1 Program/Project Submission Template to CINP Brief

Revised: 2025-Apr-02

This document serves as a LaTeX template for the text of your brief. In each section there are suggestions for what to include. If you have also submitted a brief to the IPP, please mention this in your submission so that we can co-ordinate with them accordingly.
Please send your submission to huberg@cinp.ca
First draft due: Monday May 12 Final version due: Friday June 27

The total page limit is 4 pages of text. Groups with more than four members can increase their word limit by 10% for each additional member, up to 200% total.

This page limit does NOT include the following:

1. **Figures**: You may include them in the text or as an appendix. We might select to highlight some of these figures in the CINP Brief, or even better, they might be selected by the LRPC in the Canadian SAP LRP. Permission for their use in these documents should be given in the Appendix.

2. **Collaboration list**: Please include as an appendix. Please clearly indicate those that are co-signatories on the NSERC grant supporting this project, and which are HQP that are listed on the spreadsheet.

3. **Resources**: (statistics info in spreadsheet; additional explanations in appendix).

2 Executive Summary (300-500 words)

Please provide an accessible summary of your research project, at the level of a LRPC member in a different sub-field than yours, with a few sentences on each of:

1. Major Scientific Goals, International Context

2. Methodology

3. Medium-Term Plans (2027–2034)

4. Long-Term Plans (2034-2041)

5. HQP and Other Impacts

3 Research Description (800-1200 words)

A brief description of your research program or project, including:

1. Research Goals and Methodology (300-500 words)
2. Seven-year year outlook (200-300 words)
3. Long-term vision (200-300 words)

To get a better understanding of what is needed, please review the 2021-2025 LRP Report at https://subatomicphysics.ca/ and try to compose text which we can use as directly as possible into the CINP Brief. The goal is to have a compelling scientific road map going forward and a strong case for improved financial and other support for our field.

It will be extremely helpful if you explicitly name any other Canadian research groups whose research program complements your own, so we can coordinate the briefs when preparing the overall submission to the LRPC.

References: We will use simple in-line references at the place of citation, rather than bibtex, as was done in the 2020 CINP Brief. This avoids the difficulty of needing to identify multiple instances of the same references, etc.

For example, *"as was shown by [Chupp and Ramsey-Musolf, Phys. Rev. C 91, 035502 (2015)], this work is very important"*

4 Applications and Noteworthy Impacts (200-300 words)

This includes technological and other broader applications of your research techniques or results to other fields. Do you foresee applications of AI in your future research? Will your research open future avenues of benefit to Canada, or to society in general?

5 HQP Training, Equity, EDI Efforts, and Science Outreach (300-600 words)

1. Training of Highly Qualified Personnel (200 words)
2. Equity, Diversity and Inclusion Efforts (200 words)
3. Science Outreach (200 words)

For reference, the Tri-Council EDI statement can be found at:
https://www.nserc-crsng.gc.ca/NSERC-CRSNG/EDI-EDI/index_eng.asp.

Please fill out the attached spreadsheet, with the following information:

1. How many students have graduated from your research group since the last brief, or overall?
2. How many were MSc? PhD? undergraduate?
3. How many have gone on to academic positions? Industry? Other?
4. Contact information for HQP that you think could be profiled in the CINP Brief or LRP.

6 Recommendations (200-300 words)

Please list here any explicit recommendations you think should be mentioned in the CINP Brief, in order of priority. Examples:

1. As part of our making the case for increased investment in our field, please indicate what additional funds you think would be optimal for your project, and the additional scientific or societal (e.g. HQP) benefit of such a higher funding level.
2. The role of NSERC and CINP Undergraduate and Graduate support programs.
3. The role of NSERC-RTI, CFI-JELF or CFI-IF funding, and changes that could be made to improve these programs.
4. The role of MRS-funded and TRIUMF-site detector or other infrastructure support centers to your project.
5. The role of high performance computing provided by the Digital Research Alliance of Canada or other agencies in your project.
6. Sources of private or other funding that could enable supports that do not easily fit within NSERC or CFI programs.

7 Self-assessment (Experimental programs only)

To allow us to consistently assess the impact, importance and potential of all current experimental efforts, please self identify your project within these four categories. Put **one** "x" in each of the below tables to self categorize your project.

7.1 Impact and Scope

	i	Essential	These are experiments with very broad physics impact addressing multiple core physics questions, in which the Canadian investigators have core responsibilities.
	ii	Impactful	These are experiments with strategic physics impact, addressing a single core physics question, with a large Canadian contribution.
	iii	Potential	These are experiments with smaller physics program leading to highly impactful results in a specific area.
	iv	Winding down	These are experiments that are expecting to reach the end of their lifespan within the timespan of the long range plan.

7.2 Duration

The expected horizon of funding and physics delivery of this experiment from 2025 onwards and towards completion of the physics objectives of the project.

If your project involves sub-projects with different time frames, please make a version of this table for each one.

	α	more than 15 years
	β	10-15 years
	γ	5-10 years
	δ	5 years
	ϵ	Just starting

7.3 Investigator Commitment

Collaboration size alone is not a critical criterion. However, since SAPES has increasingly emphasized project investigator (PI) commitment in their funding decisions, we are asking for a full time FTE sum as an element of the classification of projects. Please use the research hours/month currently reported by the PIs, as well as the time commitment projection used in your medium-term research outlook.

Now	7yr Outlook		
		I	> 2000 hr/mo
		II	$1500 - 2000$ hr/mo
		III	$1000 - 1500$ hr/mo
		IV	$500 - 1000$ hr/mo
		V	$150 - 500$ hr/mo
		VI	< 150 hr/mo

7.4 Lifecycle Status

	+	at the beginning of the life cycle of the experiment, growing
	o	in steady state, delivering
	-	at the end of the life cycle of the experiment, winding down or looking to wind down

Appendices (not included in the page limit)

A Images, Figures and Captions

B References

Please list references to most impactful work by your group.

C Picture Permissions

Your pictures might end up being used in either the CINP Brief, or the Long Range Plan. For this to happen, permission for use needs to be granted.

There are two categories:

1. Plots of data, calculations, photographs of equipment, etc. Permission of the PI is required. Please include it in this appendix.

2. Photographs including any people require their explicit permission for use. An email from each will suffice. Please attach it in this appendix.

D HQP Profiles and Testimonials

Please include here any supplementary information on training that is awkward to include in the spreadsheet, such as:

1. Pictures of HQP and/or anecdotes (success stories, quotes from past students; see also Appendix A regarding permissions).

2. Novel non-traditional career paths of your former HQP trainees (e.g. PDFs, Grad Students)

E Collaboration List

This is extremely useful information for the committee, as in the CINP Brief we put a summary at the start of each project description of the Canadian institutions involved, then other countries.

Please clearly indicate those that are co-signatories on the NSERC grant supporting this project, and which are HQP that are listed on the spreadsheet. Listing your international collaborators is welcome too (to help give the international context), but they should be clearly indicated.

F Resources

Please fill out the attached spreadsheet, with the following information:

1. Resources needed from NSERC, CFI and other Canadian agencies: dollars, faculty FTEs (explicitly list names), equipment, facilities (especially new facilities), etc.

2. Additional resources from international sources.

Please include here any supplemental information that doesn't easily fit in the spreadsheet, such as:

1. Indicate in broad terms how the dollar numbers were arrived at.
2. Please explain anything unusual, and explain the reasons for any major changes to resource requirements compared with those existing at the present time.

G List of Acronyms

Add here any acronyms that you have used in your brief. Format shown below for some common acronyms:

CFI (Canada Foundation for Innovation): Created by the Government of Canada in 1997, CFI makes investments in state-of-the-art research facilities and equipment in a wide variety of scientific disciplines.
CINP (Canadian Institute of Nuclear Physics): The organization that gathered input from the Canadian nuclear physics research community in order to put together this document.
DOE (Department of Energy): The United States Department of Energy, which operates a number of national laboratories across the USA.
HQP (Highly Qualified Personnel): Personnel obtaining advanced skills as a result of NSERC-funded research, including students, postdocs and technicians.
ISAC (Isotope Separator and ACcelerator): A rare isotope accelerator facility, based at TRIUMF. There are two experimental halls, ISAC-I and ISAC-II.
JLab (Jefferson Lab): The Thomas Jefferson National Accelerator Facility, located in Newport News, Virginia.