



Brain Canada – Women's Brain Health Initiative

Expansion Grants: Considering Sex and Gender

Request for Applications (RFA)

About Women's Brain Health Initiative

Many disorders associated with brain aging inexplicably affect women, and there has been a lack of research to understand why. Taking sex (biological factors) and gender (social influences) into account is necessary for equality in health and precision medicine.

Women's Brain Health Initiative (WBHI) is a Canadian and U.S. charitable foundation established in 2012 and is solely dedicated to protecting the brain health of women.

WBHI helps protect women's brain health by focusing its resources on research to combat brain-aging disorders that disproportionately affect women, and by creating compelling preventative health programs, grounded in science, so there is a greater understanding of the best ways to prolong our cognitive vitality. To learn more, please visit womensbrainhealth.org.

About Brain Canada

Brain Canada is a national registered charity 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, and 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 more than 300 research projects across the country.

www.braincanada.ca



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Rationale

Health differences between men and women stem from biological and social factors. The distinction between these factors, more specifically between sex and gender, has become increasingly important in science and research due to their influence on one's risk for developing a certain disease as well as one's response to treatment and interaction with the healthcare system. Sex refers to a set of biological attributes (i.e., physical and physiological features) in humans and animals, while gender refers to the socially constructed roles, behaviours, expressions, and identities of individuals. Recent acknowledgment of the importance of including sex and gender considerations in animal and human studies has, in fact, elucidated significant differences between males and females in research areas related to pharmacology and toxicology (i.e., drug dose trials), precision medicine, mental disorders, and brain health, to name a few.

Studies focusing on sex and gender in aging, neurodegenerative disorders, and stroke have also shown that significant differences exist between females and males with regards to etiology, progression, and treatment. Such research allows for a more complete understanding of the underlying factors (i.e., genetic, physiological, and social) contributing to these differences and how they interact with disease pathology. The main goal of this program is to encourage researchers to incorporate sex- and gender-based analysis (SGBA)-driven research hypotheses into their current work, and thus to explore research questions that are in the early and conceptual stages of project development to ultimately support the creation of innovative and sustainable research projects in this area.

Scope

Supported by Brain Canada and Women's Brain Health Initiative (WBHI), the purpose of the **Brain Canada-WBHI Expansion Grants: Considering Sex and Gender Program** is to support the implementation and/or continuation of sex and/or gender considerations in previously funded projects focusing on brain research in the fields of aging, neurodegeneration, or stroke. By providing additional funding to expand existing research projects through the inclusion of sex and/or gender considerations in their study design, we can contribute to overcoming existing barriers in research while creating a foundation for sex and gender considerations to become customary in scientific research.

As an expansion grant, the proposed research project must incorporate sex and/or gender in the aforementioned fields of research in one of two ways: (1) the addition of a sex and/or gender component in projects that did not previously consider these factors or (2) the continuation of efforts targeting the inclusion of sex and/or gender components in ongoing or previously completed research projects. The research topic may span the range of basic-translational-clinical approaches.

For more information on how to incorporate SGBA in health research, please refer to [CIHR's Online Training Modules for Integrating Sex and Gender in Health Research](#).

Grant Details

The Brain Canada-WBHI Expansion Grants: Considering Sex and Gender Program has an overall funding envelope of \$630,000 to support up to six grants of \$105,000 each over two years. Grants are non-renewable.



Equity, diversity, and inclusion

Evidence clearly shows that increasing equity, diversity, and inclusion (EDI) in research environments enhances excellence, innovation, and creativity. Brain Canada and WBHI are committed to excellence through equity, and we encourage applicants of diverse backgrounds to apply to our funding opportunities, which will promote the expression of diverse perspectives, approaches, and experiences, including those of underrepresented groups.

Eligibility

This funding opportunity is open to Brain Canada-funded and WBHI-funded research projects in the fields of aging, neurodegeneration, or stroke.

- The previously funded grant can be ongoing or have an end date in the 2019 calendar year. Grants that ended earlier than January 1st, 2019 are not eligible, even if the project is ongoing and received funding from other agencies.
- Only one application per previously funded project will be considered. Any team member previously involved in the funded project, and meeting the eligibility criteria, can apply as Principal Investigator (PI); however, they must notify the other team members of their intention to apply.
- Teams must include at least two independent investigators from different institutions, or distinct research groups within the same institution.
- Investigators must be conducting research at a Canadian institution for the entire duration of the grant. Academic appointments must have started by the deadline for Full Application submission.
- Investigators 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 trainees (if applicable, as per their institution's policy). Postdoctoral fellows or adjunct faculty are not eligible to apply.
- 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 grants during the application and review process of this competition.
- The Principal Investigator of the project will have to demonstrate the successful completion of the [CIHR's Online Training Module for Integrating Sex and Gender in Health Research](#) most relevant to the type of research being conducted (basic science versus clinical research). A copy of the certificate of completion of the appropriate Module will be requested at the time of submission of the full application.

Use of Funds

The funds must contribute towards the direct costs of the research project for which they were granted 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:

- Salaries for technical personnel;
- Stipends of trainees;



- Maintenance of essential equipment; purchase of equipment that is currently unavailable but essential for the project;
- Supplies and materials;
- Provision of special services and user fees, payments to study participants;
- Travel of principal investigator, team members, and trainees for collaboration and presentation of results;
- Publication fees. Brain Canada encourages open access to research outputs. Results must be publishable in open and public literature at the earliest opportunity. Applicants are encouraged to include article processing charges in order for their article to be published open access.

Ineligible costs

- Salaries and consulting fees of any investigator or researcher holding an academic appointment;
- As this grant 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, and/or address a critical barrier in our understanding for the potential impact of sex and/or gender differences on aging, neurodegeneration, or stroke.

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.

Potential for Impact

The degree to which the proposed expansion of the originally funded research project can contribute to our understanding of the role sex and/or gender differences have in aging and/or the etiology, progression, and treatment of neurodegenerative diseases and stroke.

While accounting for sex and/or gender in the study design is a criterion of this competition, additional consideration for diversity and relevant determinants of health (i.e., sexual orientation, age, race, culture, socioeconomic status, and/or other factors) where applicable can broaden the potential impact of the work to expand knowledge and turn discovery into health.



Timeline

Launch of Request for Applications	June 1 st , 2021
Deadline for Registration	July 5th, 2021 at 16:00 ET
Notification of Decision – Registration Form	July 19 th – July 23 rd , 2021
Access to Grant Management System	
Deadline for Receipt of Full Applications	September 1st, 2021 at 16:00 ET
Notification of Decision – Full Application	November 2021
Funding Begins (earliest date)	December 1 st , 2021

How to Apply

Registration forms are to be submitted via email to programs@braincanada.ca by **16:00 ET on July 5th, 2021**. Submission of a registration form is a requirement to submit the Full Application. Access to Brain Canada's electronic grant management system – SmartSimple – will be made available upon invitation to submit the Full Application. The principal investigator must complete all required application fields in SmartSimple before **16:00 ET on September 1st, 2021**. **There will be no appeal to late submissions.** Brain Canada will acknowledge receipt of the full application within two working days.

Registration Form Components

Please click [here](#) to download the Registration Form.

Please send the completed Registration Form, along with the required attachment(s), as a PDF file to programs@braincanada.ca. The PDF and accompanying attachment(s) will need to be formatted using 12-point Time New Roman or 10-point Arial 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. Registration forms received in any other format, exceeding the word limits, incomplete, or late, will be rejected. **It is the sole responsibility of the applicant to ensure their submission adheres to these requirements and that it is received by 16:00 ET on July 5th, 2021.**

Applicant Information

Brain Canada strongly believes that excellence, innovation, and creativity in Canadian brain research can only be achieved by striving for equity, diversity, and inclusion (EDI) in its research environments. We encourage researchers of diverse backgrounds to apply and to be involved in all aspects of our funding opportunities. We are thus implementing a demographic survey to evaluate the progress of our programs in fostering EDI. Please note that the survey will be sent via email, upon confirmation of the applicant's submission of the Registration Form.

The information collected will not be shared in an identifiable form with the public, external stakeholders (e.g. Health Canada, funding partners), or reviewers, and will have no impact on the evaluation of submitted applications. Survey responses are completely anonymized and aggregated to ensure protection of the identity of any individual. Please see Brain Canada's [Privacy Policy](#).



Summary of Previously Funded Brain Canada or WBHI Project

- Title of the previously funded Brain Canada or WBHI project;
- Project start and end dates from original grant;
- Provide a summary description of the project in the fields of aging, neurodegeneration, or stroke that previously received funding from Brain Canada or WBHI for which the expansion grant application is related to. The summary should include an explanation for how the:
 - Previously funded project meets the eligibility components for the expansion grant;
 - Inclusion of SGBA will build on the overall objectives and projected outcomes of the original proposal.

Research Co-Investigators

- Confirmation of the PI leading the expansion portion of the project;
- List the names, position (title), affiliations, and roles of each member of the research team, including trainees, that will be involved in the expansion project.

Attachments

- Summary of previously funded Brain Canada or WBHI project, as described above;
- If the lead PI applying for this grant was *not* the PI on the previously funded project, a nomination letter (maximum 1-page) from the previous PI must be submitted, with an acknowledgement stating their approval of the new lead.

Optional Information

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

Full Application Components

The Full Application will need to be formatted using 12-point Time New Roman or 10-point Arial 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 (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 4 pages; excluding the timeline and anticipated milestones Gantt Chart, figures, legends, and references, please attach these separately)

- Proposals should solely focus on how the previously funded project will be expanded with the SGBA component and its related research hypotheses. The information included should be structured to best address the criteria for assessment outlined above (Innovation and Originality, Feasibility, and 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;
 - Elaboration on the relationship between the proposed project and the previously funded project;
 - Clearly indicate if there is an overlap between this proposal and any other currently funded projects, excluding the previously funded Brain Canada or WBHI project being considered for this expansion grant.
 3. The work plan, including:
 - The approaches, methods and techniques that will be used and, if applicable, outline the specific contributions of any collaborators involved in the project.
 - A description of the timeline and anticipated milestones. Please include a 1-page timeline and anticipated milestones Gantt Chart (template will be provided) separately to indicate the key intermediate stages in achieving the final objectives, and the projected timeframe 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, if applicable.
 4. The expected outputs from the study, including the expected impact of the knowledge generated.

A copy of the certificate of completion for the [CIHR's Online Training Module for Integrating Sex and Gender in Health Research](#) most relevant to the type of research being conducted (basic science versus clinical research) will be requested at this time.

Diversity Considerations (maximum 500 words)

We ask that applicants include a brief description for how diverse groups, that reflect diversity of culture and conditions, will be considered while taking into account the relevant determinants of health such as sexual orientation, age, race, culture, socioeconomic status, and/ or other factors. If diverse populations and/ or other relevant determinants of health will not be included, please explain why they are not appropriate to the research project.

Institutional Approvals (maximum 500 words)

Proof of institutional approvals are required prior to funding release. As such, 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 the proposal that may need to be added after.

Please provide documentation of any institutional approvals received or requested for the expansion of the previously funded project from your institution, if available at this time.



Biographical Information

List of Research Co-Investigators

- List the names, position (title), affiliations, and roles of each member of the research team, including trainees, that will be involved in the expansion project.

CVs of the Principal Investigator and Co-Investigators (excluding trainees)

- The CV should be four pages or less in length and should be submitted in standard NIH biosketch format (template will be provided);
- Any publications listed should include the DOI, URL or PMID, where applicable, so reviewers can access them.

Budget

A yearly budget must be provided, using the template provided, along with a 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.

Certification and Signatures

- Signature of the principal investigator is mandatory for the application to be considered complete;
- 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.

Confidentiality and Ownership

Brain Canada 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 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.

Review Process

Registration Form

Brain Canada and WBHI will perform a relevance and eligibility review at the Registration stage to identify applications that are relevant to and in alignment with the objectives and research areas of the funding opportunity. More specifically, only those who meet the eligibility criteria and are applying for this expansion grant with a previously Brain Canada-funded or WBHI-funded research project in the fields of aging, neurodegeneration, or stroke will be invited to the Full Application stage. Applicants who do not meet the eligibility criteria will be notified.

Full Application

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/ or International members with broad experience and expertise in the relevant field(s) of brain research. Brain Canada will take into account any conflicts and other relevant considerations to ensure a balanced panel. In addition, the application may be reviewed by one or two additional external reviewers depending on

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the nature of the research. There will be equal weighting of the application components, as described under “Criteria for Assessment”.

Based on the reviewer scores, the Review Panel will discuss the top applications via virtual meetings. The Panel will recommend to Brain Canada and WBHI the applications that have received a high scientific merit score.

Applicants will receive anonymized written comments from the reviewers. Brain Canada will not entertain appeals against the assessment of the Peer Review Panel.

Communications

Recipients of the *Brain Canada-WBHI Expansion Grants: Considering Sex and Gender* must make every effort to attend events organized by Brain Canada and WBHI, and present their projects, if applicable, to demonstrate the implications and importance of their research incorporating SGBA. They may also be requested to participate in other knowledge exchange activities, such as podcasts, interviews, etc.

Contact Information

For more information, or if you have any questions regarding the application process, please contact Brain Canada at programs@braincanada.ca.