



## Annual Reporting for Faculty Supported Research Centres and Networks

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All Centres (provisional Centres; McGill Centres), Research groups and Networks that receive funding from the Faculty of Medicine are required to provide two components of reporting:

1. an Annual Report of Activities and Outcomes (see below),
2. a Financial Statement (see attached Excel document).

The reporting period is May 1, 2019 – April 30, 2020.

**Deadline: Monday, May 25<sup>th</sup>, 2020 at 5pm**

Please send both documents to Faculty of Medicine's Research Office ([riac.med@mcgill.ca](mailto:riac.med@mcgill.ca)).

**Continued support from the Faculty is contingent on:**

1. the receipt of the reporting documents on time,
2. the evaluation of reported activities by the Faculty's Committee for Oversight of Research Units (CORU),
3. the availability of Faculty funds.

Your strong engagement in the Faculty's mission for continued research excellence and financial stewardship is truly appreciated.

### Annual Report of Activities and Outcomes

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**Please respect the page limits, where indicated, or the report will be returned.**

*(The accepted font is Times New Roman or Calibri regular 11 pts)*

1. Name of the Unit: The McGill University Research Centre for Studies in Aging (MCSA)

2. Director's contact information:

Dr. Pedro Rosa-Neto, MD, PhD, Professor of Neurology & Neurosurgery, Psychiatry and Pharmacology & Therapeutics at McGill University, affiliated to the Douglas Hospital Research Centre.

Tel. (514 766-2010)

[pedro.rosa@mcgill.ca](mailto:pedro.rosa@mcgill.ca)

3. If the Unit is a **Senate-approved** McGill Research Centre, indicate date of approval:

MCSA is recognized as an official Senate approved McGill Research Centre since October 1, 1984.

4. Mission Statement of the Unit:

The McGill University Research Centre for Studies in Aging (MCSA) started operations in 1985 with a mandate to promote research, education and teaching in the field of aging and aging research with a multidisciplinary approach. The objectives of the Centre are:

I. To actively engage in research that will allow identifying the underlying causes of age-related disease including but not limited to Alzheimer's Disease, Parkinson Syndromes, Vascular Dementia, and Frontotemporal Dementia. Since 2008, a special emphasis has been put on the research area of prevention 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 undergraduate and graduate students who focus their research on diseases of the aging population as well as international post-doctoral fellows.

IV. To strengthen the relationship of the Centre with community non-government organizations (NGOs) dedicated to age-related diseases.

5. Number of Unit members: 47 (**Appendix 1**: Summary of Unit Members )

(**Appendix 2**: MCSA Organizational Chart)

- 1 Director
- 1 Alzheimer's Disease Research Unit Director
- 5 Faculty Clinicians
- 2 Research Support Medical Staff
- 2 Administration
- 2 Nurses
- 2 Medical Secretaries
- 13 Trainee Members: 3 Post-Doctoral Fellows , 5 PhD, 3 Masters, 2 Undergraduate
- 19 Research Personnel

6. Number of members affiliated with McGill's Faculty of Medicine: 53

(Total Current Members 65 + 12 New Members) (See details in **Appendix 3**)

7. **Unit's website:**

URL: <http://www.aging.mcgill.ca>

**Note: The website needs to feature the following:**

- all sources of funding support (including the Faculty of Medicine's logo),
- the List of Members and their institutional affiliation with appropriate links

- the activities supported by the Unit
- all previous Annual Reports.

8. Summary of past year's **goals and objectives** of the Unit. **(limit: ½ page)**

- Use bullet points or numbered lists and be as quantitative as possible.
- Indicate unforeseen changes, opportunities or difficulties.

**Business Development**

- Enhance donor relationships and fund-raising initiatives.
- Unforeseen challenges: Rescheduling of "I Medici di McGill" concert to raise awareness for Alzheimer's Disease (April 26, 2020) cancelled due to COVID-19.

**Education**

*Community KT and outreach*

- Accomplish (20+) Brainy Boomers lectures about various aspects of aging and one health awareness event
- Participation at McGill and extramural events in aging and dementia
- Unforeseen challenges: Some Brainy Boomer Lectures had to be rescheduled due to COVID-19

*Academics and experts KT activities*

- International speakers (2) "Laura Chalk Rowles Lectureship Series"
- Co-organize one international and National meeting in Dementia
- Unforeseen challenges: none

**Research**

*McGill Aging Research Community*

- Support member's funding opportunities for grants
- Advance knowledge and multidisciplinary research about aging and dementia
- Unforeseen challenges: none

**Clinical trials**

- Restructure clinical trials operations at MCSA
- Implement two new clinical trials in our Research Triad Cohort (RTC) program
- Unforeseen challenges: Personnel turnover

**Patient Care**

- Participate on the development of Canadian Guidelines for Dementia Consensus Conference on the Diagnosis and Treatment of Dementia (CCCDTD4)
- Implement Electronic Medical Records at the MCSA
- Unforeseen challenges: Lack of personnel to finalize the digitalization of approximately 5000 medical files to our electronic medical records system (Medesync)

9. **Major achievements** enabled by the support obtained from the Faculty. **(limit: 1 page)**

**Business Development**

- 1 Travel Award fund and 5 fundraising events for 2019-2020 leveraging a total of CDN \$65,452.00
- Total donations for period 2019-2020 (see details in the **Appendix 4**)

**Education**

*Community, KT and outreach*

- 16 Brainy Boomers Lectures (see details in the **Appendix: 5**)
- 4 MCSA Education Committee meetings (12 members), bi-monthly administration meetings, quarterly clinical meetings, weekly lab meetings.
- 1 Health Awareness event "Journée Santé - Health Day"- September 13, 2019 (**Appendix:6**)
- 3 Public Fairs
- MCSA Newsletter – 3 (April, August and November 2019) (**Appendix: 7a; 7b; 7c**)

- Outreach activities of MCSA plays a crucial role on recruitment and retention of participants

Academic and experts KT activities

- Two International speakers : (1 Paul Edison, MD, PhD, MPHIL, FRCP, FRCPI, 14/03/2019 (Neuroinflammation in Alzheimer’s Disease) (2) Suzanne Baker, PhD, October 15, 2019 & October 18, 2019 (Tau imaging with Flortaucipir Partival volume effects in PET images) (“Laura Chalk Rowles Lectureship Series); (3) Yasuomi Ouchi, cerebro blood flow and mitochondrial disfunction in Alzheimer’s disease.
- Co-host the First Tau meeting in Hamamatsu Japan in conjunction with the Fukui University (<https://ptimaging.tnl-mcgill.com/>), July 3rd, 2019 @ Congress Center, Hamamatsu Act City, Japan)
- Co-organize the 5<sup>th</sup> Canadian Consensus Conference on the Diagnosis & Treatment of Dementia: Impact on Clinical Practice, Co-Chairs: Serge Gauthier, C.M., C.Q., MD, FRCPC, and Zahinoor Ismail, MD, FRCPC; October 3 -5, 2019 (<http://www.canadianconferenceondementia.com/>)

**Research**

McGill Aging Research Community

- The Centre participated in 18 member’s grants application, 5 of them were successful generating a total of CAN\$ 3,215,790 (i.e. Dr. Simon Wing, Dr. Jamie Near) to McGill Researchers and 31,625,000 via the the Canadian Consortium on Neurodegeneration in Aging (CCNA)
- CFI-funded plasma Biomarker infrastructure (MCSA and department of Pharmacology)
- The Centre generated 63 peer reviewed publications with significant public outreach (see details in the **Appendix: 8**)
- The Centre started a collaboration with Takeda Pharmaceuticals Co. in the field of Alzheimer’s and Neuroinflammation
- Recruitment of 500 participants to the Triad Cohort

Clinical trials

- Trained and certified new staff (Two nurses left our Centre: one nurse on sick leave; other nurse resigned, this created a delay in clinical activities and retraining of new nurse for clinical trial protocols. New Staff Faculty positions would be fundamental to maximize our research impact)
- Successfully completed the clinical trial DIAN-TU
- Clinical trials agreements with the BUENA and the LUCIDITY Studies

Patient Care

- 2019-2020 – Clinic received 1358 patients; New patients 98; Conducted 31 diagnostic lumbar punctures (LP’s)
- Thus 300 patient charts (out of 1846 active files) were scanned 17% and sorted in our Electronic Medical Records

**10. New Members** who joined the Unit in the past year and their **institutional affiliation(s)**.

| <b>Name<br/>Last, First</b> | <b>Title<br/>PI, Staff or Trainee<br/>[Graduate student<br/>(GS) or post-doctoral<br/>fellow (PDF)]</b> | <b>Type of Membership<br/>Full, Associate</b> | <b>Affiliation(s)</b> |
|-----------------------------|---|---|-----------------------|
| Chaudhuri,<br>Paramita Saha | PI  | Associate                                     | McGill University     |
| Doyon, Julien               | PI  | Associate                                     | McGill University     |
| Tardiff, Christina          | PI  | Associate                                     | McGill University     |
| Roig, Marc                  | PI  | Associate                                     | McGill University     |

|                        |                 |                   |                                  |
|------------------------|-----------------|-------------------|----------------------------------|
| Leyton, Marco          | PI              | Associate         | McGill University                |
| Kostikov, Alexey       | PI              | Associate         | McGill University                |
| Massarweh, Gassan      | PI              | Associate         | McGill University                |
| Rudko, David           | PI              | Associate         | McGill University                |
| Frey, Benicio N.       | PI              | Adjunct Professor | McMaster University              |
| Cassidy, Clifford      | PI              | Adjunct Professor | University of Ottawa             |
| Anazodo, Udunna C.     | PI              | Adjunct Professor | Lawson Health Research Institute |
| Zahinoor, Ismail       | PI              | Adjunct Professor | University of Calgary            |
| Arias, Jaime Fernandez | PhD             | Student           | McGill University                |
| Wang, Yi Ting          | GS, PhD Student | Student           | McGill University                |

11. Members who have **left the Unit** over the reported year.

| <b>Name<br/>Last, First</b> | <b>Title<br/>PI, Staff or Trainee<br/>[Graduate student<br/>(GS) or post-<br/>doctoral fellow<br/>(PDF)]</b> | <b>Type of<br/>Membership<br/>Full, Associate</b> | <b>Affiliation(s)</b> |
|-----------------------------|--|---|-----------------------|
| Poulin de Courval, Louise   | PI   | Associate   | McGill University     |
| Bruce, Pike                 | PI   | Adjunct   | University of Calgary |
| Walker, Claire              | PI   | Associate   | McGill University     |
| Hebert, Rejean              | PI   | Affiliate   | Sherbrooke University |
| Leblanc, Andrea             | PI   | Associate   | McGill University     |
| Dulka, Iryna                | PI   | Associate   | McGill University     |
| Qureshi, Naveed Iqbal       | PDF  | Student   | MCSA                  |
| Thomas, Emilie              | PDF  | Student   | MCSA                  |

12. State how the current and forecasted activities of your Unit align with the Education or Research mission (Strategic Research Plan) of the Faculty of Medicine and/or other Faculties at McGill (**limit: ½ page**):

The MCSA research vision aligns with the McGill strategic theme to "Understand the potential of the human brain and the entire nervous system." Our current forecasted activities have significant societal impacts by addressing key knowledge gaps related to aging and dementia. These activities aim at (1) fostering creativity, (2) promoting innovation, (3) collaboration and (4) partnership within equitable, diverse, and inclusive environments.

While the MCSA leadership leads cutting-edge collaborative research, the associate members of the center further enrich this academic environment by conducting various other aspects of aging research such as novel imaging agents for dementia (Gassan Massarweh, Jean-Paul Soucy and others), pathophysiological mechanisms underlying dementia (Claudio Cuello, Gerhard Multhaup and others), dementia prevention (John Breitner, Judes Poirier, Silvia Villeneuve and others), physical activity interventions (Marc Roig and

others), aging and sleep (Nadia Gosselin and others). Our associate international members constitute a significant asset for innovative numerous aspects of aging research at McGill (i.e Kaj Blennow and others). In addition to research innovation, the center's associate members are committed to teaching students and residents as well as educating the lay public with lectures. We will increase our interactions with the McGill Dementia Education Program, of which Dr. Serge Gauthier is associate director.

The COVID-19 crisis accelerated our efforts for innovating solutions in teaching and KT activities. The MCSA in conjunction with the Ludmer Center (Yasser Iturria) will start the McGill Aging Research Community e-meetings (e-MARC meetings) to further promote innovation and partnership within McGill and internationally. E-versions of Brainy Boomers lectures will be specially designed with equity and diversity inclusion. COVID-19 will be added as a lecture topic and our International aging series will be online in 2020-2021.

Our clinical assessments and research activities will also be mostly conducted online. E-screening for neurobehavioral abnormalities in aging populations (e-SNAP) was recently created as a platform for remote cognitive assessment of clinical populations, which will succeed P.O.N.D.E.R. previously utilized for Alzheimer's prevention. Dr. Maya Geddes is developing national guidelines for teleneurology consultations and will be leading a student support group to provide telephone or online support for those seniors in need.

13. Explain why support from the Faculty of Medicine continues to be crucial to the operations of the Unit **(limit: ½ page)**:

Presently the MCSA is able to sustain its administrative and KT activities. However, additional funding from the Faculty of Medicine would be crucial to enhance the network of collaborations across associate and affiliated members. Seed funding, financial support for students and/or research assistants will certainly contribute to expand the scope of aging research to priority areas such as sex and gender, or healthy aging in Indigenous peoples (via interactions with the Centre for Indigenous Peoples' Nutrition and Environment, CINE). Similarly, funding incentives could foster ground-breaking aging research in emerging areas such as the effects of cannabis in seniors (via McGill Research Centre for Cannabis).

Importantly, funding from the Faculty of Medicine could provide means to address important challenges related to engagement of geriatric populations in research as well as in our outreach activities. As it has been predicted that the COVID-19 pandemic will continue for many months, the MCSA should excel in retaining its clinical and research population by innovating efficient and humane tele-assessment methods. Unfortunately, the vast majority of tele-assessment applications have been designed for a younger population. Therefore this has limited resources for enhancing the accessibility to seniors with limited knowledge of computers, reduced visual and/or auditory acuity. More specifically, Faculty funding would allow MCSA to cover the expenses of web designers and programmers needed to create dedicated online applets and wearable devices optimized for assessing geriatric populations.

14. List action items that the Unit has taken or will consider taking in the next year towards growth and sustainability of its operations **(limit: ½ page)**

### **Business Development**

- Create fund-raising programs respecting social distancing rules.

### **Education**

#### *Community KT and outreach*

- Accomplish (20+) Online Brainy Boomers lectures about various aspects of aging and one health awareness event

- Three newsletters disseminating the center activities
- MCSA YouTube channel with lectures for patients.

#### Academic and experts KT activities

- Online “Laura Chalk Rowles International Lectureship Series”
- Co-organize one International and National meeting in Dementia

#### **Research**

##### McGill Aging Research Community

- Continue to support members funding opportunities for grants
- Advance knowledge and multidisciplinary research about aging and dementia
- Develop instruments for tele-assessment of research subjects
- Expand the e-SNAP platform to the McGill community.

#### **Clinical Trials**

- Restructure clinical trials operations at MCSA given the restrictions imposed by the COVID-19 crisis

#### **Patient Care**

- Participate on the development of Canadian Guidelines for teleneurology in Dementia
- Incorporate tele-neurology with the Electronic Medical Records at the MCSA

15. Provide suggestions about how the Faculty could do better to support the Unit and research efforts in general (e.g., centralized data repositories, institutional data management plans, support for software developments, guidance for adopting open-science practices, simplification of administrative procedures, etc.) **(no page limit but please be specific and unleash your creativity!)**

The most pressing need at this moment is the ability to pool together the expertise of computer designers and programmers required to develop graphic user interfaces appropriate for assessing cognition in seniors. Furthermore, computational resources would be valuable for storing, curating, databasing and data analyzing from the next generation of wearable devices capable of monitoring simultaneously a wide range of physiological parameters. The combined assessments of behavioral and physiological parameters allied to AI algorithms will become the pillars of tele-assessment and predictive medicine.

The Faculty could facilitate collaborations with industry partners, for development of novel technologies for diagnosing and monitoring disease progression. A business model for the development of these technologies will be crucial for our CFI funded fluid biomarker unit, as it is expected to develop biomarkers with immediate clinical applications.

In the attached (Excel) **Year-End Financial Report** please detail: (refer to **Appendix: 10**)

1. Expenditures of funding provided by the Faculty of Medicine and other sources, towards meeting the objectives of the Unit,
2. Any in-kind contributions provided to the Unit by other partners and sponsors,
3. Projected budget for the coming year (including request to the Faculty of Medicine).