach towards the study of variables associated with neurodegeneration in the elderly population. The website is currently available for participants!

To register and play the free cognitive training games please visit:

<https://snap.research.mcgill.ca/users/login>



TRIAD COHORT RESEARCH STUDY



<https://triad.tnl-mcgill.com>

The **TRIAD** research study is a longitudinal observational cohort specifically designed to study mechanisms in driving dementia. It uses the most advanced imaging biomarkers to describe the accumulation of protein aggregates, neuroinflammation and synaptic changes.

GOALS OF THE STUDY

- To better understand amyloid and tau proteins present in the brain. The excessive accumulations of these proteins are believed to be associated with Alzheimer's disease.
- To understand the role of inflammation in the brain in normal aging and in Alzheimer's disease.
- This study will help the development of methods to diagnose Alzheimer's disease at earlier stages, hopefully before any clinical signs are observed (for example: memory problems, word finding difficulties).



DR. PEDRO ROSA-NETO, MD. PhD.
**DIRECTOR OF MCSA & TRANSLATIONAL
NEUROIMAGING LABORATORY**



Dr. Rosa-Neto is the director of the McGill University Research Centre for Studies in Aging and a neurologist of the Alzheimer Disease Research Unit. He is a full professor of Neurology & Neurosurgery, Pharmacology & Therapeutics, and Psychiatry departments at

McGill University, affiliated to the Douglas Research Centre. He is a clinical neurologist with expertise in quantification of brain function using imaging techniques, in particular Positron Emission Tomography (PET). Dr. Rosa-Neto's research focuses on imaging biomarkers for neurodegenerative diseases. He directs the laboratory for translational neuroimaging, which aims to use imaging techniques to advance the diagnosis of Alzheimer's disease to a preclinical stage and has also developed the TRIAD research cohort study. He also conducts research on new treatments to prevent and treat dementia symptoms at the McGill Alzheimer's Disease Research Unit/ Memory Clinic. Dr. Rosa-Neto's research is funded by Alzheimer's Association USA, Canadian Foundation for Innovation (CFI), Fonds de la Recherche en Santé du Québec (FRSQ), Canadian Institutes of Health Research (CIHR), Weston Brain Institute, and Canadian Consortium on Neurodegeneration in Aging (CCNA-CIHR).

MCSA aims to promote exciting and creative responses to new challenges and opportunities, as the research landscape and the social/cultural/economic/technological reality evolves.

DR. SERGE GAUTHIER, C.M., C.Q., MD, FRCPC

PROFESSOR EMERITUS



As the diagnosis of dementia continues to be a global challenge, Dr. Serge Gauthier is currently the co-lead for the World Alzheimer’s 2021 Report. Dr. Gauthier’s research career contributions comprise an array of design & implementation of randomized clinical trials in order to establish the safety & efficacy of cholinesterase inhibitors, muscarinic agonists, and agents possibly modifying progression for Alzheimer’s disease & vascular dementia. His former research interests included the consensus approach to the management of dementia in different stages, the ethics of research involving persons with dementia, and primary prevention strategies against cognitive decline and dementia. Dr. Gauthier’s medical education began at l’ Université de Montréal followed by training in the Neurology Department at McGill University with a subsequent research Fellowship at Dr. Theodore L. Sourkes laboratory of the Allen Memorial Institute in Montreal. His academic appointments included Clinical investigator and staff neurologist at the Montreal Neurological Hospital and Institute (1976-1986), former Director of the McGill Centre for Studies in Aging (1986-1996), Senior Scientist of the CIHR-R&D (Canadian Institutes of Health Research and Canada’s Research-Based Pharmaceutical Companies) program (1997-2007). Dr. Gauthier is currently Professor Emeritus in the Departments of Neurology & Neurosurgery, Psychiatry of the Faculty of Medicine. Before his retirement, Dr. Gauthier was also the Director of the Alzheimer Disease and Related Disorders Research Unit of the McGill University Research Centre for Studies in Aging, Douglas Mental Health University Institute. Dr. Serge Gauthier’s accomplishments led him to be appointed in 2014 with the Governor General’s Award in Canada followed in 2017 by l’Ordre National du Québec.



MEDICAL SPECIALISTS

The MCSA encompasses a large research community, currently composed of 53 professors and affiliated members, five PI clinicians, six staff, three Post-Doctoral Fellows, five Ph.D. candidates and six Master of Science candidates. It is hosted by the Douglas Research Centre and the CIUSSS de l'Ouest-de-l'Île-de-Montréal. The MCSA serves as a hub between its members and an extensive network of collaborations with (currently) 20 international partner centers.

MEDICAL CARE TEAM

MCSA staff offers the best medical attention in a caring and compassionate manner. Patients of the Centre have access to leading experts in the field of Alzheimer's Disease and dementia and are provided with answers to their questions to demystify their concerns. Patients are also exposed to state-of-the-art diagnostic procedures and most recent treatment modalities.

DR. PAOLO VITALI, MD, PhD, FRCPC

**NEUROLOGIST, DOUGLAS MENTAL HEALTH
INSTITUTE**



Dr. Vitali specializes in the diagnosis and treatment of diseases related to the brain, as well as other impairments involving the autonomic nervous system, spinal cord, peripheral nerves, blood vessels and muscles which are associated with these structures.

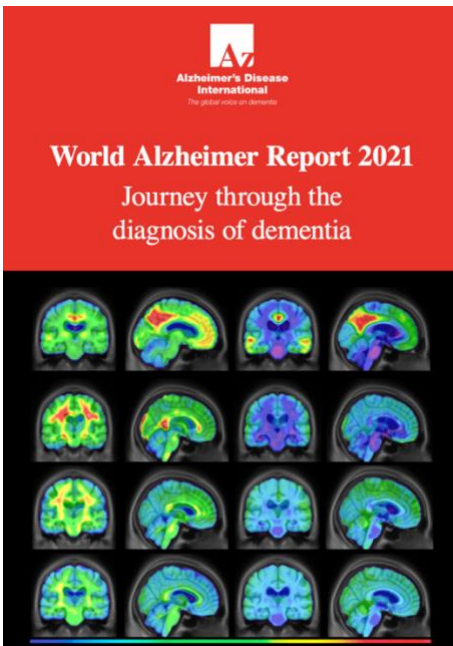
DR. MAIYA R. GEDDES MD, FRCPC

**ASSISTANT PROFESSOR, DIRECTOR OF
MOTIVATIONAL NEUROMEDICINE LAB**



The goal of Dr. Geddes' research program is to determine the brain mechanisms underlying the interaction between motivation and cognition in aging. These findings will provide novel therapeutic targets for the personalized treatment of motivational disorders in aging and neurological disease.

ALZHEIMER'S DISEASE INTERNATIONAL: WORLD ALZHEIMER REPORT 2021



Alzheimer's Disease International (ADI) annually produces and launches the World Alzheimer Report which aims to inform and address the public on topics of dementia. For the next two editions of the World Alzheimer Report (2021 and 2022), ADI has commissioned McGill University to be the one to deliver them.

On September 21st the World Alzheimer Report 2021 entitled "Journey through the diagnosis of dementia" which covers the topic of diagnosis, was launched worldwide. This six-part report, authored by Dr. Serge Gauthier and Dr. Pedro Rosa-Neto as well as Dr. José Morais and Ms. Claire Webster, consists of over 50 essays on specific topics (i.e. frontotemporal dementia and

biomarkers) from numerous leading experts around the world. Moreover, the report's findings are supported by three global surveys collected from 1,111 clinicians in 108 countries (from all income classes), 2325 people living with dementia and carers from 82 countries, and over 100 Alzheimer and dementia associations.

The Report's Key Findings:

- 75% (41 million) of people with dementia are not getting diagnosed, up to 90% are from low- and middle-income countries.
- Clinician stigma is still prevalent and an impediment to diagnosis, with 33% still believing nothing can be done about dementia.

The Report's Recommendations:

- Health care systems should begin implementing annual brain health check-ups (i.e. cognitive tests, and functional tests assessing if the individual is still able to perform daily tasks and activities well) for individuals over 50 years old.
- Governments globally must begin measuring and recording diagnosis more accurately. Accurate measurement of diagnosis rates is the key to treatment, care and support, to healthcare system preparedness, and to challenging the stigma.



IMPORTANCE OF SUPPORTING OUR MCSA PROJECTS

YOUR GENEROUS SUPPORT WILL HELP US TO:

RESEARCH

- Develop technology to remotely assess elderly populations.
- Develop new blood tests for dementia prevention, and to identify the causes of age-related diseases.
- Engage clinical and research population through innovative user friendly and humane tele-assessment methods, as well as fund the creation of online applets and wearable devices optimized for assessing geriatric population, and consolidate the expertise of computer designers and programmers required to develop these graphic user interfaces appropriate for assessing cognition in seniors.
- Fund projects to personalize dementia prevention.

EXPERT CONTINUUM EDUCATION

- Fund undergraduate and graduate students, and international post-doctoral fellows.
- Fund a Network for inter-university collaborative research on a global scale.
- Strengthen public policy and organizations by knowledge dissemination in aging and dementia.

PUBLIC EDUCATION

• BRAINY BOOMERS SERIES

- Increase the visibility of lectures, exercise sessions and nutritional lectures to improve outreach to vulnerable populations.
- Improve the quality of the virtual events and livestreams: lighting, video equipment and editing softwares.
- Increase community project capabilities (i.e. projects giving back to our community members).
- Continue addressing our community by bringing practical knowledge from the latest discoveries in aging research.

- **MCSA NEWSLETTER**

- Increase the visibility for both ourselves and collaborators.
- Fund the production of the newsletter: Editing, translation, printing, mailout
- To keep our community informed tri-annually on the latest research projects, activities and advances in Alzheimer and dementia research.

ACADEMIC OUTREACH

- **INTERNATIONAL DEMENTIA CONFERENCE SERIES (IDCS)** Beginning as a one of many scientific Journal Clubs, our bi-weekly meetings matured into the *International Dementia Conference Series (IDCS)*. The IDCS now hosts some of the most elite scientists to discuss big ideas in a multidimensional manner. Coming together to form an easy to access record for junior scientists to accelerate their learning and for medical trainees to remain up to date on their academic understanding. *More information below!*

- **Adaptation**

The pandemic had a noticeable impact with the process of social isolation and the loss of traditional information sharing tactics. To help alleviate these issues, Prof. Pedro Rosa-Neto and his close friend and collaborator Dr. Eduardo Zimmer joined their groups of young scientists through Zoom to discuss on-going work and keep motivation high.

- **Evolution**

By the end of 2020, our humble Journal Club had reached a critical mass of Neurodegenerative Laboratories from around the world. After realizing the potential impact, the idea was expanded to create a dialogue between a consortium of experts around an important topic. They guided the integration of fundamental concepts into a coherent storyline.

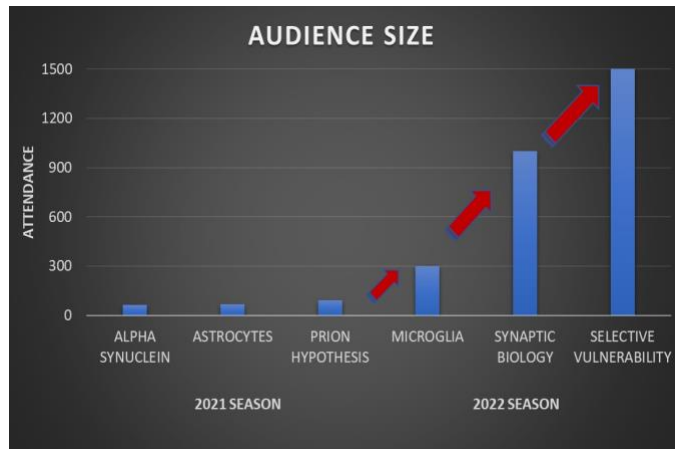
- **Impact**

In 2021, the International Dementia Conference Series (www.i-dcs.org) was born and it has quickly manifested into something that will transcend the pandemic times. The IDCS helps bridge the gap between junior and senior scientist in a meaningful way. Having the effect of democratizing science by being an alternative, sustainable, and inexpensive way for engaging in thematic dialogue. The IDCS is demonstrating a clear trajectory and is expected to continue to generate an overwhelmingly positive experience for everyone in the community. This is most notably exemplified by the acknowledgment, contribution, and promotion from Professor Stanley B. Prusiner, a Nobel Prize winner in Physiology or

Medicine, 1997. His talk will be hosted on December 8th, 2021 with over 500 people having registered to the lecture!

o **Outlook**

The future of the IDCS starts immediately in 2022! The expansion of the Organizational Committee will include students and fellows from every continent, and from a diverse array of specialties. Reaffirming its pursuit for science democratization, collaboration, and communication. This will codify the pillars of our mission for the ambassadors of the future.



Expected growth of our community.

Your contribution will facilitate the digital materialization and propagation of the unique culture, ambitions, and impact that the McGill Centre for Studies in Aging embodies, to those around the world. One of the many ways we aim to accomplish this is with the International Dementia Conference Series.

HOW TO PARTICIPATE AS A DONOR

ONLINE

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6825 Blvd. LaSalle
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MCSA Sponsor Partnerships help to:

- Foster creativity
- Promote innovation
- Collaborate
- Partner within equitable, diverse & inclusive environments
- Speak to the public on issues relating to life with Dementia
- Engage in consistent dialogue with the scientific community to debate ideas

Your donations play a central role in the continued success of the Centre's outreach and research infrastructure objectives. As committed donor's, your support is crucial to advancing our Centre's mandate in prevention, aging research, and education.

For information about becoming a corporate sponsor, or to make a donation please contact our Donations Office at 514-761-6131 x 6311, or email info.mcsa@mcgill.ca.

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H4H 1R3

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