

## Brain Canada

# 2019 Future Leaders in Canadian Brain Research

Request for Applications (RFA)

### About Brain Canada

Brain Canada is a national registered charity headquartered in Montreal that enables and supports excellent, innovative, paradigm-changing brain research in Canada. For two decades, 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 to ensure that Canada has a robust pipeline of talent to remain at the forefront in the field of brain research. This will lead to a smarter way to invest in brain research that is focused on outcomes that will benefit patients and families. Brain Canada's vision is to understand the brain, in health and illness, to improve lives, and achieve societal impact.

The Canada Brain Research Fund is an innovative partnership between the Government of Canada (through Health Canada) and Brain Canada, designed to encourage Canadians to increase their support of brain research, and maximize the impact and efficiency of those investments. 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. Over the past 20 years, Brain Canada and its donors and partners have invested \$250 million in 300 research projects across the country.

[www.braincanada.ca](http://www.braincanada.ca)

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## Rationale

Supported by the Canada Brain Research Fund, the purpose of the *Future Leaders in Canadian Brain Research* Grants Program is to accelerate novel and transformative research that will fundamentally change our understanding of nervous system function and dysfunction and their impact on health. The ultimate goal is to reduce the social and economic burden of neurological and mental health problems through prevention, early diagnosis, and treatment.

Newly trained researchers in their first independent academic position are in a strong position to formulate innovative and impactful research projects. However, at the early stages of an investigator's career, they often lack the preliminary data and resources that are required to obtain their first large operating grant. As such, promising early-career researchers are often at a disadvantage when applying to "open" funding programs, where more established researchers tend to dominate. This program provides an opportunity to develop new lines of research on the properties and mechanisms of the brain and nervous system, and gather such preliminary data.

The *Future Leaders in Canadian Brain Research* Grants Program has the potential to be transformative at a time when it is well recognized that there is a significant funding gap to support and retain our brightest early-career investigators, who are well positioned to make major contributions to Canadian brain research. By providing early-career researchers with funding at a critical point in their careers, we can build Canada's pipeline of future leaders and a foundation of research excellence and innovation.

## Scope

Projects should represent new lines of research and be distinct from other research projects conducted by the investigator. This competition encourages innovative, unorthodox, and exploratory research that may be in the early and conceptual stages of project development, but has potential for significant impact on our fundamental understanding of the brain. Early-career researchers are encouraged to capitalize on existing platforms and data repositories to maximize impact. The generated data will enable early-career investigators to apply for larger grants that will lead to long-term projects, and create innovative and sustainable research programs.

The research topic will focus on hypothesis-driven inquiries on the brain and nervous system, and may span the range of basic-translational-clinical approaches, including:

- Basic research into fundamental properties and mechanisms, including functional studies based on the use of genome data
- Projects related to disease or dysfunction of the nervous system if they will lead to new insights into fundamental biological mechanisms
- Projects that experimentally test novel hypotheses addressing therapeutic or interventional approaches for brain disorders  
Projects aimed at developing novel methods, including models of neural activity, *if these methods allow new neuroscience questions to be answered*
- Projects - such as those using epidemiological, "-omics", or other approaches - that will generate large datasets, *if hypotheses are clearly stated*

The following projects will not be considered for funding:

- Systematic screening approaches aimed at identifying biological components or reagents.

## Grant Details

The 2019 competition has an overall envelope of \$2,000,000 to support 20 grants of \$100,000 each, over two years. Awards will be named after specific donors who are providing funding for this competition. *Please note that in its 2019 Budget, the Government of Canada announced funding of up to \$40 million over two years for the Canada Brain Research Fund (CBRF), starting in 2020-21. Funding for Future Leaders is subject to a funding agreement between Brain Canada, Health Canada, and any donor(s).*

## Eligibility

- **Evidence clearly shows that increasing equity, diversity and inclusion (EDI) in research environments enhances excellence, innovation and creativity. Brain Canada is committed to excellence through equity, and we encourage applicants of diverse backgrounds to apply to our funding opportunities.**
- This competition is open to early-career researchers within five years of starting their first independent research position by the deadline to submit Full Applications. Leaves of absence (e.g. maternity and parental leave, sick leave, etc.) will not be included in calculating the five-year window.
- Investigators must be conducting research at a Canadian institution for the entire duration of the award, and academic appointments *must have started by the deadline for application submission*.
- Researchers must be considered an independent researcher at their institution. Such an individual normally holds the rank of assistant or associate professor; can initiate and direct their own independent lines of research as principal investigator; has full responsibility for running their laboratories; has full control of their research funds; and is permitted to supervise graduate students. Postdoctoral fellows or adjunct faculty are not eligible to apply.
- Applicants must be able to devote a minimum of 75% of their time to research activities; Clinical service, teaching and/or administrative activities may take up to a maximum of 25% of applicant's time for the duration of the award.
- Research applications may be related but cannot be identical to any other currently funded projects. It is the responsibility of the applicant to notify Brain Canada immediately should substantial overlap arise from new funding awards during the application and review process of this competition.
- Applicants must submit a Letter of Intent in order to be eligible to submit a Full Application.
- Recipients of the Azrieli Foundation-Brain Canada 2018 Early-Career Capacity Building Grants competition are not eligible to apply.

## Use of Funds

The funds must contribute towards the direct costs of the research project for which they were awarded, and should be directly attributable to the project or activity being performed.

### Eligible costs

These funds 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 the principal investigator and trainees for presentation of results;
- Publication costs;
- Salaries for technical personnel;
- Stipends of trainees;
- New equipment that is currently unavailable but essential for the project.

### **Ineligible costs**

- Salaries and consulting fees of the principal investigator applying for the Future Leaders grant;
- As this award is to be used for the specific project that is proposed, the purchase of general office and lab equipment are considered as ineligible expenses.
- Indirect costs or overhead costs associated with managing the research project.

Please note that this list is not exhaustive, and Brain Canada must be consulted on expenses that are not listed here, so that any partners involved can determine the eligibility of other categories of expenditure.

## **Criteria for Assessment**

**There will be equal weighting of the following criteria:**

### **Innovation and Originality**

Quality of the project which, while solidly based in scientific principles and technically feasible, offers new concepts and approaches, with the potential to change the paradigms of the field, open the field to new experimental directions, or address a critical barrier to progress in our understanding of the brain and nervous system. Projects must be distinct from the investigator's other funded research.

### **Feasibility**

The degree to which the proposed research can be successfully executed using the proposed methodology within the timeframe, budget, and resources available. Appropriate background and justification for the proposed research should be provided through literature citations and data from other sources. Preliminary data from the investigator are not required, but may be included if available. The investigator's potential to successfully complete the project based on their track record of quality training and to carry out innovative research will also be considered.

### **Potential for Impact**

The degree to which the new lines of research that could be developed from this project have the potential to fundamentally change our understanding of the brain and nervous system function in the long-term. Brain Canada promotes the view of the brain as a single, complex system with commonalities across the range of neurological disorders - describe how your findings have the potential to have impact outside of the immediate area of your research. While accounting for sex as a biological variable is important for transparency and reproducibility, incorporating considerations for sex, gender, and diversity into study design additionally broadens the potential impact of the work to expand knowledge and turn discovery into health.

## Timeline

Launch of Request for Applications	November 19, 2019
Deadline for Letter of Intent (via email)	December 10, 2019
Electronic Grant Application System Opens	February 3, 2020
Invitation to Full Application	February 12-19, 2020
Deadline for Receipt of Full Applications	March 24, 2020
Notification of Decision	June 2020
Funding Begins (earliest)	July 1, 2020

## How to Apply - Letter of Intent

Please note that the Future Leaders in Canadian Brain Research competition includes a Letter of Intent stage. All Letters of Intent must be submitted to Brain Canada via email ([futureleaders@braincanada.ca](mailto:futureleaders@braincanada.ca)) before 16:00 ET on December 10, 2019.

## Letter of Intent (LOI) Components

Brain Canada staff will verify all submitted LOIs to ensure eligibility criteria are met. Eligible LOIs will be reviewed by at least two reviewers, and the top-ranked applications will advance to the Full Application stage. Please note that reviewer comments will not be shared with applicants.

Reviewers will score based on the following criteria (with equal weighting):

1. Innovation and Originality
2. Feasibility
3. Impact

We will additionally request a truncated 1-page version of the NIH-style biosketch.

### Optional information

- Provide names and contact information for up to three individuals (Canadian or International) who are knowledgeable in your research topic and would be able to evaluate the application. Individuals should not have a conflict of interest.
- List individuals to whom the application should not be sent for review.

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

Please click [here](#) to download the Letter of Intent form.

## How to Apply - Full Application

Full Applications must be submitted using Brain Canada's electronic grant management system – SmartSimple ([https://braincanada.smartsimple.ca/s\\_Login.jsp](https://braincanada.smartsimple.ca/s_Login.jsp)). The principal investigator must complete all required application fields in SmartSimple before 16:00 ET on the deadline date listed above. Brain Canada will acknowledge receipt of the full application within two working days.

## 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 must be a minimum of 10 points. Use of a condensed font and spacing is not permitted. Applications received in any other format,

exceeding the page limits, incomplete, or late, will be rejected. **It is the sole responsibility of the applicant to ensure their submission adheres to these requirements and is received before the deadline.**

### **Project Summary**

- Project title.
- Projected start and end dates (note: choose dates within a 24-month window).
- Keywords (including free form): up to 10 words.
- A summary of the research project and its goals, emphasizing the innovative and original features: maximum 300 words.

### **Lay Summary** (maximum 300 words)

Suitable for publication and understandable by non-scientists.

### **Proposal** (maximum 7 pages including figures, legends, timeline/milestones, but excluding references)

Proposals should include the following information, structured to best address the criteria for assessment (Innovation and Originality; Feasibility; Potential for Impact):

1. The **overall 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 principal investigator has done before.
3. The work plan, including:
  - The approaches, methods and techniques that will be used; If applicable, outline the specific contributions of any collaborators involved in the project
  - **Timeline and anticipated milestones:** key intermediate stages in achieving the overall objectives, and the projected dates for their achievement (template will be provided);
  - 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:
  - How will the outcomes from the study advance knowledge on the fundamental properties and mechanisms of the brain and nervous system?
  - Include plans for making the data from the project available to other qualified researchers;
  - What are the expected broad impacts of the results you will obtain? Refer to the six main categories of research impacts: advancing knowledge; building capacity; informing; decision-making; health impacts; and broad socioeconomic impacts;
5. The role of trainees in the project and the unique learning opportunities they will experience, if applicable.

### **Sex, Gender, and Diversity Considerations** (maximum 2 pages)

Understanding sex and gender as determinants of health and how they interact with other determinants can help to ensure that research projects lead to better outcomes and are beneficial for all people living in Canada. Please provide a brief description to each enquiry below:

- Are sex (biological) considerations taken into account in this study? Please describe how sex will be addressed in your research project. If you answered no, please describe why sex is not applicable to your research project.

- Are gender (sociocultural) considerations taken into account in this study? Please describe how gender will be addressed in your research project. If you answered no, please describe why gender is not applicable to your research project.
- Please describe any targeted research including diverse populations, such as that based on gender, age, Indigenous identity, visible minority identity, or disability.

**Ethical, Social and Legal Aspects** (maximum 1 page)

For the Full Application, applicants will be required to provide documentation, where applicable, demonstrating approvals and compliance with national policies on the ethical use of human subjects, animals, and biohazards. As proof of institutional approvals are required prior to funding release, please outline what applicable policies you will have in place for the Full Application deadline, and timeline for any addendums or additional approvals specific to your proposal that may need to be added after. Additionally, please address any ethical, social, and legal implications that may be raised by the application of neuroscience research findings from your research project.

**CV of the Principal Investigator** (maximum 4 pages):

- The CV should be four pages or less in length, and should be submitted in standard NIH biosketch format (please use the [template](#) provided).
- The Personal Statement should describe why the applicant is well-suited for their role in this project, and indicate the average hours per week that they will devote to this project.

Any publications listed should include the DOI, URL or PMID, where applicable, so reviewers can access them. **Budget**

- A yearly budget must be provided.
- Provide costs for major categories only:
  - Salaries for technical personnel;
  - Stipends of trainees;
  - 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 principal investigator and trainees for collaboration and presentation of results;
  - Publication costs.
- Written budget justification describing the proposed costs in each of the major categories (maximum 1 page). Provide sufficient information to allow reviewers to assess the appropriateness of the cost allocation.

**Letter from former supervisor, mentor, or collaborator:**

- The referee is an established independent researcher who is familiar with the applicant's achievements as a scholar and researcher, and will provide a one-page reference letter on the applicant's behalf. The letter explains the nature of the interaction between the applicant and the former supervisor, and provides specific examples of situations where the applicant demonstrated creativity, initiative, collaboration, and other qualities predictive of a successful researcher. Any text beyond the one-page limit will not be taken into consideration for review.
- It is important to avoid unconscious bias that can arise within letters of recommendation and we encourage reference providers to familiarize themselves with best practices in this regard.
- Reference providers have the option to send recommendation letters directly to Brain Canada at [futureleaders@braincanada.ca](mailto:futureleaders@braincanada.ca) clearly stating the name of the applicant in the subject line and body of the email. All recommendation letters must be received before the Full Application deadline.



### Certification and Signatures

- Signature of the principal investigator is mandatory for the application to be considered.
- Institutional Signatures: Signature of the responsible official of the institution where the principal investigator will conduct the research is required.
- All signatures must be submitted along with the application by the deadline for Full Application.

### Full Application - Review Process

Brain Canada will manage the review process. Applications submitted by the deadline to apply will be reviewed and scored by at least two members of a Review Panel composed of Canadian and International members with broad experience and expertise in the relevant field(s) of brain research. In addition, the application might be reviewed by one or two additional external reviewers depending on the nature of the research.

Based on the reviewer scores, the Review Panel will discuss the top applications in person. The Panel will recommend to Brain Canada the applications that have received a high merit score.

Applicants will receive anonymized written comments from the Review Panel and external reviewers, however applications below a set threshold will not be discussed in detail at the Review Panel meeting and will therefore not receive notes. Brain Canada will not entertain appeals against the assessment of the Review Panel.

### Confidentiality and Ownership

Brain Canada Foundation will keep all materials submitted for this funding opportunity confidential, and only share them with reviewers, Review Panel members, and observers who have signed confidentiality and non-disclosure 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 (IP) arising from the research they fund, and expects that any IP arising from this funding is developed and commercialized according to the policies of the research institutions in which the research is performed.

### Reporting, Communications, and Evaluation

As a condition of continued annual funding of the Future Leaders in Canadian Brain Research Grants Program, Brain Canada requires regular communication with the principal investigator, and annual scientific progress and financial reports, outlining use of funds, project achievements, as well as difficulties encountered and steps taken to overcome them. Brain Canada will share the progress reports with donors supporting the program, at their request.

- **Communications Training Workshop:** As part of Brain Canada's commitment to supporting Future Leaders, we will organize a Communications Training Workshop with the goal of improving the ability to clearly communicate scientific language to a variety of audiences and further developing grant writing skills.
- **Scientific Progress Report:** The principal investigator is required to submit an annual scientific progress report to Brain Canada no later than 30 days after the first anniversary of the project start date, and a final scientific progress report no later than 60 days after the last anniversary date of the project start date.
- **Financial Report:** The principal investigator and the Host Institution are required to provide an annual financial report no later than 60 days after the first and last anniversary of the project start date, including the following:

- Financial statement signed by a financial administrator at the Host Institution, including a list of expenditures for the reporting period as per the categories of expense outlined in the approved budget;
- Financial explanation completed by the principal investigator and providing justification, by category of expense, for any variance of more than 20% from the approved detailed budget. At the end of the first year of the project, if there is an unspent balance of more than 25% of the funds available for the current year, the principal investigator must provide a forecast of expenditures for the next six (6) months with detailed explanation.
- **Post-Grant Report:** In addition, at least one year after the end of the funding period, Brain Canada requires a post-grant report detailing the outcome of the project, including results, impact of the research and its future application, new collaborations, publications, and other significant achievements.

Subsequent instalments will be contingent upon receipt of satisfactory scientific progress and financial reports. Please note that funding may be **suspended** or **terminated** following failure to produce such reports within the required timeframe. Ten percent of the final year's funding will be withheld and released upon receipt of a satisfactory final progress report that describes the current and estimated future outputs and impacts of the research project.

If a progress report lacks detail or indicates that the project is not progressing sufficiently, Brain Canada will communicate with the principal investigator to obtain more information. Brain Canada may offer the possibility for the principal investigator to apply for a no-cost extension up to 12 months that will need to be approved by Brain Canada. Brain Canada may also cancel further funding. More details on the reporting process will be provided to successful grantees.

In order to demonstrate to Canadians the ongoing value of the Canada Brain Research Fund (CBRF), principal investigators must contact Brain Canada in advance of the publication, release, or public presentation of research results obtained with the Future Leaders in Canadian Brain Research grants, so that a press release or other communication materials can be prepared. Embargoes will be strictly respected.

Brain Canada and the financial support of Health Canada and any named donor(s) must be acknowledged in all publications, releases and presentations of research as follows:

***“This Project has been made possible by the Brain Canada Foundation, through the Canada Brain Research Fund, with the financial support of the <donor(s)> and Health Canada”.***

Principal investigators must inform Brain Canada of any upcoming media and communications opportunities in advance and Brain Canada will in turn inform the donor(s) and Health Canada. Principal investigators will provide Brain Canada, donor(s) and Health Canada with the opportunity to be involved

## Contact Information

For more information, or if you have any questions regarding the application process, please contact Brain Canada at [futureleaders@braincanada.ca](mailto:futureleaders@braincanada.ca).