

Brain Changes Initiative Award for Traumatic Brain Injury
Special Purpose Grants
Request for Applications (RFA)

About Branch Out Neurological Foundation

The Branch Out Neurological Foundation (BONF) is a not-for-profit organization based in Calgary, Canada. BONF accelerates tech solutions and non-pharmaceutical approaches to neurological disorders. Through BONF's grant program, funding is provided to researchers across Canada for research that fits into the rigorous NeuroCAM (Neuroscience + Complementary & Alternative Modalities) criteria. Since 2010, BONF has raised nearly \$3 million for alternative brain research, funded over one hundred and fourteen (114) research projects, and has expanded their University Grant Program across Canada.

<https://www.branchoutfoundation.com/>

About Brain Changes Initiative

Brain Changes Initiative (BCI) is a not-for-profit organization that funds ground-breaking research to improve the standard of care for Traumatic Brain Injury (TBI) recovery. BCI also provides awareness, advocacy and support for Traumatic Brain Injury survivors; they carry out education, events and programs centred around nonpharmacological approaches to healing the brain. Brain Changes Initiative generates funding for research in TBI through its annual "Brain Gains Run for Neurogenesis", which has contributed 50% of the amount available for this grant.

<https://www.brainchanges.org/>

About Brain Canada Foundation

Brain Canada Foundation (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 (CBRF) is an innovative arrangement between the Government of Canada, through Health Canada, and Brain Canada Foundation, 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. To date, Health Canada has invested over \$145 million through the CBRF, which has been matched by Brain Canada and its donors and partners.

www.braincanada.ca

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Introduction

This year, \$25,000 was raised by Brain Changes Initiative, which is matched by Brain Canada Foundation through the Canada Brain Research Fund, to fund a \$50,000 award through the *Brain Changes Initiative Award for Traumatic Brain Injury* funding opportunity. This opportunity is a partnership between Brain Changes Initiative, Brain Canada Foundation, and Branch Out Neurological Foundation.

Rationale

It is estimated that approximately 165,000 people per year are affected by a traumatic brain injury (TBI) in Canada and that by 2031, TBI is projected to be among the most common neurological conditions affecting Canadians. Because of the high numbers of people experiencing TBI, contrasted with the lack of resources to match the demand for services, people with brain injury are at a high risk of missing a critical window of opportunity for recovery. Brain injury affects every aspect of life, and the negative consequences could be reduced if immediate and effective treatment options were available and accessed. One avenue to help improve individuals' recovery after injury is to empower them with evidence-based information about what they can do in the short-term to help themselves while waiting for other services, and in the longer term as part of adopting a brain recovery-oriented lifestyle.

Despite these realities, there has been minimal investment in research on TBI, and even less on non-pharmacological interventions that can be applied by patients to maximize their recovery. As a result, there is a dearth of knowledge on the effectiveness of two or more non-pharmacological modalities in combination with one another for recovery from moderate-to-severe TBI. In the absence of such research evidence, health care professionals may be hesitant to actively promote various non-pharmacological treatments to their patients and clients.

The *Brain Changes Initiative Award for Traumatic Brain Injury* funding opportunity has the potential to be transformative at a time when it is well recognized that there is a significant funding gap to support research into traumatic brain injury. By providing researchers with funding in this important area, we can help to build much needed foundational knowledge through research excellence to help empower patients and health care professionals for improving the trajectory of recovery for individuals after brain injury.

Scope

The *Brain Changes Initiative Award for Traumatic Brain Injury* 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 understanding of brain recovery after moderate-to-severe traumatic brain injury.

The purpose of this funding opportunity is to improve our understanding of the potential for non-pharmacological interventions to improve brain recovery after injury. Establishing scientific evidence for the effectiveness of combining two or more non-pharmacological interventions as a treatment that can be administered by the injured individual themselves is expected to have an enormous impact for patients who can be empowered by this knowledge.

By adopting a holistic brain health perspective, the focus of the research projects must investigate the interaction of two or more non-pharmacological intervention modalities for TBI recovery in patients with mild TBI (concussion) and/or moderate-to-severe TBI. Non-pharmacological intervention modalities of interest include, but not limited to, physical activity, cognitive activity, mindfulness meditation, brain

healthy nutrition, limiting harmful exposure, restorative sleep, system navigation, nutraceutical, personalized therapies, and new technologies. For more information on these non-pharmacological intervention modalities, please visit these resources from [Branch Out Foundation](#) and [Brain Changes Initiative](#).

It is anticipated that funding will allow the investigator to:

- Investigate the interaction between, and/or benefit(s) of, combining two of more non-pharmacological modalities for improving brain recovery
- Provide evidence to support the (early) implementation of multiple non-pharmacological modalities by people who have experienced moderate-to-severe TBI
- Contribute published research evidence to fill this identified knowledge gap in TBI recovery research
- Provide evidence that can lead to changes, even if small, in health care practice and patient behaviours that could ultimately lead to a change in health outcomes

The following projects **will not** be considered for funding:

- Investigations into pharmacological or surgical treatments for TBI
- Requests for operating grants

Grant Details

The *Brain Changes Initiative Award for Traumatic Brain Injury* is a partnership between Branch Out Neurological Foundation (BONF), Brain Changes Initiative (BCI) and Brain Canada Foundation (BCF). The 2022 funding opportunity has an overall envelope of **\$50,000 CAD** to support one grant over one year.

Equity, Diversity, and Inclusion

Evidence clearly shows that increasing equity, diversity, and inclusion (EDI) in research environments enhances excellence, innovation and creativity. The funding partners 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.

Eligibility

- Applicants must be affiliated with and conducting research at an eligible Canadian institution for the entire duration of the grant. The Principal Investigator 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
- Academic appointments must have started by the Full Application submission deadline
- Research applications may be related but cannot be identical to any other currently funded projects. It is the responsibility of the applicant to notify Branch Out Neurological Foundation immediately should substantial overlap arise from new funding awarded during the application and review process of this competition
- Applicants must submit a Registration Form in order to be eligible to submit a Full Application
- Applicants must initiate the project in September 2023, when funding will start

Use of Funds

Funds must contribute toward the direct costs of the research project for which they were awarded and should be directly attributable to the project or activity being performed. Funds cannot be allocated toward costs and expenses incurred outside of Canada.

Eligible costs

These funds may be used to support any aspect of the research project, including:

- Salaries for technical personnel
- Stipends of trainees
- Supplies and materials
- Maintenance of essential equipment and/or purchase of equipment that is currently unavailable but essential for the project
- Provision of special services and user fees
- Knowledge Mobilization, including, but not limited to, travel of the principal investigator and trainees for 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)

Ineligible costs

- Salaries and consulting fees of any investigator or researcher holding an independent academic appointment
- General office and lab equipment
- Indirect costs or overhead costs associated with managing the research project

Please note that this list is not exhaustive, and Branch Out Neurological Foundation 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 interaction between, and/or benefit(s) of, combining two or more non-pharmacological modalities for improving brain recovery.

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 and, if applicable, co-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 interaction between, and/or benefit(s) of, combining two or more non-pharmacological modalities for improving brain recovery. In addition, incorporation of principles of Equity, Diversity and Inclusion 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.

Key Dates

Launch of Request for Applications	Wednesday December 7, 2022
Deadline for Receipt of Registration Forms	Friday January 20, 2023 5:00pm ET
Deadline for Receipt of Full Applications	Friday April 21, 2023 5:00pm ET
Notification of Decision	Friday June 23, 2023
Funding begins	September 1, 2023

How to Apply

Please note that the *Brain Changes Initiative Award for Traumatic Brain Injury funding* opportunity includes a Registration Form (RF) and a Full Application (FA) stage. Applicants must submit a Registration Form in order to be eligible to submit a Full Application. **It is the sole responsibility of the Principal Investigator to ensure their submission adheres to the requirements and is received by the deadlines outlined above. There will be no appeal to late submissions.** Branch Out Neurological Foundation will acknowledge receipt of the RF and FA within two business days.

Registration Form

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

Please send the completed Registration Form as a PDF file to Branch Out Neurological Foundation at research@branchoutfoundation.com. The PDF and accompanying attachment(s) need to be formatted using 12-point Arial or Georgia font, single-spaced, on a letter-size page with 1" minimum margins. 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.

Summary of Proposed Research Project

- Title of proposal
- Up to 10 key words describing the research project
- Provide a summary description of the proposed research project. This should include a brief summary of the research and its goals, emphasizing the innovative and original features and how it meets the purpose of the funding opportunity (maximum 500 words)
- Language preference (EN, FR)
- Modalities that apply to your proposed research project

Co-Investigator Details

- If applicable, list the names, affiliations, and roles (maximum 50 words) of each co-investigator of the proposed research project

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

Full Application

Submission of a Registration Form is a requirement to submit the Full Application. Access to BONF's electronic grant management system will be made available upon invitation to submit the Full Application. 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 minimum 10-point. 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.

Project Details

- Project title
- Up to 10 key words describing the research project
- Modalities that apply to your proposed research project

Lay Summary (maximum 300 words)

- Suitable for publication and understandable by non-scientists

Background Please describe the current state of research on your topic and the key knowledge gap that motivates this study (maximum 1000 words)

- Please ensure clarity on the following items:
 - The **overall objectives** to be achieved by the end of the funding period
 - The rationale for undertaking the study now and a clear statement of the unique and innovative features of the project

Methodology and Timeline Please describe the procedures that will be used to execute your study and the proposed timeline for the project (maximum 1000 words)

- Please ensure clarity on the following items:
 - The approaches, methods and techniques that will be used to achieve the stated objectives; and if applicable, outline the specific contributions of any collaborators (people from different disciplines, academic institutions, and/or community or industry organizations) involved in the project
 - Methods of data analysis and a description for how they will be performed with appropriate rigour (reliability & validity, trustworthiness)
 - A description of the timeline with key intermediate stages in achieving the overall objectives

Budget Using the template provided, applicants must upload a yearly budget and a written budget justification (maximum 700 words)

- Provide sufficient information to allow reviewers to assess:
 - the proposed costs in each of the major categories.
 - the appropriateness of the cost allocations.

Feasibility Please outline any feasibility concerns for your project, as well as steps taken to address them (maximum 500 words)

Statistical Power (if applicable) Please justify your proposed sample size with a power calculation

References Please list your references for all sections above

Academic Impact Please describe how your project advances the scientific understanding of complex clinical care for TBI and concussion (maximum 300 words)

- Please ensure clarity on the following items:
 - How will the findings from the study advance knowledge on the interaction between, and/or benefit(s) of, combining two or more non-pharmacological modalities for improving brain recovery?

Community Impact Please describe the expected short-term and long-term impacts of the hypothesized results (maximum 300 words)

- Please refer to these main categories of research impacts as applicable:
 - advancing knowledge;
 - changes in practice and/or service delivery;
 - changes in individual behaviour(s);
 - changes in health outcomes;
 - changes in health system capacity and accessibility;
 - policy changes;
 - building capacity;
 - broad socioeconomic impacts.

Knowledge Mobilization Plan Clearly describe the intended target audiences for the findings, plans for dissemination and stakeholder engagement toward achieving research impact (maximum 700 words)

- Please provide details on the following items, as applicable:
 - Journal publications and conference presentations
 - Partnerships with related organizations that can be leveraged to broaden the reach
 - Plans for stakeholder engagement throughout the research project and/or for developing KM product(s)
 - Appropriate budget allocation for planned KM activities

Applicants are encouraged to visit CIHR's [Guide to Knowledge Translation Planning](#) and consult with knowledge translation experts and services within their host institutions if available

Sex, Gender, and Diversity Considerations Throughout the research process, from conceptualization (research hypothesis development) to completion (knowledge translation), the removal of systemic barriers and biases to enact the practice of inclusion ensures that all individuals have equal access to and benefit from the results of the project. Please describe how sex, gender, and other determinants may affect health and must be considered with respect to the proposed project (maximum 500 words)

- Please ensure clarity on the following items:
 - Describe how sex- and gender-based analysis plus (SGBA+) will be taken into account in the research projects. Research projects proposing to use only one sex or gender should provide strong justification from the scientific literature or preliminary data to support this decision. Applicants are encouraged to review CIHR's [Online Training Modules for Integrating Sex and Gender in Health Research](#)
 - Please describe how the research project or its results will include or benefit Indigenous peoples, women, members of the LGBTQ+ community, newcomers, racialized communities,

those that self-identify as low socioeconomic status, people not in employment, education or training, and individuals in both rural and remote areas

Biographical Information

CV of Principal Investigator

- Using the template provided, the Principal Investigator must provide an up-to-date CV as part of their application.

List of Research Co-Investigators

- If applicable, list the names, positions, affiliations, and roles of each co-investigator of the research team as it relates to the proposed project

Certification and Signatures

- Signature of the Principal Investigator;
- Institutional Signature: Signature of the responsible official of the institution where the Principal Investigator will conduct the research

Registration Form

Registration Forms (RF) submitted by the deadline will undergo an administrative check for eligibility. The purpose of the RF is to provide the organizations with an overview of the level of interest within the research community, confirm eligibility of applications, and to help inform the selection of external peer reviewers comprising the Peer Review Panel that will evaluate the Full Applications.

Full Application

Applications submitted by the deadline to apply will be reviewed by at least two members of the Peer Review Panel with expertise in the relevant field(s); conflicts of interest will be taken into consideration when assigning the reviewers.

Based on the reviewer scores, the Peer Review Panel will discuss the top applications. The Panel will recommend to Branch Out Neurological Foundation, Brain Changes Initiative, and Brain Canada the applications that have received a high merit score.

Applicants will receive anonymized written reviewer comments. Applicants whose applications were discussed at the Peer Review Panel meeting will additionally receive Scientific Officer notes from the proceedings. Branch Out Neurological Foundation, Brain Changes Initiative, and Brain Canada will not entertain appeals against the assessment of the Peer Review Panel.

Confidentiality and Ownership

Branch Out Neurological Foundation, Brain Changes Initiative, and 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.

Brain Canada, Branch Out Neurological Foundation and Brain Changes Initiative do 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.

Contact Information

For more information, or if you have any questions regarding the application process, please contact Branch Out Neurological Foundation at research@branchoutfoundation.com