

THE W. GARFIELD WESTON

F O U N D A T I O N

LETTER OF INTENT

Brain Health: 2021 - Lifestyle Approaches and Microbiome Contributions

DEADLINE: **November 25, 2020, 2:00pm ET**

Applicants will be notified of Proposal invitations in February 2021.

This Letter of Intent is an example only. Do not complete this paper application.
Please submit the Letter of Intent online through the Foundation's grant management system. Please visit our website for more details at [our program webpage](#).

Application Number:

Principal Applicant:

Project Title:

Applicant Details

Team Members	Organizations	Primary Contact Information	Role in Project	Estimated Time Spent on Project
1. Salutation:	Primary Organization:	Address:	<input type="checkbox"/> Principal Applicant	%
First Name:	Position Title:	Phone:	<input type="checkbox"/> Co-Applicant	
Last Name:	Other Affiliations/ Position Titles:	Email:	<input type="checkbox"/> Collaborator	
2. Salutation:	Primary Organization:	Address:	<input type="checkbox"/> Principal Applicant	%
First Name:	Position Title:	Phone:	<input type="checkbox"/> Co-Applicant	
Last Name:	Other Affiliations/ Position Titles:	Email:	<input type="checkbox"/> Collaborator	

Note: Projects are not limited to two team members as laid out on this sample application form; projects may include as many team members as needed for the successful execution of the project.

Foundation definitions

A full list of our definitions and FAQs is available on [our website](#).

- **Brain health:** An individual's optimal level of cognitive well-being that is equal to or greater than the normal cognitive aging process and is free of brain diseases/conditions (e.g., neurodegenerative disease of aging).
- **Lifestyle approach:** Behaviour(s), exposure(s) and/or environment(s) that can be modified to 1) optimize and/or maintain brain health, or 2) prevent (e.g. change a person's risk), or treat (e.g., symptomatic relief, disease modification) neurodegenerative diseases of aging as defined by the Foundation.
 - Examples include: diet, physical activity, stress, sleep, social engagement, hearing function, cardiovascular function, weight control, smoking, treatment-responsive depression, metabolic function, or a combination of such factors.
- **Microbiome contribution:** The mechanism (to the extent it is translationally relevant) or degree to which the human microbiome (e.g., oral, skin, gut) may be involved in the pathological process of a neurodegenerative disease of aging as defined by the Foundation (e.g., due to lack or overabundance of a specific species, strain, or metabolic pathway).
- **Implementation Initiatives:** Projects investigating the implementation of a lifestyle approach and/or microbiome contribution. Project may address operational questions (e.g., how to best administer an exercise intervention to delay the transition of people with mild cognitive impairment to Alzheimer's disease.) and/or put findings into practice (e.g., implementing the Mediterranean diet and measuring short- and long-term impact on brain and cognitive function and the potential to prevent/delay onset of Alzheimer's disease).
- **Research Questions:** Hypothesis-based questions that help accelerate the development of lifestyle approaches or microbiome contributions to brain health.
- **Neurodegenerative diseases of aging:** Alzheimer's disease, frontotemporal dementia, dementia with Lewy bodies, multiple system atrophy, Parkinson's disease, progressive supranuclear palsy, vascular contributions to the listed diseases, and prodromes to the listed diseases (e.g., mild cognitive impairment as prodromal to Alzheimer's disease; REM sleep behavior disorder as prodromal to Parkinson's disease).
- **Tool for brain health:** An item that accelerates development or implementation of lifestyle approaches or microbiome contribution for brain health (e.g., wearable technology, digital biomarker, imaging techniques or reagents, biomarkers, and diagnostics.)
 - Tools must have direct impact on the development or implementation of lifestyle approach or microbiome contributions (as defined by the Foundation) for brain health and will be valued only on their ability to do this.
 - Any value the tools contribute to basic research will not be taken into consideration. For example, tools will not be valued for their ability to identify new targets or understand disease mechanisms.
 - Projects covering only the discovery/identification of a tool are out of scope.

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- **Therapeutic:** A pharmacological approach (including small molecules, biologics, cell therapies, probiotics, prebiotics, and vaccines, including drug repositioning and repurposing), medical device, surgical intervention, or magnetic or electrical brain stimulation. Therapeutics can be for symptomatic relief, disease modification, or prevention.). Identification of novel therapeutics is in scope (e.g., high throughput compound screens); however, identification of novel therapeutic targets, including genes implicated in disease, is not in scope.
 - Note about therapeutics:
 - Therapeutics tested in isolation (e.g., monotherapies) are not eligible for funding through this program, at this time, unless they specifically target the microbiome (e.g. probiotics). For this program, therapeutics are only eligible when combined with a lifestyle approach (as defined by the Foundation).
 - Therapeutics for the treatment or prevention of a neurodegenerative disease of aging (as defined by the Foundation) not combined with a lifestyle approach are eligible for funding through the Weston Brain Institute (i.e., Rapid Response, Transformational and/or Early Phase Clinical Trials programs).
 - For any questions regarding the scope of your project, please contact us at 416-967-7822, brainhealth@westonfoundation.ca.
 - **Clinical trial:** Research in which one or more human subjects are prospectively assigned to one or more interventions to evaluate the effects of those interventions on health-related biomedical or behavioral outcomes.
 - **Clinical trial sub-study:** A study investigating a question not addressed by the main trial and which may involve obtaining additional measurements and data collection from a sub-group of all participants from the main trial.
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Application Overview

1. Keywords to describe the proposed work:

2. What is the primary area of interest of the project?

- Lifestyle approach Microbiome contribution Both

3. What type of lifestyle approach or microbiome contribution to brain health is being developed as the primary goal of the project?

*(Please select only one – Research questions or Implementation Initiative, that is being **developed** as the primary goal of the project).*

Research question

- Testing a novel lifestyle approach
- Testing microbiome therapeutic (Proof-of-principle)
- Investigating manipulation of the microbiome
- Understanding the mechanism of action of the microbiome
- Combining a therapeutic with a lifestyle approach
- Development of a tool for brain health research
- Other - *Please specify:*

Implementation Initiative

- Information dissemination
- Development of guidelines
- Development of a tool for brain health implementation
- Administration of a lifestyle/microbiome approach
- Community partnership - *Please specify:*
- Other - *Please specify:*

If a novel lifestyle approach is being developed or implemented or combined with a therapeutic, please specify the type of approach being proposed including the frequency, intensity, type and duration of the intervention. If you are not developing a lifestyle approach, please type "None".

4. If a microbiome therapeutic is being developed as the primary goal of the project, what phase(s) of development does the project cover?

(Select only those that apply.)

- Target validation
- Assay development
- Screening and hits to leads
- Lead optimization
- Safety and toxicity in animals
- Efficacy in animals
- Phase I clinical trial
- Phase II clinical trials
- None
- Other - *Please specify:*

5. Research will have a significant impact in which neurodegenerative disease(s) of aging?

(Select only those that apply. There is no benefit to selecting more diseases.)

- Alzheimer's disease
- Dementia with Lewy bodies
- Frontotemporal dementia
- Multiple system atrophy
- Parkinson's disease
- Progressive supranuclear palsy
- Vascular contributions to the listed diseases (not stroke-mediated vascular disease)
- Prodromes to the listed diseases (please also check the disease(s) to which your condition is a prodrome)

6. Explain how the primary research question or implementation initiative being developed in this project is translational research. How will it accelerate the development of lifestyle approaches and/or understanding of microbiome contributions to maintain brain health or prevent/treat neurodegenerative diseases of aging? For tools, this requires addressing how the tool will have immediate impact on accelerating the development or implementation of lifestyle approaches or accelerate the understanding of microbiome contributions. (*maximum 200 words.*)

7. How will this project promote better brain health among Canadians? Please include the type (e.g., people older than 65 years, people with Parkinson’s disease, *APOEε4* carriers), the number of people potentially impacted and the magnitude of impact (e.g., delay the onset of Alzheimer’s disease dementia by 6 months). (*maximum 150 words.*)

8. What type of lifestyle approach or microbiome contribution to brain health is being developed aside from the primary goal of the project?

(There is no benefit to selecting more items than fewer items. Select “None” if there are no Research questions or implementation initiatives being developed aside from the primary goal of the project.)

None

Research question

- Testing a novel lifestyle approach
- Testing microbiome therapeutic (Proof-of-principle)
- Investigating a novel microbiome contribution
- Understanding the mechanism of action of the microbiome
- Combining a therapeutic with a lifestyle approach
- Development of a tool for brain health research
- Other - *Please specify:*

Implementation Initiative

- Information dissemination
- Development of guidelines
- Development of a tool for brain health implementation
- Administration of a lifestyle/microbiome approach
- Community partnership - *Please specify:*
- Other - *Please specify:*

9. Have you applied to the Weston Brain Institute or the Weston Family Microbiome Initiative previously with similar proposed work? If so, specify the previous LOI title and program applied to. Please briefly explain how this LOI is different than the previously submitted work.
(This information will not be used to assess the application.)

- Yes *Please specify:*
 No

10. Have you applied to other funding agencies with the same proposed work?
(*This information will not be used to assess the application.*)

- Yes *Please specify:*
 No

11. Is this your first time applying for a grant from the Weston Brain Institute or the Weston Family Microbiome Initiative?
(*This information will not be used to assess the application.*)

- Yes
 No

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- 12.** Is this your first application for a research grant specifically in the area of neurodegenerative diseases of aging? Yes
 No
(This information will not be used to assess the application.)

The adjudication committee for this program does not include Canadians. Please list the full names of any individuals located outside of Canada who are competitive with you and therefore should not review your application. Please do not exclude reviewers for other reasons as we are unable to honour those requests. Type "None" if you have no reviewer exclusion.

(This information will not be used to assess the application.)

Project Information

1. Central hypothesis, goals and specific aims: *(maximum 500 words)*

2. Novelty, significance, and impact: How is the project different than what is currently being studied, why is it important that the proposed work be carried out? How will successful completion of this work accelerate the development of lifestyle approaches or microbiome contributions to brain health? *(maximum 200 words)*

3. Experimental approach: Please outline how the proposed work will be carried out and interpreted, including clear go/no-go criteria. Please do not include background information (e.g., pathology, etiology or incidence/prevalence) of neurodegenerative diseases of aging. *(maximum 1300 words)*

4. Preliminary/supporting data: A maximum of 1 page of preliminary data that best supports the application can be uploaded as a PDF file, e.g., figures or tables. Note, preliminary/supporting data is not required. If no preliminary data is provided at the time of submission, it is required that preliminary data be obtained as the first critical go/no-go decision point early on during the course of the proposed project.

List of publications cited in the application: Please include full citations with a complete author list and PMID.