Canadian Institute of Nuclear Physics
Institut canadien de physique nucléaire

The Canadian Institute of Nuclear Physics (CINP) is a formal organization of the Canadian nuclear physics research community to promote excellence in nuclear research and education, and to advocate the interests and goals of the community both domestically and abroad.

April 2015 Newsletter

1. Subatomic Physics Long Range Plan and CINP Town Hall Meeting

As was announced on March 25, NSERC will soon be embarking on a new Subatomic Physics Long Range Planning (LRP) exercise. NSERC is in the final stages of selecting the LRP Committee (LRPC) membership, which is expected to be announced at the upcoming CAP Congress at the University of Alberta, in Edmonton.

The LRP will cover the period 2017-2021 and include an assumption-based look ahead to 2026. NSERC's charge suggests that we take a broad and long-term view of where our community is heading research-wise, and that we use this as an opportunity for us to make the case for a share of any funding increase NSERC may receive in the future. NSERC has charged the CINP to lead broad consultations within the Canadian nuclear physics research community and to present a Nuclear Physics Brief to the NSERC Subatomic Physics Long Range Planning Committee (LRPC) this fall. CINP Brief Committee consists of the five Scientific Working Group Chairs plus the CINP Executive Director.

You are invited to present your research at the upcoming:

CINP Town Hall Meeting
Location: University of Alberta
Centennial Centre for Interdisciplinary Science (CCIS)
Room L1-047 (tentative, pending number of registered attendees)
Dates: Starting early afternoon of Saturday, June 13 (tentative: 1:30pm)
and continuing Sunday, June 14 (ending by 5pm)
Final location and time will be circulated once registered attendance and number of speakers are known.

Briefs from any research group whose activities fall within nuclear physics (according to international funding guidelines) are welcome (e.g. hadrons/QCD, nuclear astrophysics, nuclear structure, fundamental symmetry tests at low or intermediate energies). Our goal is to leave sufficient time in the Town Hall meeting agenda for questions and discussion.

If you are planning to submit a brief, please send confirmation to the CINP Executive Director, Garth Huber (huberg@uregina.ca), **no later than May 15**, so that the agenda for the Town Hall meeting may be finalized. You do not need to be a member of the CINP to make a presentation, although it is required that you are (or shortly will be) eligible to hold an NSERC Subatomic Physics research grant. Your confirmation should include the project title, the name of the person making the presentation, and the list of Canadian co-investigators covered by the presentation.
The committee requires a draft copy of your written brief no later than **Friday, May 29**, so that it can better lead the discussions and prepare questions. **Please keep your brief as short as**

possible, phrasing your text in such a way that the Brief Committee (and ultimately the LRPC) can use as much of your text as possible in their respective reports. This means it should not be a "cut and paste" of your NSERC application, which is too detailed for our needs. A final version of your written brief, reflecting the comments and discussion at the Town Hall meeting, is due no later than **Friday, June 26**.

ITEMS TO BE INCLUDED IN YOUR BRIEF SUBMISSION:

1. A concise description of the physics case for your research program, and how it might be expected to evolve over the 2016-2021 and 2021-2026 periods covered by the LRP. We are particularly interested in how your work fits into and impacts the broader field of subatomic physics, and where appropriate, how it impacts physics or science generally. It will be extremely helpful to the committee if you explicitly name the other Canadian research groups whose research program complements your own, so we can coordinate the briefs when preparing the overall submission to the LRPC.
2. How and where your work will be carried out (methodology, equipment, facilities, etc).
3. Recent scientific achievements that could be profiled in the CINP Brief.
4. The resources needed from NSERC, CFI and other agencies: dollars, faculty FTEs (explicitly list names), PDFs, graduate students, equipment, facilities (especially new facilities), etc. You should show in broad terms how the dollar numbers were arrived at. Please explain anything unusual, and explain the reasons for any major changes to resource requirements compared with those existing at the present time.
5. The resource estimates should be done for two cases:
   (i) the amount which you think would give the optimum scientific return for the support investment (i.e. the best benefit to cost ratio, bearing in mind the scarcity of funds).
   (ii) the minimum amount which would still permit a viable (but perhaps sub-optimal) program.

   The proposal should make clear the additional scientific benefit of the higher funding level, and why the program would not be viable with less than the indicated minimum amount. PLEASE BE REALISTIC: overestimates will greatly complicate our task and could reduce the probability of the committees recommending inclusion of your program in the final Plan.
6. Significant career achievements, or novel non-traditional career paths of your former HQP trainees (e.g. PDFs, Grad Students) that could be profiled in the CINP Brief. We are also very interested to receive information on HQP numbers and other similar information.
7. 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 CINP Brief Committee will eventually circulate an advanced draft of the Nuclear Physics Brief for community comment prior to submission to the LRPC. We expect this to be in August, after we have had time to coalesce the community input into a coherent document.

Sincerely,
The CINP Brief Committee

Garth Huber	huberg@uregina.ca	(Chair)
Iris Dillmann	dillmann@triumf.ca	(Nuclear Astrophysics)
Charles Gale	gale@physics.mcgill.ca	(QCD/Hadrons)
Adam Garnsworthy	garns@triumf.ca	(Nuclear Structure)
Gerald Gwinner	gwinner@physics.umanitoba.ca	(Fundamental Symmetries)
Juliette Mammei	jmammei@physics.umanitoba.ca	(Education & Training)

2. CINP Sessions at the CAP 2015 Congress

As is now customary, the CINP and IPP are hosting a joint session immediately prior to the official start of the CAP Congress at the University of Alberta, Edmonton. Our schedule for the meetings is below Please be sure to arrive early and attend the CINP sessions!

Time	Event
Saturday, June 13	
13:30 - 17:30	CINP Town Hall Meeting
Sunday, June 14	
9:00 - 17:00	CINP Town Hall Meeting
20:00 - 21:30	CINP Board Meeting (by invitation only)
Monday, June 15	
	Joint CINP/IPP session
8:30 - 9:05	NSERC SAPES Chair report
9:05 - 9:25	CFI and Subatomic Physics
9:25 - 10:00	TRIUMF Director Report
10:00 - 10:25	SNOLab Director Report
10:25 - 10:45	Chair of Subatomic Physics LRPC
10:45 - 11:00	**Coffee**
11:00 - 12:00	**CINP Annual General Meeting**

3. CINP Individual Membership

We are pleased to report that the CINP membership has grown modestly in the past year.

CINP Individual Membership - April 30, 2015			
Total Membership	115	Nuclear Astrophysics SWG	40
Faculty-class Members	69	Nuclear Structure SWG	51
Associate Members	46	Fundamental Symmetries SWG	43
Experimentalists	85	Hadrons/QCD SWG	35
Theorists	29	Education & Training SWG	39

If your students, PDFs and colleagues are not yet members of the CINP, please consider asking them to join and contribute to the activities of the Scientific Working Groups (SWGs). "Associate class" memberships are typically renewed every three years, to ensure that continued membership is appropriate, and that our records remain up to date.

The membership form and introduction letter are posted at:

http://cinp.phys.uregina.ca/node/19

or contact Garth Huber for further information.

4. NSERC Support for CINP

The CINP gratefully acknowledges support from NSERC in the form of a Major Resources Support (MRS) grant. This grant was renewed in the 2015 competition, and we are pleased to report an increase, from $22,500 (previously) to $42,000 (2015), $44,000 (2016) and $45,000 (2017). Despite the increase, funds will be tight in the first year of the grant due to Town Hall and LRP-related expenses. The grant also supports the CINP's external conference support program, the undergraduate research scholarship program, representation travel, and other initiatives. We look forward to your input at the AGM on how best we should make use of these funds.

5. CINP Undergraduate Research Scholarships (URS)

The second competition for the CINP URS was recently completed. The intent of the program is to allow gifted undergraduates to work with a supervisor on nuclear physics research for 16 weeks this summer. The scholarship is for $3400, which must be supplemented by the supervisor to a total value between $7,000-10,000. In addition, if the supervisor intends to send the student to a laboratory or work with a second collaborator for an extended period in the summer, the CINP is willing to contribute up to an additional $1300 to help cover transportation and lodging expenses.

Thirteen applications were received, which were evaluated by a committee consisting of: Jean Barrette (McGill), Gerald Gwinner (Manitoba), and Adam Garnsworthy (TRIUMF). The caliber of the competition was very good, and we regret that we were only able to award scholarships to the following five students:

Student	Supervisor	Project Title	Travel
Orry Workman (Saint Mary's)	Rituparna Kanungo (Saint Mary's)	Investigation of Resonances in Borromean Nuclei at the Drip Line	Yes
Wolfgang Klassen (Winnipeg)	Jeff Martin (Winnipeg)	Precision Magnetometry for the Electric Dipole Moment Experiment	No
Ethan Avila (Acadia)	Garth Huber (Regina)	Detector Commissioning for Nuclear Physics Experiments at Jefferson Lab	Yes
Shayne Gryba (Regina)	Zisis Papandreou (Regina)	GlueX Barrel Calorimeter Detector Self-Triggering Studies	Yes
Tianrui Xu (UBC)	Sonia Bacca (TRIUMF)	Neutrino-Nucleus Interactions from Coupled-Cluster Theory	Yes

6. WNPPC Student Conference Support

The CINP awarded $500 travel grants to support graduate students giving talks at the 2015 WNPPC in Mont Tremblant, QC. Six applications were received, which were evaluated by a committee consisting of: Jean Barrette (McGill), Juliette Mammei (Manitoba), and Jens Dilling (TRIUMF). Travel grants could only be given to the following four qualified applicants:

Student	Supervisor	WNPPC Talk Title
Lori Rebenitsch (Manitoba)	Blair Jamieson (Winnipeg)	A Lithium Doped Glass Detector to Measure the Electric Dipole Moment of Ultra-Cold Neutrons
Jonathan Williams (SFU)	Krzystof Starosta (SFU)	Neutron Generator Facility at SFU GEANT4 Dose Prediction and Verification
Steffen Cruz (UBC)	Reiner Kruecken (TRIUMF)	Single Particle Structure and Shapes of Exotic Sr Isotopes
Jochun Park (UBC)	Reiner Kruecken (TRIUMF)	Gamma-Ray Spectroscopy in the Vicinity of ^{110}Sn*

7. CINP Conference Support

The CINP extends partial funding to workshops, meetings and conferences of broad relevance to nuclear physics in Canada. Requests are appraised against the mission and goals of the CINP, and funding is contingent upon satisfactorily showing that the event will further the aims of the CINP and be of benefit its members.

Application forms for external conference support are available from http://cinp.phys.uregina.ca/node/22 and should be returned to the CINP Executive Director, Garth Huber. Once it is confirmed the necessary information is received, the Chair of the Scientific Working Group most closely related to the conference topic will be consulted, and a recommendation forwarded to the CINP Board for final approval.

We hope you will be able to attend one of the following CINP-sponsored conferences:

6th International Symposium on Symmetries in Subatomic Physics (SSP 2015)

The scientific program is devoted to recent accomplishments exploring fundamental symmetries in theory and experiment in atomic, nuclear, and particle physics and thus spans a wide variety of interesting and connected topics. The conference will take place at the Delta Ocean Point

Hotel, Victoria BC, June 7-12. For more information visit the conference website at: http://ssp2015.triumf.ca/

7th International Conference on Hard and Electromagnetic Probes of High-Energy Collisions (Hard Probes 2015)

This conference focuses on probing the properties of Quark Gluon Plasma (QGP) produced in relativistic heavy ion collisions utilizing hard probes and electromagnetic probes. These include jets, heavy quarks, real and virtual photons. Since its inception in 2004, the Hard Probes conference has made many critical contribution in understanding the interplay between the hard probes and the extremely hot and dense QGP. The conference will be held at McGill University, June 29- July 3. http://www.physics.mcgill.ca/hp2015/

International Conference on Direct Reactions with Exotic Beams (DREB 2016)

This conference is held every two years rotating among the different continents. Previously, it was held in Darmstadt, Germany (2014), Pisa, Italy (2012), Florida (2009), RIKEN, Japan (2007), Michigan (2005). The 2016 conference will be held in Halifax, NS and organized jointly by Saint Mary's University, TRIUMF and Argonne National Laboratory.

8. Consultations with External Agencies

The CINP is an advocate and representative of the Canadian nuclear physics community and is asked to attend various meetings or make presentations on behalf of the Canadian nuclear physics community.

- The next Advisory Committee on TRIUMF (ACOT) meeting will be held in Vancouver on June 12-13. Garth Huber represents the CINP as a "community observer", providing feedback on TRIUMF's planning and operations. If you have specific information that would be useful to the CINP's input, please contact Garth Huber by June 10.

- The CINP was asked to make a 20 minute in-camera presentation to the NSERC Subatomic Physics Evaluation Section at Large Projects Day, in Ottawa on Sunday March 8. In addition to a status report on CINP activities and questions on the CINP MRS grant application, we were asked to provide information on the breadth of Canadian nuclear physics research and important current and future priorities. If time permits, this part of the presentation will be shown to members in attendance at the AGM. Thank you to all those who contributed highlights for inclusion in the presentation!

- In December, the CINP Executive Director and Board wrote letters supporting the TRIUMF CAPTURE proposal to a variety of senior officials in Ottawa, including the PMO, Minister of Finance and Minister of Industry. As you may know, this proposal was funded for $45 million over 5 years in the 2015 federal budget. This funding will play a major role in the timely completion of ARIEL-II and other major initiatives in support of nuclear physics at TRIUMF.

- The CINP is asked to provide input to NSERC on a periodic basis, including most recently a list of potential members for the LRPC, and a letter in April regarding the implementation of the NSERC Conflict of Interest guidelines in SAPES deliberations. In addition, when appropriate, the CINP also suggests people for NSERC to consider for membership on the Subatomic Physics Evaluation Section (SAPES), to replace the specific nuclear physics expertise of outgoing members.

- The Executive Directors of the CINP and IPP had series of meetings with various officials in Ottawa following Large Projects Day, to discuss issues of relevance to the funding of subatomic physics research. Meetings were held with:
    - NSERC: Dr. Pierre Charest, Vice-President of Research Grants and Scholarships, Elizabeth Boston, the Director of Research Grants for Mathematical, Environmental and Physical Sciences, and Sarah Overington, Team Leader of Resarch Grants for Physics, Astronomy and Computer Science.
    - Department of Industry: Lawrence Hanson, Assistant Deputy Minister, Science and Innovation Sector.
    - CFI: Guy Levesque, Director of Programs.

9. CINP Institutional Members

The CINP is currently supported by eight institutional members, representing universities in 6 provinces plus TRIUMF. The institutional members are the owners of the CINP and are solely responsible for the election of the Board of Directors. Faculty and associate membership in the CINP is free. Institutional members annual dues are used to support the operation of the CINP and pay expenses not eligible to the CINP's NSERC grant, such as the partial teaching release for the Executive Director. If your university is not yet an Institutional Member, we encourage you to contact Garth Huber for further information.

The Institutional Members AGM is scheduled for May 20, to elect two Board members and transact other official business of the CINP.

CINP Board of Directors (2014-15)

Name	Institution	Role	E-mail	Term Ends
Rituparna Kanungo	Saint Mary's University	Secretary	ritu@triumf.ca	June, 2016
Jean Barrette	McGill University		jean.barrette@mcgill.ca	June, 2016
Paul Garrett	University of Guelph	Treasurer	pgarrett@physics.uoguelph.ca	June, 2015
Gerald Gwinner	University of Manitoba	Vice-President	gerald.gwinner@umanitoba.ca	June, 2017
Jeffery Martin	University of Winnipeg		j.martin@uwinnipeg.ca	June, 2017
Jens Dilling	TRIUMF	President	jdilling@triumf.ca	June, 2015

CINP Executive Director:

If you require information about any CINP programs, please do not hesitate to contact:

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CINP Website Server:

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CINP Institutional Members:

Saint Mary's University
Mt. Allison University
McGill University
University of Guelph
University of Manitoba
University of Winnipeg
University of Regina
TRIUMF

This Newsletter was edited by Garth Huber. Email regarding the content of this newsletter, or suggestions for content in future CINP newsletters should be sent to huberg@cinp.ca