

CANADA FOUNDATION FOR INNOVATION

# 2023 Major Science Initiatives Fund

Guidelines for Expert Committees  
July 2021

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## **About the Canada Foundation for Innovation**

The Canada Foundation for Innovation (CFI) makes financial contributions to Canada's universities, colleges, research hospitals and non-profit research organizations to increase their capability to carry out high-quality research.

The CFI invests in infrastructure that researchers need to think big, innovate and push the boundaries of knowledge. It helps institutions to attract and retain the world's top talent, to train the next generation of researchers and to support world-class research that strengthens the economy and improves the quality of life for all Canadians.

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## List of acronyms used

CFI	Canada Foundation for Innovation
EDI	Equity, diversity and inclusion ( <a href="#">See "Equity, diversity and inclusion" on page 6.</a> )
MAC	Multidisciplinary Assessment Committee
MSI Fund	Major Science Initiatives Fund
NOI	Notice of intent (to apply)
O&M	Operating and maintenance
CAMS	CFI Awards Management System

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## Who are these guidelines for?

These guidelines are for members of Expert Committees assessing proposals for the Canada Foundation for Innovation's 2023 Major Science Initiatives Fund competition.

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## An overview of the Major Science Initiatives Fund

In 2010, the Government of Canada mandated the Canada Foundation for Innovation to design a systematic approach to:

- Evaluate and address the operating and maintenance (O&M) needs and scientific performance of research facilities of national importance
- Oversee their governance and management policies and practices.

We launched the Major Science Initiatives (MSI) Fund with the inaugural competition in 2012. Our goal was to help stabilize the operations of the funded facilities by promoting governance and management practices of the highest standards including the development of business plans tailored to the Canadian funding model.

The 2023 MSI Fund competition is the fourth competition launched through this program. Across the previous three competitions, the program has expanded to include a greater range of facilities, both in size and complexity and across all research disciplines. In this competition, the CFI will invest up to \$660 million over six years (April 1, 2023 to March 31, 2029) to cover a portion of the total eligible O&M costs of funded facilities.

Funding provided by the CFI will complement existing O&M resources to address the operational needs of the successful facilities. For more details on the 2023 Major Science Initiatives Fund competition, refer to the [call for proposals](#) on our website.



## How do we define a facility in the context of this fund?

A facility funded through the Major Science Initiatives Fund addresses the needs of a community of Canadian researchers representing a critical mass of users distributed across the country.

This is done by providing shared access to substantial and advanced specialized equipment, services, resources, and scientific and technical personnel.

Whether single-sited, distributed or virtual the facility:

- supports leading-edge research and technology development, and promotes the mobilization of knowledge and transfer of technology to society
- requires resource commitments well beyond the capacity of any one institution
- is specifically identified or recognized as serving pan-Canadian needs and its governance and management structures reflect this mandate.

## Objectives

This competition will provide multiyear funding toward the O&M needs of facilities for the period April 1, 2023 to March 31, 2029.

Funding through this competition is intended to:

- Enable pan-Canadian research communities to undertake world-class research and technology development that lead to social, health, economic or environmental benefits for Canadians
- Enable facilities to operate at an optimal level to ensure the best use of their specialized equipment, services, resources, and technical and scientific personnel
- Promote responsible stewardship through the adoption of best practices in governance and management.

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## The Major Science Initiatives Fund merit-review process

We have a rigorous merit-review process that relies on independent reviewers from across Canada and around the world to ensure that only the very best projects receive funding. This process ensures that proposals are reviewed in a fair, competitive, transparent and in-depth way. The reviewers' time and effort are invaluable to help the CFI's Board of Directors make funding decisions.

For Major Science Initiatives Fund competitions, we use a three-stage merit-review process (Figure 1).

**Figure 1: The Major Science Initiatives Fund merit-review process**



### Stage 1: Multidisciplinary Assessment Committee: Assessment of notices of intent

The Multidisciplinary Assessment Committee (MAC) will meet in late October to assess the notices of intent (NOIs) to determine which facilities meet the eligibility criteria for the competition and should therefore be invited to submit a proposal.

## Stage 2: Expert Committee: Assessment of proposals

Expert Committees assess each proposal against the assessment criteria for the competition. These committees will be tasked with recommending to the MAC those proposals that meet the standard of excellence for the competition and the amount that should be awarded to each proposal. Proposals not recommended for funding by the Expert Committees will not be considered by the MAC.

## Stage 3: Multidisciplinary Assessment Committee: Assessment of proposals

The third stage of review involves assessment by the MAC of the proposals deemed to have met the standard of excellence for the competition by the Expert Committees.

From the proposals recommended by the Expert Committees, the Multidisciplinary Assessment Committee:

- Identifies proposals that best meet the three competition objectives relative to other competing requests
- Establishes the amount that should be awarded to each proposal, within the competition budget
- Reviews requests for transitional funding from facilities funded in the 2017 competition but which are not successful in the current competition at either the Expert Committee or MAC stage
- Provides the final funding recommendations and funding amounts to the CFI Board of Directors.

The CFI Board of Directors will make the final decision on funding for each proposal at its June 2022 meeting. After this meeting, applicants will receive the funding decisions and the Expert Committee and MAC reports, including the names of committee members.

These guidelines are for reviewers taking part in the second stage of this process — the Expert Committee assessment of proposals. Separate guidelines are provided for reviewers taking part in other stages of the process.

## Assessment criteria and standards

Expert Committees will evaluate proposals using the following six assessment criteria that expand on the competition objectives. Each criterion has a standard against which proposals are assessed. In the [call for proposals](#), we told applicants to clearly present how their project meets each assessment criterion and to provide enough information for you to evaluate the project's merits.

**Scientific excellence** — The facility is used by researchers of the highest calibre and enables innovative and leading-edge research that leads to social, health, economic, or environmental benefits to Canadians. The research directions proposed in the facility's strategic plan are forward-looking and reflect the state-of-the-art in the supported fields.

**International competitiveness** — The facility's highly specialized equipment, services, resources, and scientific and technical personnel are internationally competitive and a high priority for the user community. The loss of these capabilities would be a setback to Canada.

**Need for CFI funding** — The requested funding is necessary to allow the facility to fully exploit its scientific and technical capabilities and to operate at an optimal level to address the needs of the user community.

**Operations and user access** — The facility is effectively and efficiently operated and has established mechanisms to ensure optimal use by the user community. Access to limited resources is only granted following an appropriate selection process.

**Excellence in governance** — The facility adopts best practices in governance, including long-term strategic planning, as appropriate to its size and complexity. Its needs are defined over the life of the facility in consultation with the user community.

**Excellence in management** — The facility adopts best practices in the management of its operations and risk mitigation (including cybersecurity) and of its financial, data, and human resources, including equity, diversity and inclusion. The management team has the core competencies required.

Refer to Part 2 of the [call for proposals](#) for the instructions that were provided to applicants to address these criteria.

## Rating scale

The CFI uses a five-point rating scale with statements about the degree to which a proposal meets a competition objective (Figure 2). We encourage you to use the full range of ratings, as appropriate, to assess proposals. Your ratings should be based on the proposal's strengths and weaknesses that you and the Expert Committee have identified.

**Figure 2: The CFI rating scale**



A quick reference guide for the six criteria and the rating scale can be found in [Appendix 1](#).

## Principles of merit-review

Our merit-review process is governed by the underlying principles of integrity and confidentiality. This is to ensure that we continue to have the trust and confidence of the research community, the government and the public. All members must follow our [Conflict of interest and confidentiality agreement](#).

### Integrity

We expect reviewers to maintain the highest standards of ethics and integrity. This means that personal interests must never influence, or be seen to influence, the outcome. You are appointed as an individual, not as an advocate or representative of your discipline(s) or organization. If you have a conflict of interest you should declare it to the CFI. We will determine if the conflict of interest is manageable or if we must withdraw your invitation to be a reviewer.

## Confidentiality

Our review process is confidential. When you agree to review for the CFI, you are bound by our confidentiality agreement. This means that everything we send you is confidential and must be treated as such at all times. You must not discuss or share proposals with anyone. If you do not think you have the expertise to provide a useful review without discussing it with a colleague, you should decline the invitation.

## Avoiding unconscious bias

Merit-review is subjective by nature. Bias can be unconscious and show up in several ways. It could be based on a school of thought or ideas about fundamental versus applied or translational research, areas of research, sub-disciplines or approaches (including emerging ones), size or reputation of a participating institution, or the age, language, identity factors or gender of the applicant. We strongly encourage you to complete the [online training module](#) for preventing unconscious bias in merit-review. This short module was developed by the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada and the Social Sciences and Humanities Research Council. It promotes understanding of unconscious bias, how it can affect merit-review and ways to mitigate bias.

## Official languages

The CFI offers its services in both of Canada's official languages — French and English. Committees must ensure that all proposals in either official language receive a full and detailed review. If you have been assigned a proposal in a language that you cannot understand, contact us immediately and we will reassign the proposal to another reviewer. We normally conduct committee meetings in English.



## Equity, diversity and inclusion

The CFI is committed to the principles of equity, diversity and inclusion. In all our activities, we recognize that a breadth of perspectives, skills and experiences contributes to excellence in research.

**Equity:** We aim to ensure all CFI-eligible institutions have the opportunity to access and benefit from our programs and CFI-funded infrastructure through our well-established, fair and impartial practices.

**Diversity:** We value attributes that allow institutions and their researchers — from any background and from anywhere — to succeed. This includes individual attributes such as gender, language, culture and career stage;

institutional attributes such as size, type and location; and attributes that encompass the full spectrum of research, from basic to applied and across all disciplines.

**Inclusion:** Our culture encourages collaboration, partnership, contributions and engagement among diverse groups of people, institutions and areas of research to maximize the potential of Canada's research ecosystem.

We believe that nurturing an equitable, diverse and inclusive culture is the responsibility of every member of the research ecosystem, including funders, institutions, researchers, experts and reviewers.

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# The CFI Awards Management System

The CFI Awards Management System (CAMS) is a secure online portal that gives reviewers access, in a single location, to the information and documentation they need to fully participate in the review process. CFI staff will create a CAMS account for you once you have accepted to participate in the review process. We manage the access privileges for reviewers to ensure you have the necessary information and documentation to assess the proposals assigned to you. Reviewers who already have a CAMS account will have access to the review materials using their existing CAMS account.

CAMS is divided into dashboards for different types of users. The “Reviewer dashboard” is where you will access the review materials and conduct your preliminary assessments. To access the review materials, click on the committee name. This will bring you to the “Review and documentation” page, where you will find:

- Reference materials: a quick reference guide to the assessment criteria and standards, these guidelines, etc.;
- Meeting information: date, time and agenda;
- Proposal and, if applicable, midterm review report (under the “Project material” tab); and,
- Preliminary assessment form (under the “Your review” tab).

For more on this, please read [Getting started with CAMS: A guide for reviewers \(PDF\)](#).

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## Expert Committee roles and responsibilities

### Chairs

The Chair is responsible for leading the Expert Committee meeting and ensuring that:

- It runs effectively.
- All members’ views are taken into account.
- Proposals are reviewed fairly, consistently and according to the guidelines in this document.
- The committee achieves a consensus rating for each assessment criterion.
- The committee’s discussion is sufficiently detailed and the ratings are sufficiently substantiated so CFI staff can prepare the draft committee report.
- Committee reports accurately reflect the discussion at the meeting.

### Members

Expert Committee members are selected for their scientific leadership and expertise in operating and managing comparable facilities in Canada and internationally. Members will assess the strengths and weaknesses of proposals in relation to the assessment criteria for this competition. For facilities funded through the 2017 competition, members will also assess how well each facility was able to maximize its scientific and technological capabilities as a result of the MSI funding awarded since the 2019 midterm review, and whether it satisfactorily addressed any concerns and areas for improvement identified by the midterm review committees.

Members will submit their preliminary assessment of the proposal to the CFI before the committee meeting. After discussing the proposal during the meeting, the members will work to reach a consensus rating for each assessment criterion. These committees will recommend to the Multidisciplinary Assessment Committee those proposals that meet the standard of excellence for the competition. They will also recommend the amount to be awarded to each facility.

## CFI staff

At least one CFI staff member will attend the meeting to help the Chair, take notes and clarify CFI policies and processes. CFI staff will draft the committee report for the proposal. The committee Chair will review and approve the report to ensure it accurately reflects the committee's discussion.

## Observers

Sometimes, additional CFI staff attend committee meetings. Also, to coordinate the review processes and avoid duplication of efforts, we may invite representatives of the relevant funding partners to observe Expert Committee meetings.

## Meeting with applicants

Each Expert Committee will hold one or more virtual face-to-face meetings with representatives of the facility, its governing body and administrative institution with the purpose of gaining a better understanding of the operational realities, features, and outcomes and impacts of the facility. The insight gained from these discussions will assist the Expert Committee in its evaluation of the established assessment criteria.

The meeting will typically involve at least two distinct sessions. The first will focus on scientific excellence and benefits to Canadians, as well as the facility's capabilities and international competitiveness. The second session will focus on the facility's operations, governance and management, as well as the need for CFI funding.

Representatives will typically include the facility's CEO or Director, the Chair of its Board of Directors, its financial officer, its scientific director and a representative from the administrative institution.

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## Meeting logistics

### Timeline and location

Expert Committee meetings will take place between December 2021 and April 2022. Table 1 summarizes the key activities and timelines for the 2023 MSI Fund competition.

Expert Committees will typically meet by videoconference over multiple sessions to accommodate members' schedules (see Appendix 2 for a sample agenda). We will provide instructions for connecting to the videoconferencing platform in advance of the meetings.

**Table 1: Summary of key activities and timelines for Expert Committees**

Timeline	Activities
Before the meeting	Reviewers do the following: <ul style="list-style-type: none"><li>• Activate their account and log in to the CFI Awards Management System (<a href="#">CAMS</a>).</li><li>• Access the review materials on the "Reviewer" dashboard.</li><li>• Complete the recommended <a href="#">unconscious bias training</a>.</li><li>• Evaluate the proposal against the assessment criteria.</li><li>• Provide a preliminary assessment to the CFI at least three days before the meeting.</li></ul>
At the meeting	The Chair guides the committee in reviewing the proposal and in the meetings with the applicants. The committee discusses the strengths and weaknesses for each assessment criterion, which will inform the Expert Committee report. The committee reaches consensus on a rating for each assessment criterion and an overall funding recommendation for the proposal.
After the meeting	CFI staff draft the Expert Committee report. The Chair reviews and approves the report.

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# How to conduct your review

## Step 1 — Before the meeting

### Attend a briefing session

CFI staff will schedule a quick briefing session with you to go over the review material and discuss the review process in advance of the meeting. The session may be conducted individually or with all members at once, depending on members' availability.

### Access the review materials

After you agree to be a reviewer, and soon after the proposal deadline, you will receive an email to activate your account on the [CFI Awards Management System \(CAMS\)](#). If you already have an account, you will receive an email to notify you when the review materials are available in CAMS. If you need additional information about how to access and navigate CAMS, see the [guide for reviewers](#) on our website.

### Conduct your preliminary assessment

The materials provided must be the sole information source upon which you base your review. Applicants must demonstrate in the proposal how the project satisfies each assessment criterion and justify the need for the requested funding.

You will rate the degree to which the proposal meets the assessment criteria based on the Assessment criteria and standards and using the Rating scale for Expert Committees. You must also support these ratings by identifying the strengths and weaknesses of the proposal based on the assessment criteria. If you have identified any weaknesses in the proposal, you must take these into account in your rating.

In CAMS, select your rating for each assessment criterion from a drop-down menu and input the strengths and weaknesses in the relevant comments section. In preparation for the face-to-face meetings with the applicants, include in your comments any questions that you wish to have answered.

Your preliminary assessment under the "Need for CFI funding" section of the report should consider the appropriateness of the budget and cost estimates. This budget evaluation should identify any expenses that you feel are not adequately justified for the planned activities.

Please complete your preliminary assessments at least three days before the committee meeting. Preliminary assessments will not be provided to applicants. They will only be used to help us identify areas for discussion at the meeting and inform Expert Committee reports.

## Step 2 — At the meeting

### Discussing proposals

At the meeting, members will share their preliminary assessment of the proposal. The discussion will then focus on the criteria where there are significant discrepancies among the members' preliminary assessments. For facilities funded through the 2017 competition, members will also assess how well each facility was able to maximize its scientific and technological capabilities as a result of the MSI funding awarded since the 2019 midterm review, and whether it satisfactorily addressed any concerns and areas for improvement identified by the midterm review committees.

## Meeting with applicants

Before the face-to-face meetings with applicants, Expert Committee members will identify key issues that may need further clarity and prepare questions to ask the applicants. After meeting with the applicants, the committee will resume in camera to reach consensus on ratings, strengths and weaknesses relative to the assessment criteria.

## Reaching consensus

Ultimately, the committee must reach a consensus on the criteria ratings — the degree to which the proposal satisfies each criterion standard — as well as the strengths and weaknesses for each assessment criterion. The comments must substantiate the consensus assessment ratings.

Expert committees are also tasked with recommending to the MAC proposals that meet the standard of excellence for the competition and recommending the amount of funding that should be awarded. Proposals not recommended for funding by the expert committees will not be considered by the MAC.

## Step 3 — After the meeting

### Drafting committee reports

Expert Committee members are not required to draft committee reports. CFI staff will draft a report that summarizes the committee's consensus ratings and comments.

The Chair will review the report and confirm that it accurately reflects the committee's discussions.

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## Funding decisions

The CFI Board of Directors will make the final decision on funding for each proposal in June 2022. Shortly thereafter, applicant institutions will be informed of the funding decisions and will receive the review materials for their proposals as well as the names and affiliations of the members of the Expert Committees and Multidisciplinary Assessment Committee.

Please accept our sincere appreciation for your time and invaluable contribution to the 2023 Major Science Initiatives Fund!

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## Appendix 1: Assessment criteria quick reference guide



The proposal satisfies and significantly exceeds the criterion.



The proposal satisfies the criterion.



The proposal satisfies the criterion, but has a few minor weaknesses.



The proposal partially satisfies the criterion and has some significant weaknesses.



The proposal does not satisfy the criterion due to major weaknesses.

**Scientific excellence** — The facility is used by researchers of the highest calibre and enables innovative and leading-edge research that leads to social, health, economic or environmental benefits to Canadians. The research directions proposed in the facility's strategic plan are forward-looking and reflect the state-of-the-art in the supported fields.

**International competitiveness** — The facility's highly specialized equipment, services, resources, and scientific and technical personnel are internationally competitive and a high priority for the user community. The loss of these capabilities would be a setback to Canada.

**Need for CFI funding** — The requested funding is necessary to allow the facility to fully exploit its scientific and technical capabilities and to operate at an optimal level to address the needs of the user community.

**Operations and user access** — The facility is effectively and efficiently operated and has established mechanisms to ensure optimal use by the user community. Access to limited resources is only granted following an appropriate selection process.

**Excellence in governance** — The facility adopts best practices in governance, including long-term strategic planning, as appropriate to its size and complexity. Its needs are defined over the life of the facility in consultation with the user community.

**Excellence in management** — The facility adopts best practices in the management of its operations and risk mitigation (including cybersecurity) and of its financial, data, and human resources, including equity, diversity and inclusion. The management team has the core competencies required.

# Appendix 2: 2023 Major Science Initiatives Fund Expert Committee sample agenda

Please note that the agenda may be tailored to the size and complexity of the facility being reviewed.

## Videoconference details

**Link:** https://...

### Date and time:

Briefing: Month Day, YYYY — 1 p.m. to 2 p.m. EST (UTC-5)  
 Session 1: Month Day, YYYY — 10:30 a.m. to 1:30 p.m. EST (UTC-5)  
 Session 2: Month Day, YYYY — 10:30 a.m. to 1:30 p.m. EST (UTC-5)  
 Session 3: Month Day, YYYY — 10:30 a.m. to 1:30 p.m. EST (UTC-5)

Alternate ways to join (phone numbers etc.)

**For technical support, contact:** Technical help contact info

## Membership

Chair	Members	
First Last <i>Affiliation</i> Country	First Last <i>Affiliation</i> Country	First Last <i>Affiliation</i> Country
<b>CFI</b>		
First Last Senior Programs Officer email.address@innovation.ca	First Last <i>Affiliation</i> Country	First Last <i>Affiliation</i> Country

Committee members are asked to read the following supporting document before the meeting (available on the [CFI Reviewer Portal](#)):

- Guidelines for Expert Committees members
- Proposal

## Briefing

**DayOfWeek, Month Day, YYYY**

1 p.m. – 2 p.m. Introductions and committee briefing

## Session 1

**DayOfWeek, Month Day, YYYY**

- 10:30 a.m. Committee discussion/preparation of questions for both session 1 and session 2 face-to-face meetings
- 11:30 a.m. Face-to-face meeting – **Scientific excellence and international competitiveness**
  - 10 min *Presentation by facility/institutional representatives*
  - 50 min *Question period*
- 12:30 p.m. Break
- 12:45 p.m. Committee deliberations for the Scientific excellence and International competitiveness criteria
- 1:30 p.m. Committee adjourns

## Session 2

**DayOfWeek, Month Day, YYYY**

- 10:30 a.m. Committee preparation for face-to-face session
- 10:45 a.m. Face-to-face meeting – **Need for the CFI funding, Operations and user access and Excellence in management**
  - 10 min *Presentation by facility/institutional representatives*
  - 50 min *Question period*
- 11:45 p.m. Break
- 12:15 p.m. Committee deliberations for the Need for the CFI funding (including budget), Operations and user access and Excellence in management criteria
- 1:30 p.m. Committee adjourns

## Session 3

**DayOfWeek, Month Day, YYYY**

- 10:30 a.m. Committee preparation for meeting with the Chair of the Board of Directors of the facility
- 11:00 a.m. Meeting with the Facility's Board Chair – **Excellence in governance**
- 11:30 a.m. Committee deliberations for the Excellence in governance criterion
- 12:00 p.m. Break
- 12:30 p.m. Committee report outline and funding recommendation
- 1:15 p.m. Wrap up and feedback on the process
- 1:30 p.m. Committee adjournment

## Facility representatives

First Last  
*Position/Role*  
Facility

First Last  
*Position/Role*  
Facility

First Last  
*Position/Role*  
Facility

First Last  
*Position/Role*  
Facility

First Last  
*Chair of the Facility's Board of Directors*  
Affiliation