Arthur B. McDonald
Canadian Astroparticle Physics Research Institute

Cross-Disciplinary Internship Application Guidelines 2026

Introduction

The Arthur B. McDonald Canadian Astroparticle Physics Research Institute (McDonald Institute) is committed to fostering innovative, cross-disciplinary research collaborations that advance and mobilize scientific knowledge. To support this mission, the Institute invites undergraduate and graduate students from non-physics disciplines to participate.

The Cross-Disciplinary Internship (CDI) Program

The Cross-Disciplinary Internship Program is designed to enhance the student experience by providing an opportunity for continuing post-secondary students registered in non-physics majors[1] to participate in novel research in astroparticle physics. This program is competitive and open to students across Canada to work with leading astroparticle physics faculty over the course of the summer term (16 weeks between May and August 2026); alternative terms are available with pre-approval. This program provides students with meaningful opportunities to engage in discovery-based learning and to develop research and communications skills.

$12,000 CAD (payable by invoice) will be provided to support salary reimbursement for each awarded student. During the internship, students will implement a co-developed research project that draws upon their unique expertise and skills with a host supervisor. Supervisors (faculty or postdoctoral fellows) will provide resources required to complete the research project (e.g., office/lab space, equipment, consumables, etc.). In addition, a contribution of $500 CAD from the astroparticle physics supervisor towards the intern's professional opportunities (e.g., conference participation such as the Canadian Summer Student Talk Competition (CASST), research training opportunities, other skill enhancing professional activities, etc.) is required. Students and their supervisors will also have access to the McDonald Institute network and professional development training opportunities. Students and supervisors are strongly

1 Non-physics disciplines include, but are not limited to: art, art history, artificial intelligence, biology, Black studies, chemistry, computer sciences, cultural studies, Earth sciences, economics, education, engineering, environmental studies, gender studies, geography, geology, health sciences, history, Indigenous studies, law, mining, neuroscience, policy studies, sociology, etc. This program is not open to undergraduate or graduate students enrolled in physics. For other opportunities, please see the McDonald Institute funding opportunities website.

encouraged to apply for complementary funding from other sources. These funds must be disclosed in a timely manner to the McDonald Institute.

NEW IN 2026 – Current Supervisor Participation (Graduate Students)

Graduate students who are currently supervised at their home institution are encouraged to involve their existing supervisor in the internship planning process. The role of the current supervisor is to support academic continuity, encourage cross-disciplinary integration, and, where appropriate, participate in occasional check-ins or collaborative discussions. This participation is optional and does not replace or duplicate the responsibilities of the host supervisor, but it helps ensure the internship contributes meaningfully to the student's broader program of study.

Updates for Indigenous Cross Disciplinary Applicants (I-CDI)

We welcome postsecondary Indigenous students (First Nations, Inuit, Métis) to apply for this unique summer opportunity to gain hands-on experience and build career skills beyond their current degrees. Applications from Indigenous students will be considered beyond the allotment of awards nationally. For Indigenous students who choose to self-identify, the program also welcomes the involvement of culturally grounded supports, such as Elders, Knowledge Keepers, cultural advisors, and/or Indigenous student services, based on the student's preferences. The Institute will offer support in making these connections possible and provide honoraria of up to $500 CAD (payable by invoice). These supports may complement the guidance provided by the host and current supervisors, contributing to a more holistic and culturally responsive training environment.

Application Procedures:

We seek proposals co-developed by a student and an astroparticle physics supervisor (faculty or postdoctoral fellow) that:

1. Focus on discovery-based learning in astroparticle physics (aligned with the McDonald Institute Research Strategy);
2. Bring new skillsets that are relevant to the astroparticle physics community to enhance the capabilities of a research group/lab;
3. Enhance the student's experience in cross-disciplinary settings and advance future research endeavours, networking, and interdisciplinary activities;
4. Offer unique training/mentorship opportunities for the student;
5. Include considerations for Equity, Diversity, Inclusion, and Indigenization (EDII) in the training environment;
6. Encourage the participation of students from equity deserving groups who are traditionally underrepresented and underserved in physics communities[2];

[2] See Hennessey, Smolina, Hennessey, Tassone, Jay, Ghose, and Hewitt (2025). Canadian physics counts: an exploration of the diverse identities of physics students and professionals in Canada. *Facets* 20: 1-16.

7. Engages cross-disciplinary collaboration from a student studying outside of astroparticle physics (i.e., social sciences such as: anthropology, communication studies, economics, education, geography, history, Indigenous studies, sociology, or other STEM groups such as: biology, chemistry, environmental science, film and media technology, to name a few) and draw from varying levels of post-secondary experiences (i.e., college diploma, undergraduate, or graduate students);
8. Allows students to pursue new opportunities in previously underdeveloped collaboration areas aimed at advancing scientific knowledge and knowledge mobilization in astroparticle physics;
9. Are realistic in their timeline to completion (4 months, pre-approval is required for alternative timeframes);

Following the completion of their research project, successful applicants are requested to provide a professional headshot (photo) of themselves engaged in the research or lab group activities and create knowledge mobilization materials to showcase the outcomes of their research project and the success of their placement. The McDonald Institute encourages a variety of mediums for knowledge mobilization. For example, a student may submit a short article for non-academic audiences describing their experience, a 3-5 minute video, podcast, photo essay, zine, website, etc. focusing on research outcomes and the value of cross-disciplinary collaborations. A knowledge mobilization plan will be required mid-internship. As part of the plan mid-summer, applicants may propose a small budget (up to $1000 CAN) for costs associated with creation and distribution of knowledge mobilization materials but should also seek additional awards to help with dissemination. Submissions will be used for promotional purposes of the McDonald Institute, the supervisor's lab, and the Cross-Disciplinary Internship Program.

Eligibility:

Prospective **students** must have the following qualifications to apply:

- Enrolled in a full- or part-time post-secondary program outside of physics;
- Eligible to work in Canada;
- Returning to studies after the internship is complete;
- Enthusiasm for discovery-based research and intellectual curiosity;
- A strong record of academic achievement;
- Be open to cross-disciplinary knowledge sharing and learning about astroparticle physics.
- (If identifying as an Indigenous student) documentation per host intuition's admission and verification policies.

Prospective **astroparticle physics supervisors** must be either **faculty members** or **postdoctoral fellows** affiliated with the McDonald Institute or have astroparticle research based in Canada. A unique facet of the CDI program are opportunities for postdoctoral fellows to apply as supervisors and gain official supervisory experience. Supervisors must be available for hands-on,

discovery-based learning over the course of the program (i.e., accessible for the duration of the program).

The supervisor must be eligible to hold an institutional account for grants or awards and is responsible to provide office space, lab materials, and a minimum of $500 CAD towards student opportunities (e.g. conference participation, training session, etc.).

How to Apply:

Students must meet with an astroparticle physics faculty researcher at the institution of choice who is willing to be their supervisor for the 2026 internship. Student and faculty members are required to jointly develop a research proposal for submission to the program. If applying as a graduate student, the student's current supervisor should be invited to participate in the process.

All applicants need to contact admin@mcdonaldinstitute.ca for application guidance, in particular for postdoctoral fellows whose institutional accounts may be linked to their formal supervisor. Please use "CDI Program – [LAST NAME]" as the subject line when reaching out. Informing McDonald Institute of your application is **not** a guarantee of acceptance, rather supportive guidance to ensure all eligibility criteria are met and questions about the application process are answered.

Together, the student and faculty member co-fill the application form and submit one document. Please send a single PDF application to admin@mcdonaldinstitute.ca with "**CDI Program – [SUPERVISOR LAST NAME]**" as the subject line by **4pm EST on Friday January 30, 2026**.

Late or incomplete applications will not be reviewed.