CALL FOR PROPOSALS

McMaster Institute for Research on Aging

Biology of Aging Catalyst Grant

McMaster University has identified aging as a research priority, focusing its research strength on addressing the most pressing questions facing the aging population. In 2017, the University made a transformative investment in this critical area by creating the McMaster Institute for Research on Aging (MIRA). MIRA’s mission is to optimize the health and longevity of the aging population through leading-edge research, education, and stakeholder collaborations, while upholding the values of integrity, excellence, interdisciplinary collaboration, and transparency.

Catalyst Grant Opportunity

The MIRA Biology of Aging Catalyst Grant offers the opportunity to conduct collaborative and interdisciplinary research focused on aging. This grant is intended to stimulate new collaborations and allow McMaster researchers to collect preliminary data to support future proposals for full-scale studies (such as the CIHR Geroscience Demonstration Grants). This funding opportunity seeks to support investigating the aging-related molecular and cellular mechanisms that are candidate risk factors and drivers of common chronic conditions and diseases associated with age.

The aging process represents a major risk factor for the development of numerous chronic diseases and conditions, including neurodegenerative diseases, diabetes, many cancers, cardiovascular disease, arthritis, reproductive aging, and frailty, among others. Furthermore, aging is associated with metabolic changes, which may be associated with age-related diseases. Growing evidence in animal models indicates that interventions at the level of the biological mechanisms of aging could lead to the very early prevention of many chronic diseases associated with aging, and that several biological pillars -- inflammation, adaptation to stress, epigenetics, metabolism, macromolecular damage, proteostasis, and stem cells and regeneration -- may represent the potential drivers of the aging process. The incorporation of basic aging biology, chronic disease and clinical research - a geroscience approach - can identify specific processes of aging and inform future targets for therapeutic interventions to prevent or delay the onset of chronic diseases in aging.

The MIRA Biology of Aging Catalyst Grant is valued at up to $40,000 (over one year) to conduct feasibility/pilot studies or scaling of interventions. These grants require matching funds of at least $5,000 (can include up to $2,500 of in-kind contributions) from alternate sources to support the project. The amount of available funding may increase if additional funding partners participate.

Deadline: October 22nd, 2021, 4 p.m. EST

Themes

MIRA seeks to support research that embraces a systems approach, one that includes end users at the outset of the project, will generate practice- and policy-relevant high-quality evidence, as well as educational methods for determining products, services, and environments that improve the health and quality of life of older adults in Canada and beyond.

Further, the grant seeks to promote the exploration of aging as a dynamic, transactional process through which the biology of the individual and the demands and opportunities within the environment interrelate to influence function- and health-related outcomes.

This funding opportunity may support proposals focusing on:
- Comparative aging approaches, focusing on basic science that is fundamental to our understanding of biological processes involved in aging, for example comparing different aging model systems (e.g., flies, worms, rodents, humans)
- Neurodegenerative disease progression, investigations from basic mechanisms to clinical implications
- Developmental origins of disease, impact of peri-conception/early life experiences on molecular mechanisms of aging and disease risk
- Inspiring novel and innovative clinical and public health interventions for the prevention of chronic diseases

**Submission and selection process**

Application packages must be submitted directly to mirafund@mcmaster.ca. Complete applications must include:

- MIRA Biology of Aging Catalyst Grant application form
- Principal Investigator CV (any format)
- Research proposal (four-page maximum, see requirements below)
- Detailed budget, including matching contributions

MIRA will strike an interdisciplinary review panel who will select the grant recipient(s) based on the quality, feasibility and impact of the research proposal, the value of the interdisciplinary approach, the academic excellence of the applicant team, and the alignment with MIRA’s goals and mandate. If a suitable proposal is not identified based on the feedback of the review committee, the award will not be offered. **Successful applicants are expected to be announced in November 2021.**

**Proposal requirements**

Submissions should include researchers from a minimum of three different McMaster Faculties as meaningful contributors to the project. Meaningful contributions may include: providing insight at the project outset, helping to contextualize the problem or solution, providing technical expertise, knowledge translation and implementation strategy, and academic end-user roles.

External participants, and participation from additional departments/Faculties beyond the stated minimum are welcome. The submission should outline the role of each researcher in the project, and how the integration of the distinct disciplines offers a unique and sustainable approach to study the research question.

User-centred approaches integrate the perspectives of end users from the project outset to ensure that the outcomes are best positioned for successful implementation. Research teams are encouraged to incorporate design thinking or other approaches that include stakeholders or end users in the formulation of the research question, evaluation of results, implementation of the project, and/or execution of knowledge translation strategies. Stakeholders and end users may include, but are not limited to: older adults, clinicians, health care practitioners, industry partners, policy makers, the media, educators and learners, and academics in other disciplines.

A structured research proposal, written in lay terms that are understandable to an interdisciplinary review panel, must include the following sections:

- Background and purpose
- Methods – detailed methods section should be at least one page.
- Anticipated results – including novelty and impact of these findings
- Knowledge translation plan – including plans beyond traditional publications and conferences, if applicable
- Future directions - proposals should also indicate why this phase of the research is needed before applying for major funding and outline the anticipated impact on the research program
f. **References** (may be included as separate sheet, not to be counted within four-page limit)
g. **Budget breakdown** – in table format, including any matching contributions

**COVID-19 Research Restrictions**

As a result of the directives outlined by McMaster’s Vice-President, Research (VPR) in March 2020, many Faculties implemented processes to ensure both new and continuing research would be compliant with the *VPR’s directives*. Please consult with your Faculty Associate Dean, Research (ADR) before submitting your application to be sure that your research complies with current research restrictions. If applicable, consider how your research can be executed safely with an at-risk population if COVID-19 restrictions are still in place when your research commences.

**Reporting requirements**

Research teams will be required to provide annual progress reports in September of each year while the project is still active, a final report detailing the outcomes, impact, and plans for the next stage of the project at the project’s completion and a brief closed-project report for two years following the conclusion of the project. Researchers are also asked to include details on any barriers or challenges that were faced during the execution of the project. From time to time, MIRA will check in with research teams for brief project updates. **Teams are also expected to participate in the annual MIRA & Labarge research showcase in the fall.**

**User-centred approaches/design thinking**

Design thinking is an iterative, user-centred method of solution-focused thinking that starts with a goal and explores multiple, alternative solutions from different perspectives. It is an especially useful method to investigate ill-defined problems where many factors may be unknown. MIRA offers tools to support researchers in the use of these approaches, including resources listed on [MIRA’s Design Thinking webpage](#) and connections to end users and stakeholders.

For further information, please email

mirafund@mcmaster.ca