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Canadian Astroparticle Physics Research Institute

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## **Guidelines for Proof-of-Concept Seed Fund Program**

### **Purpose**

This funding opportunity is targeted to astroparticle physics researchers working in Canada, who are interested in repurposing technology pertinent to their core research for the sake of solving a practical problem that is not directly driven by that research (e.g., adapting a valve controller to provide a low-cost medical gas flow device). The fund is available to any applicant who is, or is supervised by, an eligible grant holder in academia, but it may be used to reimburse a wide range of expenses incurred to develop, re-develop and demonstrate technology towards the solution of a practical problem.

It is not a requirement of the seed fund program that a defined practical problem is successfully addressed by the applicant's technology development and demonstration project. The program requires tangible data-driven progress towards understanding the relevant technology's potential to successfully resolve the identified problem (e.g., successful demonstration of critical components required to address the problem; virtual prototype performance analyses; demonstration of dual-use of a technology in an application adjacent to problem definition, etc.).

Successful applicants will receive an award letter committing the Institute to reimbursement of up to \$20,000 CAN of eligible direct costs incurred for the proposed project. Letters of award are valid for 12 months but may be renewed for an additional six-month period at the discretion of the McDonald Institute administrative staff. The awardee may submit an itemized invoice for incurred expenses every three months until three months beyond the end date of the award.

### **Eligibility**

The lead applicant (proponent) must be a researcher with a focus on astroparticle physics at a Canadian academic institution who is A) managing an institutional research account eligible to hold funds from Tri-Council granting agencies (or currently in receipt of CFREF funding through the McDonald Institute); or B) are working under the direct supervision of a researcher meeting criterion A, above.

The lead applicant is strongly encouraged to meet with the McDonald Institute Business Development Officer prior to applying. The lead applicant (proponent) must be a researcher with a focus on astroparticle physics at a Canadian academic institution who is A) managing an institutional research account eligible to hold funds from Tri-Council granting agencies (or currently in receipt of CFREF funding through the McDonald Institute); or B) are working under the direct supervision of a researcher meeting criterion A, above. Proposals must be aligned with the McDonald Institute's vision and overall goals of advancing the impact of particle astrophysics research in Canada. It is expected that the technology and innovation targets of applications will

derive their value from research data, technological development, technical skills, or professional relationships gained from the work of astroparticle physicists working in Canada.

### **Proposal Submission**

Complete a separate application form for each proof-of-concept project for which you seek funding support. Template completion is mandatory and includes several sections which have assigned length restriction limits. Applicants are encouraged to insert relevant diagrams illustrating their technology's proposed mode of action, project workflows, or other relevant logic. These items will not count towards the specified length of the proposal. The current competition requires a team description, which may also include relevant external partners, suppliers or technology end-users. Applicants are welcome to attach up to three CVs highlighting relevant technical or innovation management experience that may advance the project. Completed applications may be sent to [admin@mcdonaldinstitute.ca](mailto:admin@mcdonaldinstitute.ca) with the subject line "Proof of Concept Seed Fund {Lead Applicant's Last Name}". Calls for Proposals will be issued no less than once per fiscal year and applications will be adjudicated within one month of submission deadlines.

### **Equity, Diversity, and Inclusion**

Equity, Diversity, Inclusion, and Indigenization (EDII) considerations are highly important to the McDonald Institute's innovation strategy. Applicants will be scored on their engagement with diverse technology end users and consideration for consequences of successful technology deployment (e.g., is a mechanical ventilator built to serve the needs of a physically disabled person; will it provide accessible documentation; and have all relevant stakeholders for the user case been consulted and has their input been considered). The following questions should be addressed in the application materials:

- For whom, among problem owners, would the proposed technology solution work? For whom, among problem owners, might it not work and who will you engage in order to find out what realistic steps could mitigate such a gap?
- While solving the identified problem using technology, what other things are likely to happen (relationships altered, materials altered, knowledge altered) in the process?

### **The Team**

Identify the roles and relevant expertise of team members (e.g., inventor, entrepreneur, end-user, advisor, technician, demonstrator, etc.). What knowledge is missing from the team with respect to anticipating the consequences of a successful demonstration (i.e., if successful, who should be engaged after the proof-of-concept demonstration)?

### **Ticket Value**

Successful awardees may invoice the McDonald Institute to recover up to \$20,000 of Proof-of-Concept costs including salary costs of awardee-supervised research personnel (post-doctoral, graduate, undergraduate students, or technical or engineering staff); materials, licences and fees required to fabricate, operate, or demonstrate the proof of concept (including fees for machining work, assembly, software development). Up to 20 per cent of an award is eligible for travel support related to proof-of-concept activities.

**Reimbursement of Back-Dated Expenses**

Documented expenses incurred in the three months prior to an award letter may be reimbursed, provided that the applicant has disclosed such prior spending in their application budget.

**Business Programs and Partnerships Committee**

The Business Programs and Partnerships Committee (BPPC) adjudicates applications and forwards recommendations to the Managing Director. The BPPC has representation innovation and entrepreneurship spaces within partner institutions. Applications will be scored on problem definition, feasibility of work plan and risk management strategy (with emphasis on innovation sustainability and equitable outcomes for stakeholders), along with alignment with the objectives of the McDonald Institute. The scoring matrix is available for review at the end of the application document.