

Brain Canada

Multi-Investigator Research Initiative (MIRI)

Improving Health Outcomes and Quality of Life

Request for Applications (RFA)

About Brain Canada

Brain Canada is a national non-profit organization that enables and supports transformative, original and outstanding brain research in Canada. For more than a decade, Brain Canada has made the case for the brain as a single, complex system with commonalities across the range of neurological disorders, mental illnesses and addictions, brain and spinal cord injuries. Looking at the brain as one system has underscored the need for increased collaboration across disciplines and institutions, and a smarter way to invest in brain research that is focused on outcomes that will benefit patients and families.

The Canada Brain Research Fund is a public-private partnership established between Brain Canada and Health Canada to encourage Canadians to increase their support of brain research, and maximize the impact and efficiency of those investments. Brain Canada is raising \$120 million from private and non-federal sources, which is being matched by the Government of Canada on a 1:1 basis. The Fund supports “the very best Canadian neuroscience, fostering collaborative research and accelerating the pace of discovery, in order to improve the health and quality of life of Canadians who suffer from brain disorders.”

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Rationale

Brain health is one of the most pressing health challenges facing Canadians. One in three individuals – over 11 million people – will face a psychiatric disease, a neurological disorder or a brain or spinal cord injury at some point in their lives. Advances in brain research are leading to an improved understanding of the etiology of these disabilities, better diagnostics and screening, therapeutic interventions, and improved frontline care and social support services. However traditional research funding often focuses on specific pathologies and results can take many years to impact people affected by brain disorders (i.e. patients, carers). Further, this focused approach may not lead to overall improvements in health outcomes, including quality of life.

Improving overall health outcomes, including quality of life, are priorities that might be addressed in several ways, including:

- Using a “patient-oriented” approach that values the input and involvement of both patients and carers in efforts to improve health outcomes and quality of life both in research and in care.
- Following patient trajectories, understanding how medical interventions impact the overall health outcomes and quality of life of people affected by brain disorders.
- Considering both medical and non-medical factors more holistically, taking a more global view of the patient and his or her situation.
- Identifying clinical practice gaps, such as cognitive and/or psychological recovery following acute care or during chronic care.

This competition is intended to provide opportunities for unorthodox collaborations between multidisciplinary teams of researchers (including social sciences), clinicians, allied-health workers, carers and patients to explore such approaches with the goal of improving patient-oriented health outcomes, including quality of life, over a reasonably short period of time.

Grant details

This competition has an overall envelope of \$2,250,000 over three years. The individual grant size is dependent on the scope of the project.

The grants are structured in two parts. The first two years of the grant will support the core research project and the development of the knowledge implementation plan. Following a positive review by a Selection Committee on the outcomes of the research project and on the knowledge implementation plan, Brain Canada will fund a third year for knowledge implementation.

Use of Funds

The funds must contribute towards the direct costs of the research for which the funds were awarded, and the benefits should be directly attributable to the MIRI grant.

MIRI grants are non-renewable.

Eligible costs

MIRI grants may be used to support any aspect of the operating costs of the research project, including:

- Supplies and materials;
- Provision of special services and user fees;
- Maintenance of essential equipment;
- Travel of team members and trainees for collaboration and presentation of results;
- Publication costs;
- Salaries for technical personnel;
- Stipends of trainees, patients and carers that are part of the research team;
- New equipment that is currently unavailable but essential for the project.

Ineligible costs

- Salaries and consulting fees of any investigators (including the principal investigator and co-investigators applying for the MIRI).
- Indirect costs or overhead costs associated with managing the research project.

Note that this list is not exhaustive, and Brain Canada may rule any other expenditure eligible or ineligible. Please contact Brain Canada about the eligibility of expenditures not listed here.

Funding Sponsors

As a public-private partnership, Brain Canada grants are derived 50% from the Canada Brain Research Fund (CBRF) that are matched with 50% from funding partners or sponsors. This competition is sponsored, meaning the applicants need to identify the matching sponsor.

- Brain Canada encourages all individuals, organizations, enterprises and institutions funding Brain research to support research excellence in specific thematic and geographic areas by co-funding a specific research project. We expect this opportunity to be of interest to:
 - *Institutional Benefactors and Donors to Charities*, who want to support a specific aspect of brain research at a specific institution, or conducted by a particular research team. Through a combination of tax credits from their donations to the institution or charity, and the matching funds provided by Brain Canada, their donations will be leveraged 2.5-3 fold, depending on the province;
 - *Health Charities and other Funders*, who can use this opportunity for exceptional leverage to attract additional donations and support more high-quality research relevant to their mission, than would otherwise be possible.

- *Industry partners*, who can use this funding opportunity as a low-cost approach to supporting innovative research aimed at the improvement of health outcomes and quality of life.
 - *Research Institutions and Hospitals*, which can attract additional donations, and use this opportunity to build their capacity for brain research by supporting their investigators at a reduced cost.
 - *Provincial Health Care Systems*, who could use this opportunity to improve health outcomes and quality of life of Canadians.
- Eligible sponsors include for-profit enterprises, individual donors, charitable organizations, provincial government agencies and ministries, research institutions, hospitals and health-care organizations, and any other entities, including foreign entities or organizations, that receive 50% or less of their funding from the Government of Canada
 - A sponsor may support any number of applications and multiple sponsors may support a single application, but no sponsor can commit less than 10% of the matched funding required for a project.
 - Applicants are advised to discuss possible sponsorship of a project as early as possible in the application planning process. LOI may be submitted without a firm commitment from a sponsor, but should at least be accompanied by letters expressing an interest in supporting the planned research.
 - Full applications will not be accepted unless accompanied by a letter of commitment from one or more Sponsors sufficient to make the required match.
 - If a Sponsor is unable to honour its funding commitment at any time, Brain Canada will also have to withdraw its funding. It is recommended that potential Sponsors contact Brain Canada (see below for contact information) to ensure clarity on Brain Canada's matching policies.
 - Sponsor's contributions must be provided in cash, not in-kind, to Brain Canada¹, which will add the matching 50% from the Canada Brain Research Fund, and administer the grant.
 - Brain Canada will acknowledge sponsors' support of MIRI grants in all relevant presentations and publications, and Brain Canada will advise partners of any impending media opportunities related to the MIRI grants, and vice-versa. Sponsors must acknowledge the financial support of Brain Canada and Health Canada in their publications and announcements.

¹It may be possible for sponsors to provide the matching funding directly to the Host Institution of the Principle Investigator, depending on the outcomes of negotiations of a new Contribution Agreement between Health Canada and Brain Canada that should be finalized by the end of 2016.

Brain Canada operating and personnel costs

By administering this MIRI funding opportunity, including the review process and subsequent progress reporting, Brain Canada incurs operating and personnel costs. According to the Contribution Agreement between Health Canada and Brain Canada regarding the Canada Brain Research Fund, Brain Canada can charge operating expense fees on the funds flowing to grant recipients, which make up most of its revenues for operating expenses. Brain Canada's policy is

to deduct a 5% operating expense fee from the sponsors' contributions, and 10% from the matching contribution from the Canada Brain Research Fund. This results in a combined deduction of 7.5% from the total envelope of \$2,432,000, leaving a balance of \$2,250,000 to directly support the projects.

Eligibility

- This opportunity is open to teams of two or more investigators who are eligible to apply for research grants from the Canadian federal granting agencies (CIHR, NSERC, and SSHRC).
- The teams must comprise a Principal Investigator and at least one Co-Investigator, and may include one or several people affected by brain disorders (i.e. patients, carers) and one or several Collaborators:
 - A Principal Investigator is an individual responsible for communication with Brain Canada. He/she is also accountable for the team's research activities and use of funds that will be reported on an annual basis with a progress and financial report;
 - A Co-Investigator is an individual who contributes directly to the proposed research activities;
 - People affected by brain disorders are patients or carers who are involved in the research project.
 - A Collaborator is an individual who contributes indirectly to the proposed research activities by providing a specific service such as access to equipment, provision of specific reagents, training in a specialized technique, statistical analysis, access to a patient population, etc. Collaborators from government, the private sector, and other nations are also welcomed in order to strengthen teams and facilitate the uptake of their research results, but Brain Canada funds will only support the portion of the work conducted in Canadian institutions eligible to receive funding from the federal granting agencies.

Criteria for Assessment

Patient-oriented project

The extent to which the project is patient oriented (i.e. that it includes patients and ideally carers in the multidisciplinary team and properly address outcomes important to patients and carers, taking account of their concerns and circumstances). The extent to which the project takes sex and gender into consideration.

Innovation and originality

Quality of the project which, while solidly-based in scientific fact and technically feasible, offers new concepts and approaches.

Improving health outcomes including quality of life

Potential of the project to improve health outcomes including quality of life, and to do so in a relatively short time.

Multidisciplinarity and teamwork

Teams must be multidisciplinary, and value is seen in team members being based in more than one institution. The team must include patients at least as collaborators, and can include carers, clinicians, allied-health workers and health administrators as collaborators or investigators. To build capacity and generate novel perspectives, Brain Canada encourages the formation of teams that include researchers at all stages of their careers, as well as researchers from outside the neurosciences who now wish to extend their expertise to problems of the brain and nervous system.

Knowledge implementation plan and potential for impact

Quality of the knowledge implementation strategy, including links with knowledge users. The project has the potential to improve health outcomes and quality of life in a relatively short-term practical impacts, such as changes to professional practice, services, products, and public policy.

Feasibility

The degree to which the project can be successfully executed within the timeframe, budget, resources and team available.

Review process

Sponsors are free to conduct their own pre-selection process to determine those full applications that they wish to support through this funding opportunity.

Letter of Intent

The LOI Selection Committee recommends the applicants that should be invited to submit their LOI proposals as Full Applications. All LOI applicants receive anonymized reviewers' comments, and notes of the Committee discussion for those applications that were discussed at the committee meeting. Brain Canada will not entertain appeals against the assessment of the LOI Selection Committee.

Full Application

Only those invited by Brain Canada following the LOI review will be able to submit full applications. All applications will be reviewed by two members of a Full Application Selection Committee composed of Canadian and International members with broad experience and expertise in the brain sciences and patient-oriented research, who are not applicants, to ensure that all funded proposals are assessed against similar standards of excellence. In addition, the application will be reviewed by one or two external reviewers to judge on a specific aspect of the application.

Sponsors and applicants can provide suggestions for the membership of the Selection Committee, and for the selection of the expert reviewers who will provide the Selection Committee with expert advice on specific applications. Sponsors may observe the meetings of the Selection Committee to ensure that their expected standards of review are being met.

The Selection Committee will provide a merit score for each full application, and recommend to Brain Canada those applications that have received a sufficiently high merit score to deserve funding.

Applicants will receive anonymized written comments from the expert reviewers and the Selection Committee, but if considered uncompetitive by all reviewers, certain applications will not be discussed in detail at the meeting of the Selection Committee and will not receive notes of the Committee discussion. Brain Canada will not entertain appeals against the assessment of the Selection Committee.

How to apply

Principal Investigators should contact Brain Canada (programs@braincanada.ca) if they have enquiries about the application process. All LOIs and applications must be submitted using Brain Canada's electronic grant management system (https://braincanada.smartsimple.ca/s_Login.jsp) that will be available from January 8th, 2017. The Principal Investigator must complete all required application fields in the Brain Canada's electronic grant application system before 16:00 ET on the deadline dates listed below.

Timeline

Request for Applications	December 9 th , 2016
Deadline for receipt of Letters of Intent	February 8 th , 2017 at 16:00 ET
Invitation to submit Full Application	May, 2017
Deadline for receipt of Full Applications	July 7 th , 2017 at 16.00 ET
Notification of Award	September, 2017
Funding begins (earliest date)	November, 2017

LOI Components

Project summary

- Project title
- Project start and end dates (note: choose dates within a 36-month window)
- Keywords (including freeform): up to 10 words
- A summary of the research project and its goals, emphasizing its innovative and original features. It is also important to explain how the project is feasible within the time and funding available from the requested MIRI grant (maximum 1000 words).
- A description of the anticipated impacts of the project: How will the outcomes from the study have the potential to improve health and quality of life and have short-term practical impacts? (maximum 500 words).
- An explanation of how the intended project furthers the health impacts; knowledge translation, or other objectives related to this competition (maximum 500 words).

Project Team details

- If not registered already, please have your co-investigators register with the Brain Canada grant management system (https://braincanada.smartsimple.ca/s_Login.jsp). Registered applicants will receive a Brain Canada PIN found under their "Personal Profile" and have access to co-write the application with the Principal Investigator.
- Add up to ten co-investigators using their Brain Canada PIN and last name.
- If there are more than ten co-investigators, select those most essential to the project.

- Principal and co-investigators publications: For each of the up to ten investigators, cite up to five of their publications, of which at least three must have been published in 2010 or later. “Publications” means any type of document or medium, print or electronic, which best illustrates the member’s relevant research experience, expertise and achievement. Ideally, these describe paradigm-shifting ideas and findings, or examples of effective application and knowledge translation of research findings, and demonstrate the applicant’s ability to contribute to the proposed research project. Each item should be annotated with a brief reason for its selection. Include the DOI, URL or PMID of publications where applicable so that reviewers can access them.
- Explain the role of any trainees in the project and the unique learning opportunities they will experience.
- Explain the role that each applicant will play, and conclude with an overview of how the entire team will work together. For those ineligible to receive Brain Canada funding, explain how their contribution to the project will be funded (maximum 300 words).
- Please note that CVs are not required.

Budget

- Provide a brief justification for the budget for the full period of funding, listing the major line items as described under “Use of Funds”, above, supplemented by a brief statement explaining how this expenditure will support the intended operation of the grant (Maximum 600 words)

Attachments

- Figures and references (maximum 1 page).

Optional information

- Provide the names and contact information for up to three individuals who are not in conflict and would be competent to review the LOI and the subsequent full application, if invited.
- Provide the names and contact information for up to three individuals who should not be contacted for review.

Signatures and Certification

The Principal Investigator must click the “I Agree” box to certify the following agreement: “I certify that all members of the team have agreed to their inclusion in this LOI, and allow me to represent them throughout the application process. I also certify that all team members permit Brain Canada to circulate this LOI and subsequent full application to third parties, under a confidentiality agreement, for the purpose of securing additional funding.” Please note that institutional and team signatures are not required for the LOI application.

It is the sole responsibility of the applicants to ensure their LOI submission is acceptable and received before the deadline. Those received in any other format, exceeding the page limits, incomplete, or late, will be rejected.

Full Application Components

The Full Application will need to be formatted using 12 point Arial or Georgia font, single-spaced, on a letter-size page with 1" minimum margins. The font size for figures and legends has to be a minimum of 10 points. Use of a condensed font and spacing is not permitted. It is the sole responsibility of the applicant to ensure their submission is acceptable and received before the deadline. Those received in any other format, exceeding the page limits, incomplete, or late, will be rejected.

Project summary (maximum 1000 words)

- Project title.
- Project start and end dates (note: choose dates within a 36-month window).
- Keywords (including freeform): up to 10 words.
- A summary of the research project and its goals, emphasizing its innovative and original features. It is also important to explain how the project is feasible within the time and funding available from the requested MIRI grant.

Project Team details

- If not registered already, please have your co-investigators register with the Brain Canada grant management system (https://braincanada.smartsimple.ca/s_Login.jsp). Registered applicants will receive a Brain Canada PIN found under their "Personal Profile" and have access to co-write the application with the Team Leader.
- Add up to ten co-applicants using their Brain Canada PIN and last name.
- If there are more than ten co-applicants, select those most essential to the project.
- Principal and co-investigators publications: For each of the up to ten investigators, cite up to five of their publications, of which at least three must have been published in 2010 or later. "Publications" means any type of document or medium, print or electronic, which best illustrates the member's relevant research experience, expertise and achievement. Ideally, these describe paradigm-shifting ideas and findings, or examples of effective application and knowledge translation of research findings, and demonstrate the applicant's ability to contribute to the proposed research project. Each item should be annotated with a brief reason for its selection. Include the DOI, URL or PMID of publications where applicable so that reviewers can access them.
- Explain the role of any trainees in the project and the unique learning opportunities they will experience (separate attachment).

Lay Summary (maximum 300 words)

Suitable for publication and understandable by non-scientists.

The proposal (maximum 15 pages including figures and legends)

Proposals should include the following information, structured so as to best address the criteria for assessment (patient-oriented project; innovation and originality; improving health outcomes including quality of life; multidisciplinary and teamwork; knowledge implementation and potential for impact; feasibility):

1. The specific objectives to be achieved by the end of the funding period
2. The rationale for undertaking the study now, including:
 - A clear statement of the unique and innovative features of the project;
 - An explanation of how this project is different from what the team members have done before;
 - A brief review of previous results obtained by team members and others that support the rationale for the project;
 - Any preliminary data that indicate a full - scale project is justified.
3. The work plan, including:
 - The approaches, methods and techniques that will be used;
 - Anticipated milestones: key intermediate stages in achieving the final objectives, and the projected dates for their achievement;
 - Potential pitfalls or obstacles, and how they will be overcome;
 - Methods of data analysis, including statistical methods and calculations to show that the study will be adequately powered.
4. The expected outputs from the study, and how its findings will be disseminated to those who need to know about them:
 - Include plans for making the data from the project available to other qualified researchers;
 - What are the expected impacts of the results you will obtain? Refer to the five main categories of research impacts: advancing knowledge; building capacity; informing; decision-making; health impacts; and broad socioeconomic impacts;
 - How will the outcomes from the study have the potential to improve health and quality of life and will have short-term practical impacts, including changes to professional practice, services, products, and public policy.

CVs of Principal investigators and co-investigators – up to 10: (maximum 2 pages each):

- Note training and employment history, honours and distinctions, experience working in collaborative projects, major grants held in the past five years;
- State total number of publications;
- Provide a URL link to a full CV on an institutional website, or equivalent (e.g. Google Scholar profile, CCV);
- Indicate the average hours per week that the member will devote to this project;
- For other team members, provide only name and affiliation, and URL link to full CV.

Budget

- A yearly budget must be provided;
- Provide costs for major categories only:
 - Salaries for technical personnel;
 - Stipends of trainees. If funding for trainees is requested, an additional page should be provided, explaining the precise role of the trainees in the project, and justifying this as an outstanding training opportunity;

- Maintenance of essential equipment; equipment that is currently unavailable but essential for the project;
- Supplies and materials;
- Provision of special services and user fees, payments to subjects;
- Travel of team members and trainees for collaboration and presentation of results;
- Publication costs.
- Each amount for a category as well as the sum of all categories must be rounded to a multiple of \$1,000.

Attachments

- Changes from the LOI (maximum ½ page) - briefly describe any significant changes in the proposal from that summarized in the LOI (e.g. team membership, study population, nature of intervention, outcomes etc.). Please indicate if these changes are as a result of feedback from the LOI reviewers' comments;
- Letters from sponsor(s) confirming support to sponsor 50% of the total approved grant (if not provided with LOI) with the annual breakdown of what the sponsor(s) will provide.
- Support letters, if applicable.

Optional information

- Provide names and contact information for up to three individuals outside Canada and not in conflict who would be competent to evaluate the application;
- List individuals to whom the application should not be sent for review;

Reviewers will be selected by Brain Canada, taking these and other suggestions into account.

Certification and Signatures

- Signatures of the Principal Investigator and all key members of the team are mandatory for the application to be considered and have to be submitted before the deadline;
- Institutional signatures: Signatures of the responsible officials of each institution where the team members conduct their research are required and the applicants should ensure to obtain these signatures early enough to meet the deadline.

Confidentiality and Ownership

Brain Canada will keep all materials submitted to it for this funding opportunity confidential, and will take reasonable steps to keep these materials confidential, and divulge them only to reviewers, Selection Committee members and observers, who have signed confidentiality agreements. Funded applications will be retained for comparison of intended and actual outcomes, as part of the final evaluation of the Canada Brain Research Fund.

Brain Canada does not claim ownership of intellectual property (I.P.) arising from research it funds, and expects that its funds will be used to create I.P. that is developed and commercialized according to the policies of the research institutions in which the research is performed. The Principal Investigators and co-investigators must resolve I.P. ownership issues with funding sponsors before submitting an application. Where the Sponsor is a for-profit entity, Brain Canada

must be consulted to determine if the I.P. arrangements are acceptable, and this will be a component of the Partnership agreement.

Reporting, Communications, and Evaluation

Brain Canada will support truly innovative and therefore risky research and needs to know that these risks are acceptable. As a condition of continued annual funding of MIRIs, Brain Canada requires a brief yearly narrative and financial progress report from the Principal Investigator, outlining use of funds, project achievements and impacts realized, as well as difficulties encountered and steps taken to overcome them. Continued funding will be based upon a satisfactory review of the progress report by Brain Canada. If Brain Canada considers that a progress report is questionable, after discussion with the team, the funding partners may agree to extend the period over which the funds are available, or cancel further funding. Details of the reporting process will be provided to funded MIRIs. Brain Canada will share the progress reports with the Sponsors.

In order to demonstrate to Canadians, the ongoing value of the Canada Brain Research Fund, MIRI team members must contact Brain Canada in advance of the publication, release or public presentation of research results obtained with the MIRI grant, so that a press release or other publicity can be prepared. Embargoes will be strictly respected. Acknowledgment of Brain Canada, Health Canada and Sponsor funding (as agreed upon between Brain Canada and the Sponsor) must accompany all publication, release or presentation of such research results.

Brain Canada commits to acknowledging the Sponsors' support in all communications regarding the jointly supported MIRI grants. Sponsors will be informed of any upcoming media and communications opportunities in advance and provided with the opportunity to be involved in any publicity activities regarding the Sponsored grants. Sponsors must acknowledge the financial support of Brain Canada and Health Canada in their publications and announcements.

At the end of the current Canada Brain Research Fund, Brain Canada wants to show that exceptional value was received for the investments of the federal government and the Sponsors. It needs to know the impact of every grant and award. Ten percent of the final year's funding will be withheld and released on receipt of a satisfactory final progress report that describes the current and estimated future outputs and impacts of the MIRI research project.

For Further Information

For any other information or questions:

- About the MIRI competition and application process, please contact programs@braincanada.ca
- Brain Canada will acknowledge receipt of the full application within two working days. Please contact programs@braincanada.ca if you do not receive acknowledgement
- About Brain Canada and the Canada Brain Research Fund: go to <http://braincanada.ca/>