

Brain Canada - Cancer Research Society Translational Research Grants Request for Applications (RFA)

About Brain Canada

Brain Canada is a national registered charity that enables and supports excellent, innovative, paradigm-changing brain research in Canada. For more than 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. 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 agreement 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.

www.braincanada.ca

About Cancer Research Society

Founded in 1945, the Cancer Research Society is a national not-for-profit organization whose sole mission is to fund research on all types of cancer, thereby contributing to the advancement of science aimed at preventing, detecting, and treating this disease. The Society supports innovative projects involving creativity and original ideas from the best Canadian researchers in hospitals and universities across Canada, funding over \$340 million in research over the past 75 years. Through its support of basic and environment-cancer research, the Society is working towards improving prevention and treatment of this disease, with the hope of discovering a cure, for the different forms of the disease.

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Rationale

Approximately 55,000 Canadians are living with brain cancer, and it is estimated that 3,100 new cases will have been diagnosed and 2,400 people will have died from brain cancer in 2021. Brain cancer has an especially high prevalence for children, representing 20% of cancers in children under 15 years old. Survivors and their caregivers face an extremely high burden, as does the Canadian health care system; the average patient will make an estimated 52 visits to their health care team in the first-year post-diagnosis. Though treatment options for brain cancer are available, such as surgery, radiation therapy, and chemotherapy, and several novel therapies are currently in the pipeline, more research is required to improve these techniques and discover alternative options. The heterogeneity of brain tumours introduces an additional level of complexity to identifying successful treatments. Even after successful treatment, brain cancer survivors continue to experience long-term side effects, including cognitive, mobility, and mental health problems.

To enhance Canada's capacity in brain cancer research, Brain Canada in partnership with the Cancer Research Society (CRS) is launching a national granting program to fund translational research that advances effective translation and application of knowledge of brain cancer across the expanse of pre-clinical, clinical and health services delivery domains to improve patient outcomes.

Scope

The funding program is intended to provide opportunities for multi-disciplinary collaborations between basic researchers and clinicians to translate basic research to novel approaches for the study, diagnosis and/or treatment of pediatric or adult brain cancer.

Projects should develop new translational solutions aimed at new diagnostics and novel modalities that:

- Advance our understanding of mechanisms that lead to brain cancer;
- Create or test novel technologies, machine learning and artificial intelligence that improve brain cancer diagnosis and treatment;
- Apply innovative solutions to target brain tumors at primary, metastatic and relapsed stage;
- Develop or refine precision medicine solutions to make better treatment decisions for patients.

The team must include the collaborative work of an early career investigator and a senior investigator, in either basic and/or clinical fields.

Grant Details

This competition has an overall envelope of \$2,000,000 to support up to two grants of \$1,000,000 each, over three years.

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 Cancer Research Society are committed to excellence through equity and encourages 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.

Applicants must consider biological variables (e.g., sex, age, etc.) and social determinants of health (i.e., gender, socioeconomic status, etc.) in the research design, where appropriate. We encourage applicants to refer to CIHR's guidance on How to integrate sex and gender into research for more information. Applicants are also encouraged to consider how their proposed research addresses EDI consistent with CIHR's position on EDI, available in the Tri Agency Statement on Equity, Diversity and Inclusion.

Eligibility

- The competition is open to research teams of two or more independent investigators from different institutions.
- The team should nominate a Principal Applicant (Investigator). The designated Principal Investigator will be the individual responsible for all the correspondence with Brain Canada, accountable for the team's research activities (including progress reports) and use of funds.
- The Principal Applicant must hold a PhD, MD, or other allied health professional.
- Investigators must be affiliated with and conducting research at an eligible Canadian institution, as defined by CIHR, for the entire duration of the grant. Academic appointments must have started by the Full Application submission deadline. Investigators must be considered an independent researcher at their institution. Such an individual normally holds the rank of assistant, associate, or full professor; can initiate and direct their own independent lines of research as principal investigator; has full responsibility for running their research group; 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.
- Teams must have at least one early career investigator, either as the Principal Applicant or as a co-investigator. The early career investigator must be within five years of starting their first independent academic appointment by the Full Application submission deadline.
- Applicants may submit only one application as Principal Investigator.
- Applicants must initiate the project on September 1st, 2022, when funding will start. Brain Canada and CRS must receive formal documentation related to ethics approval, as applicable, in order to release their funds.

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. Please note that Brain Canada funds can only be used to support costs of the research project incurred at Canadian institutions.

Eligible costs

The 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;
- Salaries for technical personnel;
- Stipends of trainees that are part of the research team;
- Knowledge Mobilization costs; including, but not limited to, travel of the principal investigator, team members and trainees for collaboration and presentation of results at conferences, publication costs in peer-reviewed and open-access journals or repositories (including article processing charges),

knowledge exchange activities (workshops, brochures, books), knowledge diffusion activities via online technologies (webinars, podcasts), up to \$2500 per year.

Ineligible costs

- Salaries and consulting fees of any investigators (including the principal investigator, co-investigators and collaborators);
- Indirect costs or overhead costs associated with managing the research project;
- Equipment purchase (i.e.: computer, etc.);
- Sabbatical or maternity/parental leave;
- General office supplies.

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

Brain Canada will manage the peer review process and select the peer review panel, in collaboration with CRS. Full Applications will be subjected to confidential external review by experts in the field, including at least one person with lived experience, and evaluated on the following:

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 the diagnosis, treatment and/or prevention of pediatric or adult brain cancer.

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 research has the potential to advance our understanding of brain cancer diagnosis, prevention and treatment in the short and long-term. Projects must demonstrate the potential to have impact outside of the investigator's immediate area of research and include an End-of-Grant Knowledge Mobilization Plan. In addition, incorporation of principles of EDI in the design and execution of research is critically important for broadening the potential impact of the work and the potential for new knowledge to be translated into health benefits to all.

Timeline

Program Launch	February 15, 2022
Deadline for Receipt of the Registration Form	16:00 ET, March 16, 2022
Full Application Submission Deadline	16:00 ET, May 6, 2022
Funding Begins	September 2022

How to Apply

Applicants are invited to submit a Registration Form to programs@braincanada.ca before 16:00 ET on March 16, 2022. Full Application must be submitted using Brain Canada's electronic grant management system – SmartSimple (https://braincanada.smartsimple.ca/s_Login.jsp). There will be no appeal to late submissions. Receipt of the Registration Form and Full Application will be acknowledged by Brain Canada within three working days.

Registration Form Components

The Registration Form is mandatory and will include details on the principal applicant and co-investigator(s), a scientific project summary, keywords, and suggested reviewers. Click [here](#) to access 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 Times 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 Principal Applicant to ensure their submission adheres to these requirements and that it is received by **16:00 ET on March 16, 2022**.

Applicant Information

Brain Canada has implemented a demographic survey to evaluate the progress of 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, etc.), or reviewers, and will have no impact on the evaluation of submitted grant applications. Survey responses are completely anonymized and aggregated to ensure protection of the identity of any individual. Please see Brain Canada's [Privacy Policy](#).

Project Summary

Provide a summary description (maximum one page) of the proposed research project. This summary should include a brief description on the project's:

- Objectives and aims,
 - how the proposed research helps better understand the underlying causes and pathophysiology of brain cancer, and develop improved prevention and treatment approaches for it;
 - the specific brain cancer addressed; and
 - the subpopulation(s) who will benefit from this work.
- Methodology.

Team Member Details

List the names, affiliations, and role of principal applicant and any co-investigator(s) that are part of the team. For early career investigators, please indicate the start date of their first independent academic appointment.

Optional Information

Provide names and contact information for up to three individuals (Canadian and/or International) who are knowledgeable in the 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.

Full Application Components

The Full Application must 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. The Full Application should be aligned with information provided at the Registration stage. Full Application must be submitted using Brain Canada's electronic grant management system – SmartSimple (https://braincanada.smartsimple.ca/s_Login.jsp).

It is the sole responsibility of the Principal 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 36-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 8 pages including figures and legends)

Proposals should include the following information, structured to best address the criteria for assessment outlined above:

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 innovative features of the project;
 - An overview of previous results obtained by team members and others that support the rationale for the project;
 - Any preliminary data that demonstrates that a full-scale project is feasible and ready to be implemented within the three-year grant.
3. The work plan, including:
 - The approaches, methods and techniques that will be used;
 - Timeline and Anticipated Milestones (template will be provided): 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, and how its findings will be disseminated:

- Describe the expected impacts (short and long term) of the results in advancing knowledge and improving the diagnosis, prevention and treatment of brain cancer, broad socioeconomic impacts (if applicable);
- Plans for making the data and knowledge generated throughout the project available to other stakeholders;
- End-of-Grant Knowledge Mobilization Plan; clearly describe plans for knowledge translation, exchange, diffusion and dissemination, and how the project's findings will be adapted and shared with the target audience including broader knowledge users. Applicants are encouraged to visit [CIHR End-of-Grant Knowledge Translation](#) to learn more about examples of such plans.

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, gender, sexual orientation, age, race and socioeconomic status, and other relevant identity factors 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. It is highly encouraged that applicants review the [CIHR Online Training Modules for Integrating Sex and Gender in Health Research](#).

Please provide a brief description to each enquiry below:

- How sex and/or gender will be addressed in the research project.
- Studies proposing to use only one sex or gender should provide strong justification from the scientific literature or preliminary data to support this decision.
- Please describe any targeted research including diverse populations, such as that based on age, Indigenous identity, visible minority identity, or disability.

Relevant ethics approval documentation, or a summary (maximum one page) of the status of submissions for ethics approval.

Team Member Details

CV of the Principal Applicant and team members; 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.

Applicants may submit letters of support from their collaborators, if applicable. Letters should explain the nature of collaboration and outline the specific contributions of the collaborator to the project. A maximum of five letters (one page per letter) is permitted.

Budget

Applicants must upload a yearly budget (template will be provided) and a written budget justification describing the proposed costs in each of the major categories (maximum one page). Provide sufficient information to allow reviewers to assess the appropriateness of the cost allocation.

Certification and Signatures

All the signatures must be submitted along with the application by the deadline for Full Application.

- 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.

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 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

Registration Forms submitted by the deadline will be verified by Brain Canada and Cancer Research Society. Both organizations will perform a relevance review to identify applications that are eligible and in alignment with the objectives of this funding opportunity. All eligible and relevant projects will be invited to submit a Full Application. Applications that are not deemed to be relevant by both organizations will be withdrawn from the competition.

Full Application

Only those invited following a relevance review are eligible to submit a Full Application. Applications submitted by the deadline will be reviewed by at least two external reviewers. Applications may be reviewed by an external reviewer, if needed, depending on the nature of the research.

Based on the reviewer scores, the Peer Review Panel will discuss the top applications via a virtual panel meeting. The Panel will recommend to Brain Canada and Cancer Research Society the applications that have received a high merit score. In the situation of equal scientific merit being observed amongst two or more applications, and only in this case, Brain Canada and Cancer Research Society will consider underrepresented applicants, to be in line with the Equity, Diversity and Inclusion initiatives undertaken by both organizations.

Applicants will receive anonymized written comments from the Reviewers. Applicants whose applications were discussed at the Peer Review Panel meeting will additionally receive Scientific Officer notes from the proceedings.

Communications

Recipients of the Brain Canada - Cancer Research Society Translational Research Grants must make every effort to attend events organized by the two organizations, and present their projects, if applicable, to demonstrate the implications and importance of their research for moving the field of brain cancer forward.



Contact Information

For more information, or if you have any questions regarding the application process, please contact [Brain Canada Programs](#).