



Canadian Institute of Nuclear Physics Institut canadien de physique nucléaire

April 2014 Newsletter

CINP Sessions at the CAP 2014 Congress

The CINP activities at this year's CAP Congress in Sudbury will be held immediately prior to the official start of the Congress, on the morning of Monday, June 17. The tentative schedule for the meetings is below. Please be sure to arrive early and attend the CINP sessions!

Time	Event
Sunday, June 16	
17:30	Supper meeting between IPP Council and CINP Board (by invitation only)
20:00	CINP Board Meeting (by invitation only)
Monday, June 17	
Joint CINP/IPP session	
8:30	NSERC SAP ES Chair report (30'+10')
9:10	TRIUMF Scientific Director report (30'+10')
9:50	SNOLAB Director report (15'+5')
10:10	Coffee
10:30	CINP Annual General Meeting (90')

CINP Scientific Working Group Chairs

The CINP bylaws require that the activities and leadership of every Scientific Working Group (SWG) be reviewed by the Board of Directors at least every 5 years. The leadership portion of this review is now completed, with three new Chairs being selected and two Chairs continuing for a second term.

Nuclear Astrophysics SWG

The CINP would like to thank Barry Davids (TRIUMF) for his hard work as Chair, including the organization of the Canadian Workshop on Nuclear- and Astro- Physics of Stars in 2010. After five years of effort, Barry has decided it is time for new leadership of the SWG. Nominations for Chair closed on March 21, and Iris Dillmann (TRIUMF) has been acclaimed as the new Chair.

Beyond the Standard Model SWG

Gerald Gwinner (Manitoba) has served as the Chair for the last five years. Now that his duties on the NSERC Subatomic Physics Evaluation Section are nearing completion, he has expressed his desire to seek a second term, with the intention to devote more of his energies to an expansion of SWG activities. Nominations for Chair closed on March 18, and Gerald has been acclaimed for a second term.

Nuclear Education and Training SWG

Corina Andreoiu (SFU) has served as the Chair of the Nuclear Education and Training SWG since 2010, and she believes it is time to give others an opportunity to assist in this capacity.

Corina has done a great job, and we thank her very much for her service to both the SWG and the CINP.

Three nominations for Chair were received by the deadline: Sonia Bacca (TRIUMF), Alexandros Gezerlis (Guelph), and Juliette Mammei (Manitoba). Voting ended on March 24, with ballots received from 40.0% of the SWG membership. We are pleased to report that Juliette Mammei has won the election.

Hadrons/QCD SWG

Charles Gale (McGill) has served as the Chair of the SWG for the last 5 years. His duties as Physics Department Chair end on June 1, and he believes he can now do more for the SWG. He therefore has expressed his desire to seek a second term. Nominations for Chair closed on March 11, and Charles has been acclaimed for a second term.

Nuclear Structure SWG

Krzysztof Starosta (SFU) has served as the Chair of the Nuclear Structure SWG since 2010. Kris has been a passionate proponent of Nuclear Structure research, but feels it is time for a new Chair, preferably selected by an election to give him/her a mandate to represent the community. We thank Kris for his service to both the SWG and the CINP.

Two nominations for Chair were received by the deadline: Adam Garnsworthy (TRIUMF), Rituparna Kanungo (Saint Mary's). Voting ended on March 17, with ballots received from 20.4% of the SWG membership. Given that this SWG has a very large proportion of Associate (grad student and PDF) members, who did not vote, this is an acceptable turnout. We are pleased to report that Adam Garnsworthy won the election.

We are pleased with the revitalized committee of SWG Chairs, and we look forward to working closely with them on important tasks such as the next CINP Brief to the NSERC Subatomic Physics Long Range Planning Committee in 2015, and developing a stronger role for the SWGs in the CINP scientific program.

Please direct any questions or new ideas to the new Chairs:

Working Group	Chair	Institution	E-mail
Beyond the Standard Model	Gerald Gwinner	University of Manitoba	gwinner@physics.umanitoba.ca
Hadron Structure/QCD	Charles Gale	McGill University	gale@physics.mcgill.ca
Nuclear Astrophysics	Iris Dillmann	TRIUMF	dillmann@triumf.ca
Nuclear Physics Education & Training	Juliette Mammei	University of Manitoba	jmammei@physics.umanitoba.ca
Nuclear Structure	Adam Garnsworthy	TRIUMF	garns@triumf.ca

CINP Individual Membership

We are pleased to report that the CINP membership has grown modestly in the past year, with the addition of several new faculty hires, and Associate Member applications from graduate students and PDFs. The CINP plays an important role in the national research planning of our community, so it is vital that the CINP have as broad membership as possible.

CINP Individual Membership - April 1, 2014			
Total Membership	105	Nuclear Astrophysics SWG	37
Faculty-class Members	72	Nuclear Structure SWG	48
Associate Members	33	Beyond the Standard Model SWG	40
Experimentalists	78	Hadrons/QCD SWG	29
Theorists	26	Education & Training SWG	35

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.

CINP Conference Support

We wish to bring to the attention of faculty and associate members that the CINP may extend 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.

Several conferences have recently been approved for sponsorship by the CINP:

Nuclear Structure 2014 (NS2014)

The “Nuclear Structure 2014” conference will be hosted by TRIUMF from July 20-25, on the campus of The University of British Columbia. This will be the 15th in this series of biennial conferences organized by North American national laboratories, returning to Canada for the first time since 1992. The scientific program will be devoted to the latest research and development in experimental and theoretical nuclear structure physics, with emphasis on the properties of nuclei at the extremes of isospin, angular momentum, excitation energy, and mass.

For more information please visit <http://ns2014.triumf.ca/>

Canadian Undergraduate Physics Conference (CUPC 2014)

The CINP will once again be a Silver Level Sponsor of the CUPC, to be held at Queen's University, October 23-26, 2014. This will allow the Institute to have a table at the CUPC Grad Fair, to promote the field of nuclear physics as a graduate study option to the undergraduates in attendance. The CINP has had tables at the graduate fairs of the last three CUPC's, and this promotion of our field has been well-received by students.

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, 2015.

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.

Please note: the CINP has unfortunately had to turn down some applications where the connection to nuclear physics was not clear, or if the meeting appeared to be of narrow interest (such as a collaboration meeting). Please be sure to carefully read over the criteria accompanying the application form, and contact Garth Huber if you have any questions.

CINP Undergraduate Research Scholarships (URS)

The first competition for the CINP URS has 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.

Eleven applications were received, which were evaluated by a committee consisting of: Jean Barrette (McGill), Peter Blunden (Manitoba, Chair), and Chris Ruiz (TRIUMF). The scholarships were awarded to the following five students:

Student	Supervisor	Project Title	Travel
Nathan Murtha (Saint Mary's)	Adam Sarty (Saint Mary's)	Testing design of co-ordinate detector for the Super Bigbite Spectrometer at JLab	Yes
Sakib Rahman (Manitoba)	Juliette Mammei (Manitoba)	Sensitivity studies for the Moller Spectrometer at JLab	No
Sean Hansen-Romu (Winnipeg)	Blair Jamieson (Winnipeg)	Simulations of ultra cold neutrons for TRIUMF	No
Benjamin Davis-Purcell (McMaster)	Garth Huber (Regina)	Hardware and software development for nuclear physics experiments at JLab	Yes
Meg Morris (Mt. Allison)	David Hornidge (Mt. Allison)	Modification of active helium target for use in pion photoproduction and Compton scattering experiments at Mainz	Yes

WNPPC Student Conference Support

The CINP awarded \$500 travel grants to support graduate students giving talks at the 2014 Winter Nuclear and Particle Physics Conference (WNPPC) in Banff. Seven applications were received, but travel grants could only be given to the first six qualified applicants.

Student	Supervisor	WNPPC Talk Title
Aaron Chester (SFU)	Krystof Starosta (SFU)	Doppler Shift Lifetime Measurements using the TIGRESS Integrated Plunger
Joochun Park (UBC)	Reiner Kruecken (TRIUMF)	Gamma-Ray Spectroscopy in the Vicinity of $^{100}\text{Sn}^*$
Nikita Bernier (Laval)	Reiner Kruecken (TRIUMF)	Study of the Photoproduction of ^8Li with the Reaction $^9\text{Be}(\gamma, p)^8\text{Li}$
Andrea Gutierrez (UBC)	Makoto Fujiwara (TRIUMF)	Antiproton Cloud Radial Compression in the ALPHA Apparatus at CERN
Oscar Hernandez (Manitoba)	Sonia Bacca (TRIUMF)	Understanding the Proton Radius Puzzle: "Nuclear Polarizability Corrections in μD "
Jennifer Pore (SFU)	Corina Andreiou (SFU)	Investigating the Structure of the Low-Lying Excited 0^{+} States in ^{116}Sn

CUPC Student Conference Support

The CINP also awarded five \$500 travel grants to support undergraduate students giving talks on nuclear physics related projects at the 2013 Canadian Undergraduate Physics Conference (CUPC) at McMaster University in October. The students were asked to acknowledge the financial support by the CINP in their presentation, adding to the visibility of the Institute at the conference. The recipients are:

Student	Supervisor	CUPC Talk Title
Dan Heslop (Manitoba)	Kumar Sharma (Manitoba)	Automating Control of Signal Shaping Amplifiers to Aid in Measurements of β - ν Correlations in ^8Li
Nicolas Reeves (Winnipeg)	Jeff Martin (Winnipeg)	Radiation Shielding Investigations for the Ultra Cold Neutron Facility at TRIUMF
Joshua Landry (Mt. Allison)	David Hornidge (Mt. Allison)	Cross Section Calculations for Unpolarized Compton Scattering from the Proton near Pion Threshold
Nick Macsai (Manitoba)	Michael Gericke (Manitoba)	Tests of Segmented Silicon Detectors for the Neutron Beta Decay Experiment at the Spallation Neutron Source
Shihao Wu (Acadia)	Svetlana Barkanova (Acadia)	Studies of the Best Kinematic Conditions to search for Weakly Interacting Massive Particles in Experiments

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 CINP is pleased to announce that it has been formally accepted as an observer to NuPECC (Nuclear Physics European Collaboration Committee). NuPECC meets three times annually, and our plan is to attend one meeting per year, particularly if a suitable representative is already in Europe on other business. Board member Rituparna Kanungo took time out from her research trip in Germany to attend the October 11-12, 2013 meeting in Krakow, Poland and made a short presentation there on the activities and funding of nuclear physics in Canada.
- Garth Huber attends the TRIUMF ACOT meetings on behalf of the CINP as a “community observer”, providing feedback on TRIUMF's planning and operations. The next meeting is scheduled for May 12-13. If you have specific information that would be useful to the CINP's input, please contact Garth Huber by May 9.
- Every February, the CINP is asked to make a 15 minute in-camera presentation to the NSERC Subatomic Physics Evaluation Section at the beginning of Large Projects Day. This year, in addition to a status report on CINP activities, we were asked to provide information to the committee on the breadth of Canadian nuclear physics research and important current and future priorities. Member input was solicited for this presentation, which was used in addition to relevant information from the most recent Subatomic Physics Long Range Plan.
- Representatives from the CINP and IPP met twice in the past year with senior NSERC leadership. The most recent meeting was with the new Vice-President of Research Grants and Scholarships, Dr. Pierre Charest, and Elizabeth Boston, the Director of Research Grants for Mathematical, Environmental and Physical Sciences, immediately after Large Projects Day. We discussed issues such as the importance of the Subatomic Physics Envelope, Long Range Planning, and the upcoming Discovery Grant Reallocation process.
- When appropriate, the CINP also suggests people for NSERC to consider for membership on the Subatomic Physics Evaluation Section, to replace the specific nuclear physics expertise of outgoing members.

Welcome to the new Director of TRIUMF

The CINP welcomes Dr. Jonathan Bagger as the next Director of TRIUMF. He comes to TRIUMF following an academic and administrative career at Johns Hopkins University since 1989. He has recently served as Vice Provost for Graduate and Postdoctoral Programs at Johns Hopkins University from 2008-2012, and as Interim Provost and Senior Vice President for Academic Affairs from 2012 to 2013. His research enters on high-energy physics at the interface of theory and experiment. Together with Julius Wess, he is the author of the monograph Supersymmetry and Supergravity. He has twice been a member of the Institute for Advanced Study, and he has served on numerous review committees including as Chair of the International Linear Collider Steering Committee. He is also a fellow of the American Physical Society and the American Association for the Advancement of Science. Dr. Bagger

clearly brings to TRIUMF a wealth of experience, and we look forward to working with him to advance the goals of the Canadian nuclear physics community.

Upcoming meetings of the CINF Institutional Members

The CINF is currently supported by eight institutional members, representing universities in 6 provinces plus TRIUMF. The institutional members are the owners of the CINF and are solely responsible for the election of the Board of Directors. Faculty and associate membership in the CINF is free. Institutional members annual dues are used to support the operation of the CINF and pay expenses not eligible to the CINF's NSERC grant, such as the partial teaching release for the Executive Director.

The next meeting of the Institutional Members is scheduled for April 16, to approve changes to the CINF Bylaws and new Articles of Continuance. The changes are required for the CINF to come into compliance with the new Federal Not-for-Profit Corporations (NFP) Act. If we do not come into compliance by October 17, 2014, the CINF will be automatically dissolved by Corporations Canada. Additional changes to the Bylaws include refinements to the Affiliate Member class, and provisions for the renewal of Associate Members, as discussed at last year's AGM. The Institutional Members will meet again later this spring to elect two new Directors.

If your university is not yet an Institutional Member, we encourage you to contact Garth Huber for further information.

NSERC Support for CINF

The CINF gratefully acknowledges support from NSERC in the form of a Major Resources Support (MRS) grant. This grant supports the CINF's external conference support program, the undergraduate research scholarship program, planning for the Long Range Plan, and other initiatives. The support for 2014-15 is \$22,500. The CINF MRS grant is up for renewal in the next competition.

CINP Board of Directors (2013-14)

Name	Institution	Role	E-mail	Term Ends
Rituparna Kanungo	Saint Mary's University		ritu@triumf.ca	June, 2016
David Hornidge	Mt. Allison University		dhornidge@mta.ca	June, 2014
Jean Barrette	McGill University	Vice-President	jean.barrette@mcgill.ca	June, 2016
Paul Garrett	University of Guelph	Treasurer	pgarrett@physics.uoguelph.ca	June, 2015
Peter Blunden	University of Manitoba	Secretary	blunden@physics.umanitoba.ca	June, 2014
Jens Dilling	TRIUMF	President	jdilling@triumf.ca	June, 2015

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