



Catalyst Research Grants Review Guidelines and Criteria

Revised November 2022

Review Guidelines and Criteria: Catalyst Research Grants

On behalf of the MS Society of Canada (MSSC), we would like to thank you for agreeing to serve as a reviewer. The success of the independent review process is made possible by dedicated people like you who generously give their time and expertise. Your efforts are greatly appreciated by the MSSC and our stakeholders.

COMPETITION OVERVIEW

The primary aim of the MSSC is to stimulate and support research in multiple sclerosis (MS). The MSSC welcomes Catalyst Research Grant applications that are foundational as well as applied studies, non-clinical or clinical in nature, and those including projects in patient management, care and rehabilitation. The value of a Catalyst Research Grant is up to \$50,000 for up to two years.

The objectives of the Catalyst Research grant program are to enable researchers to test novel and high-potential MS research ideas, collect key preliminary data to support further research, test the feasibility of a study design, concept, or intervention on a small scale, and to provide researchers a trajectory to larger grant competitions.

Based on the nature of the research, applicants can apply to one of following two streams:

- **Biomedical Research Stream** supports research which uncovers the biological, pathological, and mechanistic aspects of MS, and provides foundational knowledge about the development, progression, prevention and treatment of MS disease. For example, studies can involve in vitro, animal, and/or human models.
- **Clinical and Population Health Research Stream** supports **clinical research** with the goal of improving diagnosis, treatment, or the health and quality of life of individuals with MS; health services research; encompasses research on, or for the treatment of, people affected by MS; supports **population health research** that aims to understand the complex, biological, social, cultural and environmental interactions that determine the health of individuals and populations.

COMMITTEE ROLES:

The composition of the independent review committee will include the following:

- **Chair** oversees the review process and acts as a facilitator to establish a positive, constructive, fair-minded environment in which all applications under review are evaluated. The Chair is responsible for providing a report to the Medical Advisory Committee (MAC) outlining the outcomes of the review meeting.
- **Scientific Officer (SO)** supports the Chair during the review meeting; as such, the SO will not review applications. The SO is responsible for taking clear and concise notes that summarize the committee's discussion for each application which will be provided along

with other review comments to the applicant.

- **Scientific Reviewers** are non-conflicted researchers recruited with specific expertise to provide a critical assessment and constructive written feedback based on MSSC review criteria for applications assigned to them. Scientific Reviewers will participate in the review meeting to discuss and provide a quantitative assessment (score) for all non-conflicted applications.
- **Community Representatives** are people affected by MS who are invited to participate in the review meetings. The Community Representatives evaluate, through a non-scientific lens, the comprehensibility of the lay documents and discuss the relevance of the research to the MS community, and potential of the research to translate into meaningful impacts that will improve quality of life for people living with MS. Community Representatives will provide an enthusiasm rating which provides an indication of relevance to MS, potential impact, and comprehensibility of non-conflicted applications to a lay audience.

THE REVIEW PROCESS

The principles that guide the independent review at the MSSC are confidentiality and fairness.

The evaluation of applications for funding has two steps: (1) an **in-depth review** by at least two Scientific Reviewers (primary, secondary and possibly external, if required) and one Community Representative to produce written evaluations, which is done at home and (2) a **review committee meeting** to discuss and assess the applications, from which the MSSC generates a rank-order priority list to inform funding recommendations.

Review of the applications will be based on the review criteria outlined below, and will be submitted by the committee via the MSSC's online grants platform [ProposalCentral](#).

After considering the review criteria, **Scientific Reviewers** will prepare written comments for each application to which they have been assigned as primary or secondary reviewer and provide an overall preliminary score using the scoring chart below. This score may be used by the Chair of the review committee for streamlining purposes, if needed. The Chair and scientific officer do not assign preliminary scores. These preliminary scores will not be used for ranking purposes, but provide the MSSC and the committee Chair with an indication of the quality of the proposals submitted. They also serve as benchmarks for determining which applications will be streamlined. Any application that receives a score below 3.5 from both the primary and secondary reviewers, will be considered for streamlining, and streamlined applications will not to be discussed at the review meeting. Scientific Reviewers will be asked to provide a final score on the day of the review meeting based on a consensus score.

The **Community Representatives** will provide written comments from a non-scientific perspective, and are asked to review relevant sections of all assigned applications (i.e. Lay Summary, Impact and Relevance to MS sections). The Community Representative will assess the sections based on comprehensibility, impact and relevance to MS, and a level of enthusiasm or

overall score will be provided based on the specific review criteria provided.

The committee will convene for a review meeting which will go as follows:

- The Community Representative will state their enthusiasm level or overall score and then discuss their assessment, highlighting any strengths or weakness of the lay documents and describing their enthusiasm for the application.
- The primary and secondary Scientific Reviewers will state their preliminary scores.
- The primary Scientific Reviewer will present their assessment, describing the strengths and weaknesses of the application as a whole.
- The secondary Scientific Reviewer will follow, concentrating on points of agreement or disagreement and elaborating points not addressed by the primary reviewer.

The Chair will then lead the committee into an overall discussion of the application. The Chair will then seek a **consensus score** from the primary and secondary Scientific Reviewers. The Chair will engage the Community Representative to determine their **final enthusiasm level** following discussion. Non-conflicted scientific committee members, excluding the Chair and Scientific Officer, will cast an individual confidential score within ± 0.5 of the consensus rating. The final score assigned to the proposal will be the average of these confidential scores. At the same time, the Community Representatives will also be requested to provide a final overall level of enthusiasm. A rank-order priority list will be generated of all applications, which will be used to make funding recommendations.

The committee's recommendation will be brought forward to the Medical Advisory Committee that will provide input/advice to the Board of Directors. Final funding decisions are approved by the Multiple Sclerosis Society of Canada's Board of Directors.

REVIEW CRITERIA

The MSSC will transmit SO notes and detailed reviewer comments from each reviewer to the applicants whose proposals they reviewed. Please ensure your review is clear, concise, constructive and uses objective and non-inflammatory language that includes rationale for your comments, suggestions and score. Constructive advice from the Scientific Reviewers will allow the applicant to improve the quality and efficiency of the proposed research, while feedback from the Community Representatives will allow the applicant to potentially improve the lay documents and better articulate the impact and relevance of the proposed research. In your written comments, please do not identify yourself to ensure the confidentiality of the research process.

Scientific Reviewer:

In your written assessment, provide a brief synopsis of the funding application, an assessment of its strengths and weaknesses, and comment on issues that should be flagged. Use the following instructions and questions to guide your written assessment.

A. Research approach:

Please provide a concise description of the research proposal, including the purpose of the research, hypothesis to be tested and questions to be answered, objectives to be achieved and proposed approach/procedures.

Discuss the strengths and weaknesses of the proposal by reflecting on the following questions:

- Are the research questions clear?
- Are the aims logical?
- Is the literature review comprehensive and unbiased, and is it relevant to the study design/research plan? Is the approach/methodology valid and adequately justified?
- Are the procedures feasible?

B. Novelty and originality of the proposal:

- Is this a novel idea that has not been previously explored to a great extent for MS (is this truly a Catalyst Research project)?
- Does the research project have the potential to create new knowledge and/or test a new approach, intervention, or concept that will advance the MS field? Will the data generated from the project provide new lines of questioning and open new avenues of research in MS?

C. Impact and relevance of the proposed research:

- Does the proposal address a significant need or gap in MS research and have the potential to make a significant contribution to the improvement of quality of life for people affected by MS?
- Does the proposal have an appropriate plan for research dissemination and exchange of findings?
- Does the proposal provide a strong foundation for further research?

D. Investigator(s):

- Discuss the capability and background of the applicant(s), such as qualifications, expertise and experience in the proposed area of research, scientific productivity, and ability to disseminate research findings.
- Discuss the appropriateness of the team of applicants (if applicable) to carry out the proposed research, in terms of complementarity of expertise and synergism.
- Identify any unusual aspects concerning personnel who will work on the project.

E. Resources and Environment:

- Comment on the availability and accessibility of personnel, facilities and infrastructure required to conduct the research.

- Discuss special aspects of facilities, equipment and extent of departmental and interdepartmental cooperation.
- Comment on the availability of special animal models, tissue preparation tools, clinical case materials, etc., as appropriate.
- Assess the suitability of the environment to conduct the proposed research and for the training of personnel.

F. Budget:

- Is the proposed budget realistic in terms of the proposed aims, methodology, and anticipated timelines?
- Are all items justified on the basis of the approach, procedures and analysis of data proposed?
- Itemize and provide specific reasons for reductions in the time or amount recommended, if applicable.
- For supplementary requests, comment on supplementary budget in relation to the already approved parent budget.
- All budget items must be justified and comply with the MSSC [Catalyst Research Grant policies](#).

Overall Preliminary Score for Scientific Reviewers:

Assigned Scientific Reviewers must provide a preliminary score using the scoring chart below. This preliminary score will not be used for ranking purposes, and reviewers will be asked to provide a final score on the day of the review meeting based on a consensus score.

SCIENTIFIC SCORING CHART

Descriptor	Range	Outcome
Outstanding	4.5 – 4.9	The application excels in most or all relevant aspects. Any shortcomings are minimal. If an application is innovative, fills an important critical gap in knowledge, has very few flaws, and the investigators are well poised to perform the research and have a very productive track record.
Excellent	4.0 – 4.4	The application excels in many relevant aspects, and reasonably addresses all others. Certain improvements are possible. If an application is very interesting, makes important advances, the team is excellent, but there are some minor limitations that need to be addressed or a clear description of

		impact is missing.
Good	3.5 – 3.9	The application excels in some relevant aspects, and reasonably addresses all others. Some improvements are necessary. If an application is compelling, but has limited scope or impact, and/or raised some concerns about the feasibility and/or team; or in other words, the grant has strengths, but needs work.
Fair	3.0 – 3.4	The application broadly addresses relevant aspects. Major revisions are required. If an application has merits but also has many limitations. Will not be funded.
Poor	0.0 – 2.9	The application fails to provide convincing information and/or has serious inherent flaws or gaps. If an application has significant flaws and is not ready to be funded. Will not be funded.

Community Representative:

Please read the following non-technical sections of the applications that have been assigned to you:

- **Lay Summary**
- **Impact and Relevance to MS**

Consider the following questions in your written assessment:

A. Impact and Relevance for People Affected by MS:

- What are the goals of the proposed research study, and why is the study important to people affected by MS?
- Does the application have the potential to make a lasting influence on the health management, quality of life and/or quality of clinical care among people affected by MS?
- In your view, does the application address a critical gap in knowledge or barriers to progress in the field of MS?
- Does the application bring hope and excitement to you as a person who is affected by MS, and will the outcomes of the research resound with the MS community in a positive way?
- Upon reading the lay documents, is it clear that the application will have an impact on the lives of those affected by MS? If not, how could the impact of this study be improved?

B. Language and Accessibility:

- Does the applicant use clear, appropriate language to explain how the findings of their project will benefit people affected by MS?
- Does the applicant clearly explain background information and key concepts that form the foundation for the study? If not, what is missing or what can be improved?
- What feedback can you provide the applicant that would assist them in making the lay documents more understandable and relevant to the general public?

Overall Enthusiasm Level for Community Representatives:

Please provide an enthusiasm level based on your overall impression of the above criteria and the chart below. You will be asked to provide a final enthusiasm level the day of the review meeting following discussion of the application by the committee

COMMUNITY REPRESENTATIVE OVERALL ENTHUSIASM LEVEL CHART

Overall Enthusiasm Level	Description
3 - High	Highly relevant with potential to impact health and quality of life for people affected by MS; lay documents are well written using clear, understandable, and engaging language. No to minor revisions are needed to lay documents.
2.5 - Medium/High	Moderate or highly relevant with potential to impact health and quality of life for people affected by MS; lay documents are well written using clear and understandable language. No to minor revisions needed to lay documents.
2- Medium	Good to moderate relevance with potential to impact health and quality of life for people affected by MS; lay documents are written adequately in terms of using clear and engaging language, but still uses some technical language. Moderate revisions may be needed to lay documents.
1.5 - Medium/Low	Little relevance with little potential for impact for people affected by MS; lay documents use too much technical language and require revisions.
1 - Low	Low to no relevance with low to no potential for impact for people affected by MS; lay documents are poorly written and excessive use of technical language. Requires major revisions to lay documents.

CONFLICT OF INTEREST

Scientific Reviewers and Community Representatives shall abide at all times by the Society's *Conflict of Interest Guidelines* and *Privacy and Confidentiality Policy*.

Prior to being given access to the applications for review, Scientific Reviewers and Community Representatives will be required to review, sign and submit MSSC's Confidentiality and Conflict of Interest Policy form. Reviewers will also declare conflicts of

interest with applications. In instances where a Scientific Reviewer or Community Representative has declared a conflict of interest, he or she will not be allowed to review or comment on the applications, and will be excused from participating in the review discussion or scoring of the applications.

UNCONSCIOUS BIAS TRAINING

The Chair and Scientific Reviewers are required to complete the Canadian Institutes of Health Research (CIHR) [unconscious bias training module](#). This training module explains the various forms of unconscious bias and provides useful strategies to detect and mitigate unconscious bias in peer-review activities. Additional useful tips for reducing unconscious bias in the review process can also be found [here](#).

REVIEWING APPLICATIONS IN PROPOSALCENTRAL

The review process in [ProposalCentral](#) is comprised of two steps: (1) Scientific Reviewers and Community Representatives will initially conduct a brief review of all submitted applications and declare potential conflicts of interest. Additionally, Scientific Reviewers are required to indicate their level of expertise based on the brief description of the proposed project (i.e. High, Medium, or Low Expertise). (2) Based on this initial input, Scientific Reviewers and Community Representatives will be assigned to specific applications. The review committee will be asked to provide in-depth review and written evaluations of their assigned applications in ProposalCentral.

PROPOSALCENTRAL INSTRUCTIONS GUIDE

Scientific Reviewer:

Please refer to the following steps below, or watch the [instructions video](#).

1. Following submission of conflicts of interest and expertise level, you will be assigned specific applications to evaluate. You can access the applications in the 'Assigned Applications' section.
2. The 'App Details' column will display the following links:
 - App details – will display each section of the online application
 - All Attachments – will include a complete PDF copy of the online application, including all upload attachments. We recommend Scientific Reviewers to primarily use this PDF copy when conducting the in-depth review.
3. The 'Submit Critiques' column will display your role as a reviewer (Primary or Secondary Reviewer) and the status of your evaluation for each application. To access the evaluation template, click on the 'Your Critique' link.
4. Once all required information has been completed, you may either click the 'Submit' button at the top of the evaluation page OR click on the 'Submit Critique' button in the application homepage. Once submitted, all comments are considered final and cannot be altered.

Community Representatives:

Please refer to the following steps below, or watch the [instructions video](#).

1. Following submission of potential conflicts of interest, you will be assigned specific applications to evaluate. You can access the applications in the 'Assigned Applications' section.
2. In the 'App Details' column, please click on the 'App Details' link to access the online application. Under Section 6 – Project Information, you only need to assess the following non-technical sections of each application:
 - Non-scientific Summary
 - Impact and Relevance to MS
3. The 'Submit Critiques' column will display your role as a reviewer (Community Representative) and the status of your evaluation for each application. To access the evaluation template, click on the 'Your Critique' link.
4. Once all required information has been completed, you may either click the 'Submit' button at the top of the evaluation page OR click on the 'Submit Critique' button in the application homepage. Once submitted, all comments are considered final and cannot be altered.

QUESTIONS?

If you have any questions about how to assess the applications, please contact us at msresearchgrants@mssociety.ca.

For questions related to site technical support, contact ProposalCentral customer support at: 800-875-2562 (Toll-free U.S. and Canada) or by email at pcsupport@altum.com. Hours of operation are Monday - Friday between 9:00 to 16:00 ET.