

1 Program/Project Submission Template to CINP Brief

Ver 3.1: 2020-Mar-20

This document serves as a LaTeX template as well as a template for the text of your brief. In each section there are suggestions for what to include. If you have also presented a brief to the IPP, please mention this in your submission so that we can co-ordinate with them accordingly.

The total page limit is four pages of text. 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. **Applications:** (medical, industrial, other).
3. **HQP Training:** (statistics info in spreadsheet; anecdotes in appendix, including permission for their re-use).
4. **EDI Efforts.**
5. **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.
6. **Resources:** (statistics info in spreadsheet; additional explanations in appendix).

2 Executive Summary (1 page MAX)

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

1. Major Scientific Goal, International Context
2. Methodology
3. Medium-Term Plans (2022–26)
4. Long-Term Plans (2027–2036)
5. HQP and Other Impacts

3 Research Description (~2 pages)

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

1. Goals, and how the program fits in the international context of subatomic physics.
2. Recent progress. e.g. If the project is a continuation of an earlier effort, what portions of the program mentioned in the previous brief have been completed?
3. One paragraph on 5 year outlook (2022–26).
4. One paragraph on long-term vision (2027–36).
5. Representative figure and caption (not included in length calculation, see Introduction).

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 2015 CINF 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 Recommendations (~1 page)

Please list here any explicit recommendations you think should be mentioned in the CINF 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 CINF 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 Compute Canada or other agencies in your project.

Appendices (not included in 4 page limit)

A 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.

B Applications and Noteworthy Impacts

Please answer the following in this section:

1. List any recent patents, particularly noteworthy publications, awards, etc.
2. How many students, PDFs, others with significant technical or scientific skills have graduated from your research group since the last brief, or overall?

C Training of Highly Qualified Personnel

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.

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)

D Equity, Diversity and Inclusion (EDI) Efforts

Please answer the following questions in this section:

1. How do you, your research team, and/or your institution work to ensure EDI considerations are taken into account in your recruitment efforts?
2. Are there any people from underrepresented groups in your research team?
3. Do you lead or participate in any outreach to promote EDI, such as the Verna J. Kirkness program?

Note that at Large Project Day, NSERC specifically raised the issue of Indigenous outreach, so please use a broad definition of EDI. For reference, the Tri-Council EDI statement can be found at: https://www.nserc-crsng.gc.ca/NSERC-CRSNG/EDI-EDI/index_eng.asp

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.