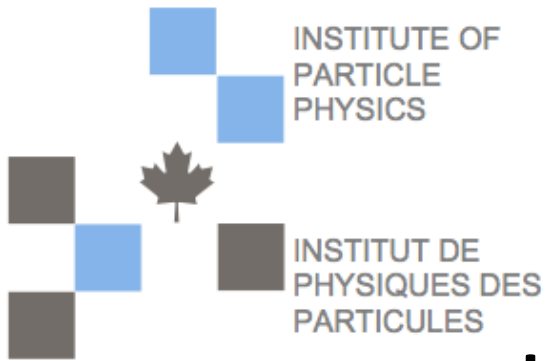



IPP TownHall July 2020


ALL TIMES ARE EDT

Wednesday July 15	Start	End		Thursday July 16	Start	End		Tuesday July 21	Start	End	
11h30-13h30ET	11:30	12:00	Goals of IPP Planning discussion	11h30-13h30ET	11:30	11:45	T2K (D. Harris)	11h30-13h20ET	11:30	12:00	ATLAS (P. Krieger)
	12:00	12:15	DEAP (M. Boulay)		11:45	12:00	HyperKamiokande (M. Hartz)		12:00	12:15	Alex Maloney(McGill) - "Quantum Field Theory and Quantum Gravity"
	12:15	12:30	PICO (C. Krauss)		12:00	12:15	DUNE (N. Ilic)		12:15	12:30	Belle II (C. Hearty)
	12:30	12:45	SuperCDMS (S. Oser)		12:15	12:35	IceCube&P-ONE (R. Moore)		12:30	12:40	Chiral Belle (M. Roney)
	12:45	13:00	Yue Zhang (Carleton) "Novel Aspects of DM Direct Detection"		12:35	12:50	VERITAS (K. Ragan)		12:40	12:50	MOLLER (M. Gericke)
	13:00	13:15	SNO+ (M. Chen)		12:50	13:05	Jean-Francois Fortin (Laval) "Conformal Field Theory"		12:50	13:05	Ruben Sandapen (Acadia) "Hadronic Structure, QCD & BSM"
	13:15	13:30	EXO/nEXO (T. Brunner)		13:05	13:20	MoEDAL (J. Pinfold)		13:05	13:20	NA62 (D. Bryman)
					13:20	13:35	MATHUSLA (M. Diamond)				
	13:30	14:30	BREAK		13:35	14:35	BREAK		13:20	14:20	BREAK
14h30-16h30ET	14:30	14:45	David McKeen (TRIUMF) "New physics in hidden sectors"	14h30-16h30ET	14:35	14:50	Joseph Bramante(Queens) "WIMP Dark Matter and the Next Two Decades"	14h20-16h30ET	14:20	14:35	ILC & Future e+e- Colliders (A. Bellerive)
	14:45	15:00	DarkSide-20K (A. Hallin)		14:50	15:00	ALPHA (M. Fujiwara)		14:35	14:55	Accelerator R&D (O. Kester)
	15:00	15:15	LEGEND-1000 (R. Martin)		15:00	15:10	TUCAN (J. Martin)		14:55	15:15	Broader societal impact & EDI
	15:15	15:25	Scintillating Bubble Chamber (K.Clark)		15:10	15:20	RD50 - detector R&D (T. Koffas)		15:15	15:30	David Curtin(Toronto) "Perspectives on Hidden Sector Searches from Colliders to Astrophysics"
	15:25	15:45	Photon to Digital Converter and Beyond (F. Retiere)		15:20	15:35	MRS + TRIUMF Support (F. Retiere)		15:30	16:30	Forum for Discussion
	15:45	16:05	ACP Report Summary (T. Noble)		15:35	15:45	HEPNET & Computing (R. Sobie)		16:30		CLOSE
	16:05	16:30	Forum for Discussion		15:45	16:30	Forum for Discussion				
	16:30		ADJOURN		16:30		ADJOURN				



IPP Town Hall July 2020

Introduction

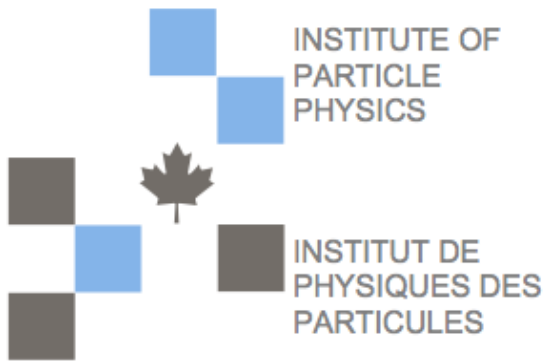
to

Long Range Plan 2022-2026

J. Michael Roney

15,16, 21 July 2020

Zoom Meeting



1971-2021: IPP's 50th Anniversary

Preparations for IPP: 1967

From Bill Frisken's
***"History of IPP: Linking
Small Groups to do Big Science"***
Presentation at 2007 CAP Congress

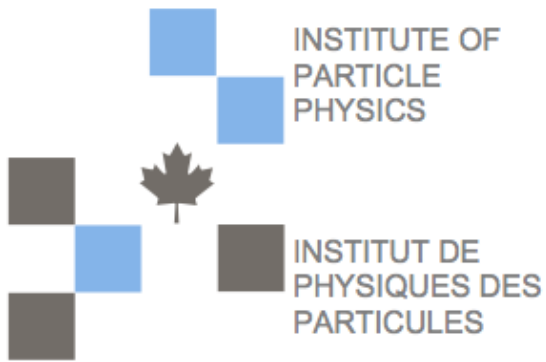
CANADIAN ASSOCIATION OF PHYSICISTS

Dear C.A.P. Member:

We are writing to inform you of the present status of a recent proposal which is intended to stimulate the development of Canadian activity in experimental high energy physics. It is generally realized that the total Canadian activity in this field is anomalously low compared with that of most scientifically advanced countries and while this, in itself, is not a reason for expanding the Canadian effort, other cogent reasons may be cited for doing so. (See "Physics in Canada: Survey and Outlook", pp. 274-277.)

You may remember that during the C.A.P. Congress in Toronto last June reference was made to a suggestion that Canada might make a significant contribution towards the development of the 200 GeV proton accelerator facility which is to be built at Weston, Illinois, near Chicago. During the past Spring and Summer a number of informal discussions of this idea have taken place both amongst Canadian high energy physicists and between members of the C.A.P. High Energy Committee and U.S. physicists. In the following paragraphs we attempt to summarize the results of these discussions and to show why a collaboration with U.S. physicists on the Weston project appears to be both attractive and realistic for Canadians.

First we would like to comment on the prospects for a purely Canadian facility, that is to say a high energy accelerator of interesting size and



1971-2021: IPP's 50th Anniversary

October 1967

In order to obtain reliable answers to these and other questions upon which the merits of the proposal must rest, this Committee plans to request jointly through its members and their universities a grant from the National Research Council that would make possible a study of the highest possible professional calibre of the feasibility of Canadian participation in the 200 GeV project.

Yours truly,

From Bill Frisken's
***"History of IPP: Linking
Small Groups to do Big Science"***
Presentation at 2007 CAP Congress

William T. Sharp
D.G. Stairs
E.P. Hincks

E.P.H.
for

B. Margolis,
J. D. Prentice,
W. T. Sharp,
D. G. Stairs,
E. P. Hincks,
Chairman,
THE C.A.P. HIGH ENERGY COMMITTEE.

P.S.--We would like to bring to your attention the 1967 Canadian High Energy Physics Conference which is to be held in Ottawa on November 10th and 11th, and at which it is anticipated there will be a discussion of the 200 GeV accelerator.

INSTITUTE OF
PARTICLE
PHYSICS

INSTITUT DE
PHYSIQUES DES
PARTICULES

1971-2021: IPP's 50th Anniversary

From Bill Frisken's

***"History of IPP: Linking
Small Groups to do Big Science"***

Presentation at 2007 CAP Congress



**A PARTICLE
PHYSICS PROGRAMME
for CANADA**

the report of the canadian 200 GeV study group - march 1969

A PARTICLE PHYSICS PROGRAMME

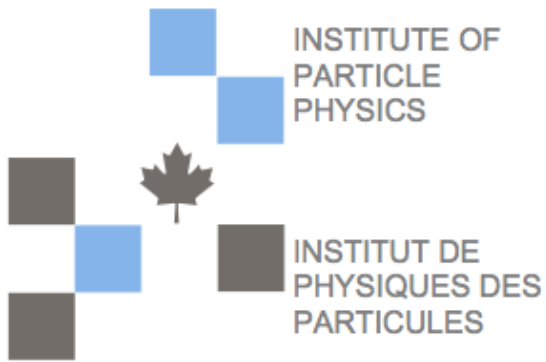
FOR CANADA

The Report of the Canadian
200 GeV Study Group

March, 1969

This study was supported by a grant
from the National Research Council.

E.P. Hincks
A.W. Key
B. Margolis
J.D. Prentice
W.T. Sharp
D.G. Stairs



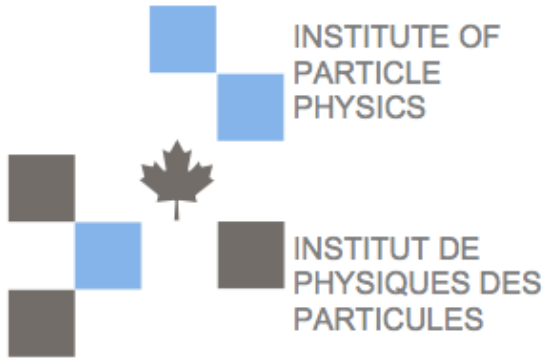
1971-2021: IPP's 50th Anniversary

IPP: Incorporation and By-laws

From Bill Frisken's
*"History of IPP: Linking
Small Groups to do Big Science"*
Presentation at 2007 CAP Congress

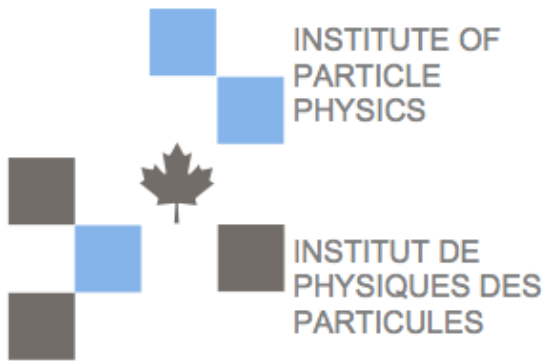
- Formation by-law, March 10, 1971

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By-Law Number 1
(General By-Law)
BE IT ENACTED as a general by-law of the
INSTITUTE OF PARTICLE PHYSICS - L'INSTITUT DE LA PHYSIQUE DES PARTICULES
(hereinafter referred to as the "corporation")
as follows:
1. CLASSES OF MEMBERS & CONDITIONS OF MEMBERSHIP
A. INSTITUTIONAL MEMBERS
(1) Admission
Any Canadian charitable organization and any establishment of the Government of
Canada which is actively involved in Particle Physics may be determined to be
eligible for admission to the corporation as an institutional member upon
receiving the approval of a majority of the Trustees, and any such organization
or establishment shall become a member when it gives written notice to the
secretary of its acceptance of membership.
(2) Right to Vote
Each institutional member shall be entitled to one vote at each general or
special meeting of institutional members of the corporation, provided that each
institutional member shall be entitled to one additional vote for each individual
member of the corporation who is a member of the staff or faculty of such
institutional member at the time any such meeting is held.
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1971-2021: IPP's 50th Anniversary

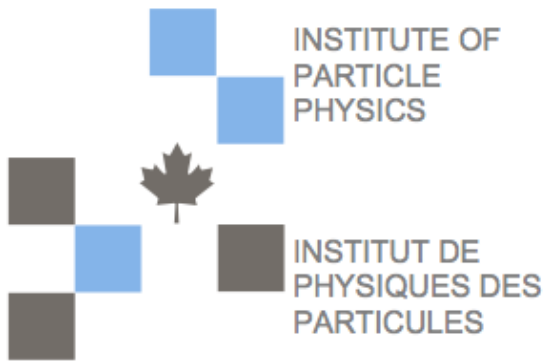
**Stay tuned for events marking and
celebrating this 50th anniversary year!**



Subatomic Physics Long Range Plan 2022-2026

Co-sponsored by NSERC, IPP, and CINP

- In effect from 2022 through 2026 with scope extending to 2036
- From LRP Terms of Reference (see Appendix): “These briefs must summarize the scientific vision and priorities put forward by the sub-communities they represent and serve, including both experimental and theoretical facets.”
- Consultation process of the community has started within IPP with this meeting and its preparations
- CINP and IPP to prepare briefs that to be submitted by December 1, 2020
- LRPC Co-Chairs: Adam Ritz and Brigitte Vachon –
see <https://subatomicphysics.ca/> and Adam’s presentation at CINP-IPP Session on June 11 for more information
- LRP Committee to then lead the consultation of the community up to the summer of 2021
- The LRPC will be asked to submit its report to NSERC, CINP and IPP by 30 September 2021.
- CINP held its Town Hall meeting sessions June 22-23 (Agenda in Appendix)



Subatomic Physics Long Range Plan 2022-2026

IPP Brief Writing Committee consists of the IPP Scientific Council of 2019-20 and 2020-21

Erica Caden ecaden@snolab.ca

Ken Clark Ken.Clark@snolab.ca

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Blair Jamieson bl.jamieson@uwinnipeg.ca

Robert McPherson rmcphers@triumf.ca

Michael Roney (Chair) director@ipp.ca

Bernd Stelzer stelzer@sfu.ca

Daniel Stolarski stolar@physics.carleton.ca

Reda Tafirout tafirout@triumf.ca

Goals of July 2020 IPP Town Hall

- Presentations of input for the IPP brief for the Subatomic Physics Long Range Plan
- Inform IPP members of developments of interest
- Provide forum to establish and/or refresh professional relationships amongst members:
 - Encourage awareness of status of IPP Projects and other scientific opportunities
- Consider potentially new initiatives, including approaches to funding

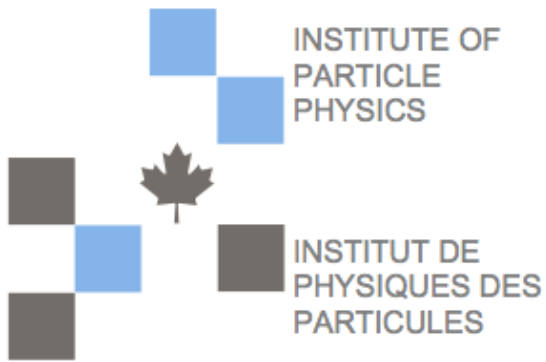
IPP Process for Long Range Plan

February 26th email announcing the LRP process with the general call April 1st to IPP Membership for input into the LRP, via written submissions and this meeting:

- 12 IPP Projects going into the LRP timing window
- 5-6 other efforts that may be IPP Projects in the future
- some projects reporting have physics of interest in both CINP and IPP
- technical support needs: detector development support: MRS, TRIUMF; computing; accelerator R&D
- Theory activity related to experimental program

IPP Process for 2022-2026 Long Range Plan

- Community will see the ‘lay of the land’ this meeting
- Initial draft of written submissions from various projects and efforts was due June 30; final version is due July 28)
 - Also requesting additional briefs from:
 - Formal theory community
 - Accelerator physics community on projects related to particle physics
 - Survey community for data on HQP training record in the past 10 years and compelling success stories of HQP after their training period, both in and outside the field
 - Consult community to develop broad priorities regarding resource allocation for particle physics in Canada
 - These submissions will also be used to assist IPP to advocate for the field in general.



Submissions Guidelines for IPP Brief

Section 1: Plans for the project in the period 2022-2026

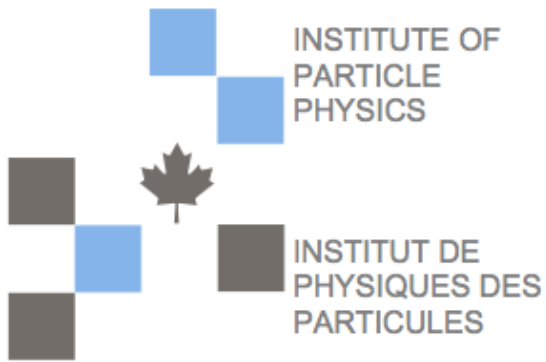
- 1) Physics and other research goals for the project;
- 2) Canadian hardware or software interests and contributions to the project;
- 3) Relationships with international partners including relative size of Canadian team within the collaboration
- 4) Expected HQP training; include numbers and roles in the project
- 5) Equipment and/or infrastructure needs – including cost estimates and time profile, whether NSERC or CFI will be requested for funds, other partners;
- 6) Computing requirements – CPU and storage, time profile;
- 7) Expected calls on technical support and/or infrastructure from TRIUMF, SNOLAB or the MRS facilities
- 8) Relationships with other projects being conducted by Canadian subatomic physicists – either physics or technical.

Table 1: Canadian grant eligible members on the project, their institution, and their FTEs

Section 2: Equity, Diversity and Inclusion Considerations (1 page)

Describe the existing and planned policies and practices for the Project to support:

- 1) an equitable, diverse and inclusive team environment; and
- 2) the recruitment of a diverse group of HQP and an inclusive training environment.



Submissions Guidelines for IPP Brief

Section 3: Plans for the project from 2027 to 2036 (up to 2 pages)

- 1) Physics and other research goals for the project;
- 2) Information about resource requirements associated, for example, with upgrades in the period from 2027 to 2036;
- 3) R&D plans (e.g. detector, accelerator) for efforts that extend into 2027 to 2036;
- 4) Relationships with other projects being conducted by Canadian subatomic physicists – either physics or technical; and
- 5) Relationships with international partners

Section 4: Broader Societal Impact (up to 2 pages + table of HQP trained)

- 1) Profiles of a sample of HQP that have been trained in past. Use this section to highlight a few exceptional examples of HQP training and list all HQP trained in Table 2 (see below),
- 2) Role of the project in fostering physics education in general;
- 3) Public education and outreach associated with the project;
- 4) Application of particle physics research and connections of the project to industry, including existing or potential economic impact that the project may have; and
- 5) Plans to further facilitate greater economic and broader societal impact of the project and the field in general.

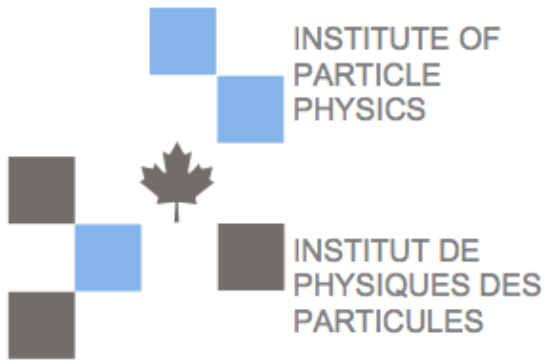
Table 2: List of HQP that have been trained on the project over the past 10 years or less. Include name (if possible), dates of training, role in project, what they are doing now

IPP Process for 2022-2026 Long Range Plan

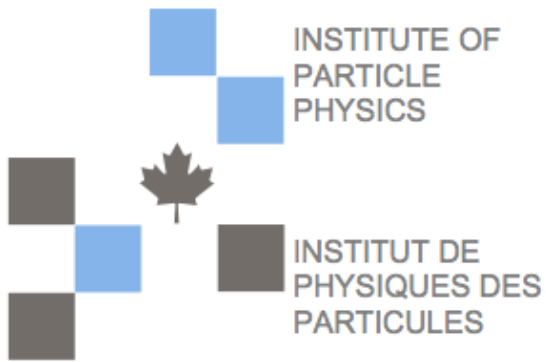
- Briefs, and other feedback, to be submitted to IPP Writing Committee by July 28
- IPP Writing Committee to compile briefs and produce working draft of IPP document: goal is to ensure it addresses all points in the request from the LRPC and accurately captures the input from the community
- Committee to meet through summer and early autumn to work on document – goal to circulate to the community in October and solicit feedback from the community
- Plan for a second ‘virtual’ IPP Town Hall meeting in the autumn to facilitate final community discussion and input to the document
- Finalize and submit on time scale consistent with deadlines agreed to with LRPC

Continue the discussions

- Think and talk about:
 - Your own future research interests going forward
 - What your priorities are for IPP, what is valued
 - RS Program; conference support; summer student program; ...
 - What do you see as the broad priorities regarding resource allocation for particle physics in Canada
 - Share them with IPP Council members
 - Consider opportunities further collaboration between individuals and projects
 - Use this opportunity to consider ways of improving the processes in our funding system
- This meeting provides first opportunity for formal input into 2022-2026 Long Range Plan for our community via (remote) interactions



Appendix



LRP 2022-2026

TERMS OF REFERENCE

THE LONG-RANGE PLAN FOR CANADIAN SUBATOMIC PHYSICS: 2022-2026

TERMS OF REFERENCE

I. CONTEXT

The Canadian subatomic physics community establishes its scientific, and thus funding, priorities through five-year Long-Range Plans (LRP). These plans advise the Canadian subatomic physics research community and relevant stakeholders on priorities for both current and future endeavours. The most recent Long-Range Plan covered the period 2017-2021, in addition to providing an assumption-based forecast for into 2026. A new LRP exercise is to be conducted. The new plan will be in effect from 2022 through 2026, with its scope extending through 2036. A renewal of this 2022-2026 plan will occur before 2026. The Canadian Subatomic Physics Long-Range 2022-2026 is jointly supported by the Institute of Particle Physics (IPP), the Canadian Institute of Nuclear Physics (CINP) and the Natural Sciences and Engineering Research Council (NSERC). The additional stakeholders, TRIUMF, SNOLAB, the Perimeter Institute and the Canadian Foundation for Innovation (CFI), are supportive of this process.

II. COMMITTEE

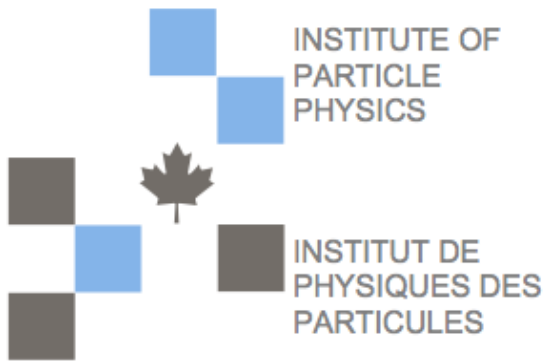
The LRP process will be driven by the Canadian subatomic physics community. A Committee will be asked to review this community's input and to formulate the Long-Range Plan. The LRP Committee will be composed of an appropriate number of experts who will cover the main sub-disciplines of subatomic physics in Canada, including both experimental and theoretical aspects: nuclear physics, nuclear astrophysics, physics of elementary particles and fields, and particle astrophysics. The Committee will be co-chaired by senior members of the research community with an extensive knowledge of the Canadian and international subatomic physics research environments. The membership may have some overlap with that of the previous LRP Committee to ensure continuity.

The following representatives from the LRP commissioning bodies will be non-voting members on the LRP Committee.

- Director of the Institute of Particle Physics
- Executive Director of the Canadian Institute of Nuclear Physics
- NSERC Team Leader working with subatomic physics
- Co-Chairs of the NSERC Subatomic Physics Evaluation Section for 2020-2021

In addition, the LRP Committee will invite *ex officio* members who will be non-voting observers and resources for the other members:

- TRIUMF Director
- SNOLAB Director
- Perimeter Institute representative
- CFI Director of Programs working with subatomic physics



LRP 2022-2026 TERMS OF REFERENCE

The LRP Committee may choose to hold certain closed sessions without the presence of *ex officio* members.

III. MANDATE

Taking into account (i) the ever increasing internationalization of projects and collaborations in addressing the fundamental questions of subatomic physics, (ii) the concurrent requirement to maintain and further develop world-class domestic research programs and infrastructure, (iii) the established expertise and strengths of the Canadian community and (iv) the recognition of the fact that the Canadian subatomic physics community cannot be involved in all research endeavours, the Committee is asked to identify subatomic physics scientific ventures and priorities that should be pursued by the community on a five to fifteen-year horizon and that would ensure continuous Canadian global scientific leadership. Budgetary estimates, both for new capital investments as well as for operations, must be provided as well, including funding ranges for prioritized endeavours. These ranges should include funding levels that would allow for a restrained, yet efficient, contribution to the ventures, as well as levels that would enable a more extensive contribution.

The Committee's assessment will be based on a broad consultation with the Canadian subatomic physics community. The Committee will have to assess the feasibility, technical readiness and risks associated with particular endeavours. It is crucial that such an assessment be made through a fair and rigorous process.

The Committee is also asked to consider and discuss factors that affect the subatomic physics community and to make recommendations on how to possibly lessen any negative impacts they may have, or enhance any positive ones. Examples of such factors include, but are not limited to, various funding opportunities, the relationship between funding agencies and other organizations, the activities of national research organizations, and the international context.

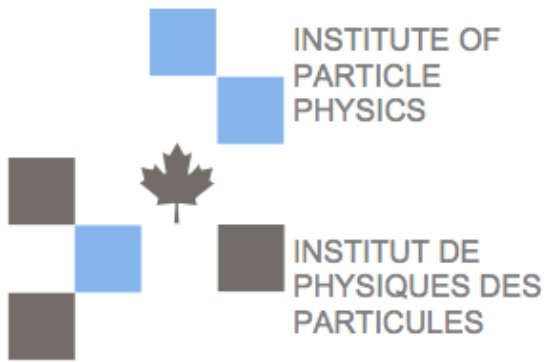
The report should address Equity, Diversity and Inclusion as well as supporting early career researchers within the context of the subatomic physics research community.

IV. PROCESS AND TIMELINE

The LRP Committee membership recruitment will be completed by Spring 2020, and a kickoff meeting will be held immediately after. NSERC staff will coordinate membership recruitment in consultation with the Committee Co-Chairs as well as CINP and IPP.

CINP and IPP will be tasked to prepare briefs for the LRP Committee. These briefs must summarize the scientific vision and priorities put forward by the sub-communities they represent and serve, including both experimental and theoretical facets. Overall recommendations may also be included in the briefs. It is expected that each institute will broadly consult with the sub-communities through various formats and ensure a fair and rigorous process. The briefs are to be submitted to the LRP Committee and to NSERC no later than December 1, 2020. The Institutes must ensure that the briefs are available to the entire community through their public Web sites. Eventual responses to the briefs by individuals or organizations would be accepted. Throughout the process, the LRP Committee may also solicit additional input from various sources, as it sees fit.

The LRP Committee will hold public consultations (town hall meetings) in early 2021, after receiving the briefs. Face-to-face or phone meetings of the Committee will then be held up to the Summer of 2021.



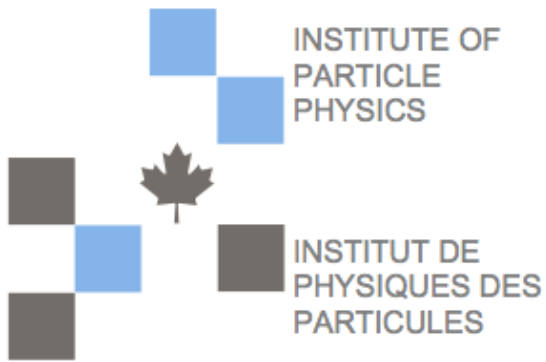
LRP 2022-2026 TERMS OF REFERENCE

V. Deliverables

The LRP Committee will submit its final report to NSERC, CINP and IPP no later than September 30th, 2021. The report will be publicly released, thereafter, in both official languages.

VI. CONFLICTS OF INTEREST AND CONFIDENTIALITY

All members must strictly comply with the Code of Ethics and Business Conduct for Members of NSERC Standing and Advisory Committees. Moreover, for the purpose of this exercise, a member will be considered to be in a situation of conflict of interest during a discussion on prioritization of a specific endeavour that would directly benefit the member or the member's organization.



CINP Virtual Town Hall Meeting

<https://zoom.us/j/98877793479?pwd=bUI1UU8vUEhNL1NwTFdYZFVibEszUT09>

Zoom Meeting ID: 988 7779 3479 Password: 641737

----- MONDAY June 22 -----

WELCOME & INTRODUCTION

11:30EDT/8:30PDT Garth Huber (15)

PLENARY I — Working group chairs give summaries of briefs submitted to date

Opportunity for correcting errors, discussion on scientific progress and priorities.

Chair: Garth Huber

Secretary: Garth Huber

11:45EDT/8:45PDT Nuclear Structure — Adam Garnsworthy (20+10)

12:15EDT/9:15PDT Nuclear Astrophysics — Iris Dillmann (20+10)

12:45EDT/9:45PDT Hadronic Physics/QCD — Svetlana Barkanova (20+10)

13:15EDT/10:15PDT Fundamental Symmetries — Gerald Gwinner (20+10)

13:45EDT/10:45PDT Education, Training, EDI — Juliette Mammei (20+10)

14:15EDT/11:15PDT **BREAK** (45)

PLENARY II — New projects

From the received briefs, selected new initiatives have been invited to give accessible presentations to the full community on the new scientific opportunities, and projected plans for these new projects

Chair: Garth Huber

Secretary: Garth Huber

15:00EDT/12:00PDT Scientific opportunities of ARIEL (15+5) – Adam Garnsworthy

15:20EDT/12:20PDT A Low-Energy Storage Ring with a neutron target at TRIUMF-ISAC (10+2)
– Iris Dillmann

15:32EDT/12:32PDT Radioactive Molecules for Nuclear Structure and Fundamental Physics (10+2)
– Ronald Garcia Ruiz (10+2) **[NOT CONFIRMED]**

15:45EDT/12:45PDT Direct and indirect studies of Astrophysical Capture Reactions (10+2)
– Greg Christian

15:57EDT/13:57PDT Canadian Participation in the Electron-Ion Collider (15+5)
– Wouter Deconinck

16:17EDT/13:17PDT Multi-loop calculations for MOLLER/P2 (10+2)
– Aleks Aleksejevs

16:30EDT/13:30PDT Detector and Technology Needs of Canadian SAP Community (15+3)
– Fabrice Retiere

16:48EDT/13:48PDT **BREAK** (12)

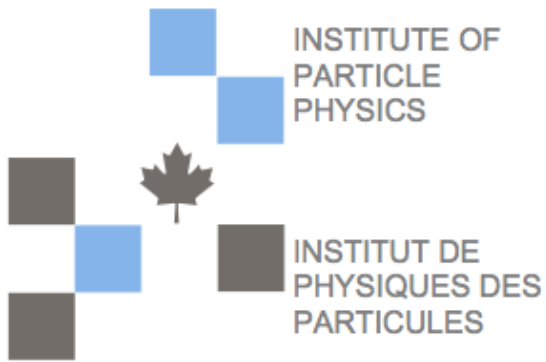
17:00EDT/14:00PDT **DISCUSSION** (45)

Discussion Leader: Garth Huber

Secretary: Gerald Gwinner

17:45EDT/14:45PDT **ADJOURN**

CINP Town Hall 2020



CINP Town Hall 2020

----- TUESDAY June 23 -----

BREAKOUT SESSIONS

We start with a series of breakout sessions, where each SWG meets separately to discuss plans and priorities. The sessions are scheduled in series, to allow participation in as many as a person desires.

NOTE: All sessions will use the same Zoom room. Be considerate when joining ongoing session.

11:30EDT/8:30PDT Nuclear Structure (30)

Chair: Adam Garnsworthy Secretary: Iris Dillmann

12:00EDT/9:00PDT Nuclear Astrophysics (30)

Chair: Iris Dillmann Secretary: Gerald Gwinner

12:30EDT/9:30PDT Hadronic Physics/QCD (30)

Chair: Svetlana Barkanova Secretary: Juliette Mammei

13:00EDT/10:00PDT Fundamental Symmetries (30)

Chair: Gerald Gwinner Secretary: Adam Garnsworthy

13:30EDT/10:30PDT Education, Training, EDI (30)

Chair: Juliette Mammei Secretary: Svetlana Barkanova

14:00EDT/11:00PDT **BREAK** (60)

PLENARY III — SWG Summaries

Each SWG chair summarizes the discussion at their breakout session, as well as their view of important items from previous day that need to be highlighted in the CINP Brief.

Chair: Garth Huber Secretary: Garth Huber

15:00EDT/12:00PDT Nuclear Structure (10) — Adam Garnsworthy

15:10EDT/12:10PDT Nuclear Astrophysics — Iris Dillmann (10)

15:20EDT/12:20PDT Hadronic Physics/QCD — Svetlana Barkanova (10)

15:30EDT/12:30PDT Fundamental Symmetries — Gerald Gwinner (10)

15:40EDT/12:40PDT Education, Training, EDI — Juliette Mammei (10)

15:50EDT/12:50PDT **DISCUSSION — Main Points to be emphasized in CINP Brief**

Discussion Leader: Garth Huber Secretaries: Juliette Mammei, Adam Garnsworthy

NOTE: This session will be recorded for Committee Use.

- highlights of past accomplishments
- mid-term vision 2022-26
- longer term vision 2027-36
- complementarity of on-shore and off-shore programs
- HQP, spinoffs, EDI
- high performance computing needs
- detector development needs
- appropriate envelope expenditure on MRS, RTI
- funding agency co-ordination issues (e.g. NSERC/CFI/Computing)
- any other issues

16:50EDT/13:50PDT **ADJOURN**