Canadian Institute of Nuclear Physics
Institut canadien de physique nucléaire

Newsletter #19, November 2021

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.

1. CINP Board of Directors (2021-22)

The CINP Institutional Members had their annual meeting via teleconference on May 21, 2021. This was the first meeting that included our two new institutional members, SFU and MUN. One of the agenda items was to elect two Board members. There were no changes in Board membership, as both Gwen Grinyer and Chris Ruiz were re-elected to new 3 year terms.

The Board is listed below, along with their assigned responsibilities.

Name	Institution	Role	E-mail	Term Ends
Michael Gericke	University of Manitoba		mgericke @ physics.umanitoba.ca	June, 2023
Gwen Grinyer	University of Regina		gwen.grinyer @ uregina.ca	June, 2024
Sangyong Jeon	McGill University	Secretary	jeon @ physics.mcgill.ca	June, 2022
Rituparna Kanungo	Saint Mary's University	President	ritu @ triumf.ca	June, 2022
Jeffery Martin	University of Winnipeg	Vice-President	j.martin @ uwinnipeg.ca	June, 2023
Chris Ruiz	TRIUMF		ruiz @ triumf.ca	June, 2024

2. SAPES Large Project Day Changes

Large Project Day is an important event at the start of NSERC competition week. Traditionally, the day is divided into two parts, with presentations by CINP, IPP, TRIUMF, SNOLAB, Perimeter, McDonald, CFI, LRPC in the morning, and presentations by the principal investigators of large proposals (requesting an average of $500k/yr or more) in the afternoon.

To reduce their workload on this long day, the Subatomic Physics Evaluation Section (SAPES) has decided to move the first half of Large Project Day to a separate meeting in December (date not yet finalized). SAPES feels that having the input from the community institutes and laboratories prior to their reading the grant applications will help them gain a better perspective of the Canadian subatomic physics research environment. Thus, the traditional CINP presentation on The Breadth of Canadian Nuclear Physics Research at SAPES Large Projects Day is now in December rather than February.

If you have something to contribute, such as:

- a major research award or recognition received
- a recent research highlight, such as a publication in a prestigious journal,
- approval or commissioning of a new research capability or technique,

please let Garth Huber know ASAP, and preferably no later than December 1, so he can send you an example slide using the CINP PPT template. His contact information is on the back page of this newsletter.

3. Message from Nigel Smith, Director of TRIUMF

We gave the new Director of TRIUMF an opportunity to introduce himself via the CINP Newsletter, and he kindly agreed.

As the new Director and CEO at TRIUMF, I am pleased to have the opportunity to introduce myself to the CINP community. Although new to TRIUMF, I am not new to the Canadian physics community, and have worked and interacted with many of you already. So, hello to new and longstanding colleagues alike!

I joined TRIUMF in May this year, having been Executive Director at SNOLAB for the last 12 years. The two labs have intersecting, yet distinctly different, science programmes; I have really enjoyed learning about the science at TRIUMF, exploring the amazing infrastructure that enables that science, and most importantly, meeting the great team and community that TRIUMF supports to deliver the science. Prior to coming to Canada, I spent 15 years at Imperial College and the UK Rutherford Appleton Laboratory, running dark matter experiments and developing the Boulby underground facility.

One of my objectives as Director is to strengthen the connections between Canada's major research facilities, so that we can develop new scientific opportunities with our academic partners, share ideas and best practice, support the community efficiently, and demonstrate the benefit of such a strong network to our university and government stakeholders. Such an ad-hoc network has already been shown to be effective in responding to the current pandemic, and the ability to support both technical and scientific capability and capacity will be essential as we collectively work to address existing and future societal challenges.

The nuclear physics programme at TRIUMF continues to encompass and deliver a board swathe of research objectives, from nuclear structure and dynamics, through precision tests of fundamental interactions, to nuclear astrophysics. These objectives are all in concert with the Canadian, and international, research community, and I have been impressed with the collaborative way that the

community and TRIUMF have continued to deliver science, despite the constraints of the current pandemic. As the Canadian sub-atomic community concludes the Long Range Planning (LRP) exercise, TRIUMF looks forward to this continued collaboration to deliver the mission that the LRP provides.

Locally, progress on the Advanced Rare Isotope Laboratory (ARIEL) continues to our new baseline plan, and we anticipate completion by 2026. This will provide the lab with new capabilities, and the ability to run several experiments concurrently, which will clearly increase our ability to deliver science. And although ISAC beam time was impacted over the last 18 months, for obvious reasons, as we emerge from the pandemic, our expectation is that we will be ramping back to pre-pandemic levels, including discussions on the feasibility of shifting to a biennial lid-up maintenance cycle. Nonetheless, even with the restricted shifts ISAC continued to deliver impactful science.

TRIUMF is also going through a period of substantial change at the moment, beyond the appointment of a new Director. On June 1st this year, we became an incorporated not-for-profit entity with charitable status, transitioning from a Joint Venture of Canadian universities. This transition has been in development for several years, and will allow TRIUMF to have a streamlined Board of Governors, facilitating more proactive decision-making, greater accountability, and more focus on the science and stewardship of TRIUMF. The connection to the member universities remains strong, with the Board of Governors being appointed by, and reporting to, a Member's Council which continues to have representation from our

university members. A new Science Council advises the Board and is comprised of scientists from member universities. To put some names to these positions, the new chair of our Board is Angus Livingstone, who has over 30 years experience translating research into societal benefit for UBC, with Lisa Kalynchuk, VP Research at University of Victoria and a member of their Medical Sciences Division, serving as our vice-chair. Walter Dixon, AVP Research at the University of Alberta and a molecular biologist, is chair of the Member's Council, and SFU's Corina Andreoiu, who will be well known to the CINP community, has taken on the role of chair of the Science Council. I am grateful to them all for taking on these positions, which will be critical as TRIUMF's governance structure evolves over the next year or so.

Finally, as many are aware and have been engaged in, TRIUMF is currently undertaking a 20-year visioning exercise to support our next five year plan. While the completion of current flagship projects, such as ARIEL, and the science programmes they will facilitate will be major deliverables this period, we are developing a clear and achievable vision of where TRIUMF will be two decades from now. The path we are pursing is evolutionary, with the expectation that we will remain a fundamental and use-inspired research facility grounded in particle accelerators, and as such, the engagement and support of the Canadian nuclear physics community will be critical in delivering on the final vision. This work will ensure we have an exciting future for TRIUMF and our community.

I look forward to meeting everyone in the future, both in person and online, and am excited to see the outcomes from the continued collaboration between TRIUMF and the Canadian nuclear physics community.

Best Regards,
Nigel

4. CINP Sessions at the CAP 2022 Congress

The Canadian Association of Physicists is currently planning to hold their annual Congress in person at McMaster University from June 5-10, 2022. A final decision on whether this will change to virtual will be made in early January.

Recognizing how CINP traditionally takes advantage of the good representation of the subatomic physics communities at CAP Congress to hold their meetings, CAP has retained the CINP planning the same as it was proposed to be in 2020 before the pandemic cancellation.

Time	**Event** (tentative schedule)
Thursday, June 9, 2022	
7:30-8:30	**CINP Breakfast Board Meeting** (by invitation only)
9:15	**CAP-TRIUMF Vogt Medal talk**
9:45	**CAP-CRM and CAP-Applied Physics Prize talks**
10:15	**Health Break**
10:45-12:15	**CINP+IPP Joint Session**, including updates from the NSERC Subatomic Physics Evaluation Section, CFI, TRIUMF, SNOLAB, and others
12:15-13:15	**CINP AGM** (participants pay for lunch)

We will provide further updates as the Congress schedule is finalized.

5. NSERC Support for CINP

CINP gratefully acknowledges support from NSERC in the form of a Subatomic Physics Major Resources Support (SAP-MRS) grant. The installment for 2021-22 is $75,000. This supports the CINP's external conference support program, the undergraduate research scholarship program, expenses for the Long Range Plan, and other initiatives.

6. Grad classes offered by TRIUMF

(submitted by Marcello Pavan, TRIUMF)

TRIUMF is once again offering specialized graduate-level courses to students across Canada via video-conference.

WINTER 2022 SESSION:

UBC Physics 527: Topics in Nuclear Physics

Instructor: Reiner Kruecken (and others).

This is the followup course to UBC Physics 505, offered in winter 2021.

The course will give an overview of the methods used to address the forefront questions concerning the structure and dynamics of atomic nuclei, in particular those far away from stability. An overview will be given on current central questions concerning the structure and dynamics of exotic nuclei, their role in producing the chemical elements in astrophysical scenarios and in testing for physics beyond the standard model of particle physics using precision experiments. The course focus is on the introduction of various experimental approaches, which will, in combination with examples from recent experiments, be used to highlight the application of the various techniques to investigate the main questions currently addressed in this field of research.

Physics of Exotic Nuclei:

- Structure of light nuclei from first principles
- Shell structure and its modification far from stability
- Collectivity at low and high energies
- Phenomena at the neutron and proton drip lines
- N=Z nuclei and isospin symmetry
- Shape coexistence
- Nuclear Astrophysics

Experimental Methods:

- Production of radioactive ion beams
- Separators and spectrometers
- Ground state properties
- Gamma-ray spectroscopy and associate techniques
- Radioactive decays
- Reaction studies

The course will not follow any particular text-book.

Presentations and recordings will be posted on CANVAS: https://canvas.ubc.ca/courses/42869 Lectures will be broadcast and recorded using Zoom. Individual access links to the recurring Zoom sessions will be sent to each external (non-UBC) student. It is preferable if students use their dedicated link so they can be identified during the session.

UBC Physics 528: Elementary Particle Physics

Last offered in winter 2021, it will only be offered in 2022 if there is sufficient demand.

UBC Physics 560: Physics and Engineering of Particle Accelerators

Instructors: Oliver Kester, Tobias Junginger, and others from TRIUMF Accelerator Div

The course will provide an introduction to the physics and technology of particle accelerators with focus on proton and ion accelerator technology. The course will include a survey of existing accelerator types and an introduction to transverse and longitudinal beam optics. The course will also include an introduction to the physics and technology of ion sources, will give an overview of radioactive ion beam production, of accelerator radio-frequency principles and more detailed aspects of room temperature and superconducting linear accelerators, as well as high energy circular machines. The course should appeal to students of Accelerator Physics, as well as to students of Experimental Nuclear and Particle Physics and other students interested in Particle Accelerators.

Prerequisites: Classical Mechanics, Classical Electro-dynamics

For questions, please contact Marcello Pavan at marcello@triumf.ca

7. Achievement by a CINP URS Recipient (submitted by Thomas Brunner, McGill)

We offer congratulations to **Emma Klemets** of McGill University for winning the second prize for best presentation at CASST: The Canadian Astro-Particle Physics Summer Student Talk Competition. Emma is the recipient of a CINP Undergraduate Research Scholarship for 2021, under the supervision of Thomas Brunner. Emma's talk was on the research she performed with Dr. Brunner ***"Cherenkov Meaurements with Chroma for nEXO's Muon Veto"***.

8. Canadian Undergraduate Physics Conference (CUPC 2021)

CUPC was organized this year by Ryerson University, and was held virtually on Nov 4-7.

CINP supported the CUPC through a platinum-level sponsorship, with a named CINP student prize. We congratulate **Emily Love** from TRIUMF, who received the CINP award for the talk ***"Sorting and Selecting Orbitals in Ab-Initio Nuclear Theory"***. She also won the Best Overall Presentation, and the 1st Overall (highest-scoring) student presentation of CUPC 2021. Congratulations Emily!

We also thank PhD students Matt Heffernan (McGill) and Sakib Rahman (Manitoba) for representing the CINP as judges at the CUPC.

9. New Scientific Opportunities with the TRIUMF ARIEL e-linac

(submitted by Jeffery Martin, Winnipeg)

TRIUMF will host a workshop exploring new scientific opportunities at ARIEL. The workshop is driven in part by the preparation of the DarkLight@ARIEL experiment in the electron hall. A magnetic spectrometer system will be installed in the ARIEL beam hall in the next year, with an initial program to search for corroborating evidence of the new physics proposed to explain current anomalies in 8Be and 4He decay. An energy upgrade and recirculation ring are also envisioned for ARIEL. To make the fullest use of the ARIEL e-Linac, and similar-scale accelerators, we will hold a workshop at the TRIUMF laboratory in Vancouver, BC on May 24-27, 2022 to showcase the capabilities of ARIEL and develop a wider program for this apparatus, and other experiments of similar scale, that can address current anomalies and outstanding questions in particle and nuclear physics.

Meeting website:
https://meetings.triumf.ca/event/262/

Organizing committee: Jan Bernauer (Stony Brook), Ross Corliss (Stony Brook), Michael Hasinoff (UBC), Rituparna Kanungo (Saint Mary's), Jeffery Martin (Winnipeg), Richard Milner (MIT), Katherine Pachal (TRIUMF) and Stanley Yen (TRIUMF).

10. Representation and Input to Various 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 its behalf. As a member, you can provide valuable input to CINP.

To provide input to any of these matters, or request further information, please see the Executive Director contact information at the end of the newsletter.

- The **Advisory Committee on TRIUMF** (ACOT) meets and reports to the NRC twice a year. Garth Huber represents the CINP as a "community observer". ACOT met virtually Nov 18-19, and will next meet Apr, 2022 (hopefully in person). Please let us know if you have specific information that would be useful to CINP's input.

- Every year, the CINP Executive Director is asked to **suggest new members of the NSERC Subatomic Physics Evaluation Section (SAPES)**, to replace the specific expertise of outgoing members. The most recent suggestions were sent to NSERC on May 13. Please let Garth Huber know if you have any suggestions for the 2022-23 committee. Your suggestions can be either international or domestic, from any subatomic physics sub-discipline, keeping in mind the Tri-Council conflict of interest guidelines, which stipulate that committee members cannot be applicants in that competition.

- We would like to thank those CINP members who have provided input the Canadian Subatomic Physics Long Range Plan (LRP). The report text is now finalized and it is in the process of graphical layout prior to release. CINP was one of three commissioning bodies for the report (the others being NSERC and IPP), and it played a role in the selection of the LRPC members and forming the terms of reference for the report. **We thank members Rituparna Kanungo, Juliette Mammei and Jeff Martin for their work on the LRPC.** Garth Huber represented CINP as an ex-officio member. More information about the LRP can be found at http://www.SubatomicPhysics.ca

- Garth Huber represents CINP on the Carleton-Victoria-Winnipeg MRS Resource Planning Board. The Board is quite active, meeting about 6 times a year. **There is an openness to support detector projects from CINP members.** Please visit https://cinp.ca/subatomic-physics-major-resources-support-facilities or contact Garth Huber for more information.

- **CINP can provide letters of support** for major projects to foreign agencies, where we describe the context for how your project fits within the CINP Long Range Plan *"The 2022–2036 Horizon for Nuclear Physics in Canada: From the Core of Matter to the Fuel of Stars"* or the Canadian Subatomic Physics Long Range Plan.

- Once NSERC and other important agencies resume working at their respective offices, we plan to resume our periodic meetings with senior government officials in Ottawa, to **press for improved funding and project management of resources of importance to Canadian nuclear physics**. The next trip is planned to take place just before CAP Congress in June. Please GH know if there is a specific issue you would like raised.

- CINP and IPP presented the joint document on *The Context and Environment of Canadian Subatomic Physics Research at Canadian Universities* to the Subatomic Physics Evaluation Section (SAPES) at their Nov 5 fall orientation meeting. This document is needed because many SAPES members are not very familiar with the Canadian research funding process and the research environment at Canadian universities. The document can be downloaded from: https://cinp.ca/cinp-white-papers

11. Winter Nuclear and Particle Physics Conference (WNPPC 2022)

(submitted by Beatrice Franke, TRIUMF)

February 15th to 18th of 2022 — fully online.

The Winter Nuclear and Particle Physics Conference is a national meeting for the Canadian subatomic physics community, with a special focus on providing a forum for junior researchers (students and postdocs) to present their research and interact with groups across Canada. The 2022 meeting is being organized by TRIUMF, and as usual will feature sessions focusing on the research areas of interest to the Canadian subatomic physics community, both experimental and theoretical.

WNPPC 2022 is being organized as a virtual conference with talks being presented via zoom. To keep the spirit of this conference, we will organize virtual social events to connect the community and foster exchange between participants. Junior researchers will have the opportunity to interact with invited speakers and other researchers across Canada to discuss research and other topics in a relaxed environment.

The WNPPC is expected to return to an in-person format in 2023 for its 60th anniversary, at Silverstar Mountain Resort, near Vernon BC.

A non-exclusive list of topics presented at the conference are:

- Dark Matter searches
- Electroweak and Higgs physics
- Neutrino properties
- QCD and hadrons
- Physics beyond the Standard Model
- Nuclear structure
- Nuclear and particle astrophysics

Please visit the conference website https://wnppc.triumf.ca/2022/ for new information as the organizers update the program and speakers.

Important Dates:

Registration opens:	Nov 25, 2021
Deadline to submit abstract:	Dec 16, 2021
Registration closes:	Jan 7, 2022
Notification of accepted abstracts:	Jan 14, 2022

Three research highlights were submitted after our Oct 14 request for announcements, milestones, etc. for the newsletter. Reports from other CINP members are always welcome.

12. Nuclear Science Week 2021

(submitted by Jason Donev, Calgary)

Nuclear Science Week 2021 was a success despite the limitations imposed by COVID isolation. Millions of social media impressions were made on various social media platforms. Various organizations across Canada including New Brunswick Power, McMaster University, Humber College, the University of Saskatchewan, the University of Regina and the University of Calgary all held virtual events.

The Sylvia Fedoruk Canadian Centre for Nuclear Innovation Inc. hosted the 9th Annual NuclearFACTS Peer-to-Peer Forum 2021 online event on October 19, supported by the Centre for the Study of Science and Innovation Policy with 15 research presentations and more than 50 people attending.

McMaster University's Nuclear Operations & Facilities (NO&F) hosted their first-ever Nuclear Research Symposium, which gave McMaster graduate students an opportunity to share their research in nuclear science with a small in-person audience. McMaster University hosted a "Fact or Fiction" game and a virtual tour of the University's nuclear facilities on Instagram. NO&F partnered with the Canadian Nuclear Association to create a post highlighting nine interesting applications of nuclear science. This post was published on Nuclear Science Week's Instagram, Twitter, and Facebook pages, as well as on NO&F's and CNA's LinkedIn pages, and received over 5000 impressions.

The week also included the University of Calgary launching a bilingual Knowing Nuclear / Connaître le Nucléaire video series and a Spanish and French version of the Energy Encyclopedia. New Brunswick Power partnered with the Centre of Excellence for Energy to talk about how knowing nuclear can lead to careers in radiation therapy. The social media campaign included a number of quizzes for students on how well they know nuclear science and an opportunity to play with a PhET derived simulation build a nucleus (see figure 1 and in French, Spanish and even Romanian!) or tour a nuclear reactor (see figure 2) or see how nuclear science powers space exploration (also in Spanish).

Figure 1 Build a nucleus simulation

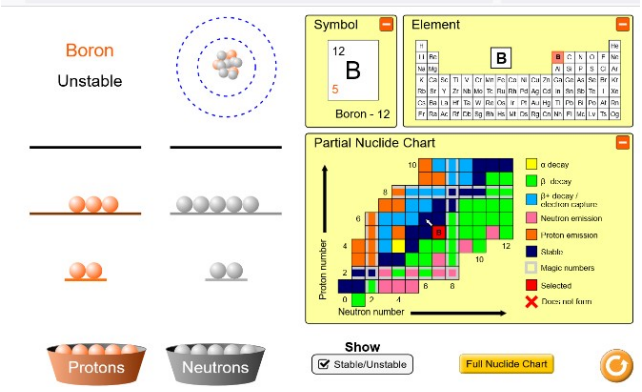
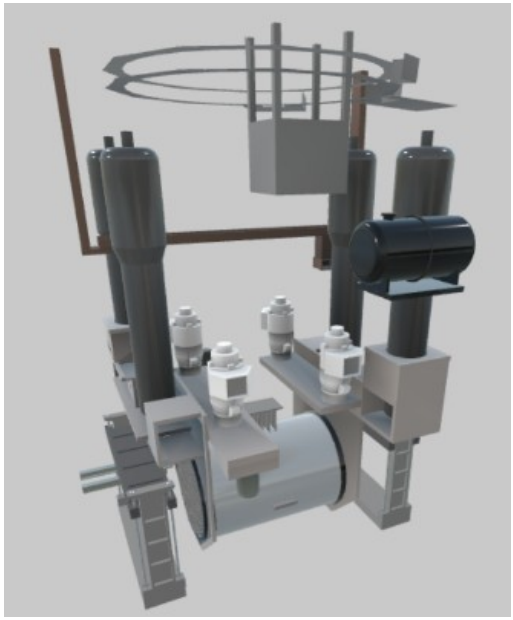


Figure 2 CANDU reactor visualization



13. CaNPAN: The Canadian Nuclear Physics for Astrophysics Network

(submitted by Chris Ruiz, TRIUMF)

In 2021 Canadian Nuclear Physics researchers interested in the critical link between nuclear physics theory and data and computational astrophysics formed a new network, CaNPAN (www.canpan.ca). This network will serve as a hub for Canadian nuclear physics experiment and theory efforts in the area of astrophysics, and as a portal to wider networks globally. CaNPAN is pleased to join IReNA, the International Research Effort in Nuclear Astrophysics. In addition CaNPAN acts as a host for Canadian-funded projects. The first such project, funded by NSERC, is "Nuclear Physics of the Dynamic Origin of the Elements". This joint educational-research project provides a framework for Canadian graduate students to become proficient in and perform research using state-of-the-art stellar codes through the MESA and NuGrid platforms that relates to their experimental nuclear physics projects at labs like TRIUMF-ISAC. This is under the tutelage of Dr. Pavel Denissenkov, an expert in these types of calculation. Funding is available to supplement existing student subsidies through experimental physics grants to enable a fraction of the students' efforts in this area. The program is designed to equip a new generation of Canadian physicists with the means to perform calculations enabling the identification of astrophysically-important experimental measurements, and to evaluate the impact of those measurements one done.
The first cohort of 5 students start the training modules on November 15th. Interested students or supervisors can sign up to the CaNPAN website or email the P.I. Chris Ruiz at ruiz@triumf.ca.

14. IUPAP Nuclear Science Symposium and IUPAP WG.9 Annual General Meeting

(submitted by Wim van Oers, (Executive) Secretary of IUPAP Working Group 9)

Draft Agenda

Southeastern Universities Research Association (SURA)
Headquarters, 1201 New York Ave NW, Washington, DC

The two meetings are scheduled as in-person meetings, unless Coronavirus Pandemic travel restrictions require a virtual meeting.

Tuesday June 14, 2022

08:45 Introduction (by the Chair of IUPAP WG.9 Angela Bracco)
Chair: Robert E. Tribble
09:00 "Rare Isotope Experiments [recent experimental results of note)" [Ritaparna Kanungo, Saint Mary's University]
10:00 "Neutrinos from the CNO Cycle" [Barbara Caccianiga, INFN-Milano, Universita di Milano]
11:00 "Status of Neutrino-less Double Beta-Decay Experiments" [Erica Caden, SNOLAB]
12:00 "Machine Learning and AI for Nuclear Science" [John W. Clark, Washington University]
13:00 Lunch break
14:00 "Cosmic Formation of the Elements" [Hendrik Schatz, Michigan State University]
15:00 "Increasing Energy Needs and the Future of Nuclear Power in the Era of Climate Change" [Shannon Bragg-Sitton, Idaho National Laboratory]
16:00 "The Structure of the Nucleon" [Silvia Niccolai, Institut de Physique Nucleaire, Orsay]
17:00 "Studies of the Structure of Exotic Hadrons" [Takashi Nakano, Osaka University]
19:00 Working Dinner

Wednesday June 15, 2022

Chair: Angela Bracco
08:00 "Status of FAIR with the Advent of its Four Science Projects" {Karlheinz Langanke, Technische Universitaet Darmstadt]
09:00 "Fundamental Symmetries from Table-Top Experiments to Collider Experiments" [Jordy de Vries, National Institute for Subatomic Physics]
10:00 "Initial Experiments with the Electron Collider" [Renee Fatemi, University of Kentucky]
11:00 "Curious Results beyond the Standard Model and Dark Mattere" [Jonathan L. Feng, University of California at Irvine]
12:00 "Targeted Alpha-Particle Therapies" [Jonathan D. Burns, University of Alabama at Birmingham]
13:00 Lunch Break
14:00 IUPAP WG.9 AnnuaI General Meeting

Chair: Angela Bracco
Long Range planning Reports
14:00 ALAFNA [Alinka Lepine-Szily, Universidade de Sao Paulo]
14:30 ANPhA [Weiping Liu, China Atomic Energy Institute]
15:00 NSAC [Gail Dodge, Old Dominion University]
15:30 NuPECC [Marek Lewitowicz, GANIL]
16:00 iThemba LABS and South-African Isotope Facility, Faical Azaiez]
16:30 Subatomic Physics in Canada [Nigel Smith, TRIUMF]
17:00 Membership of IUPAP WG.9
Next dates of the IUPAP WG.9 AGM and IUPAP Nuclear Science Symposium
17:30 Adjourn

15. COVID-19 Impacts on CINP Programs

Due to the COVID-19 travel restrictions, most conferences and workshops have either moved to a virtual format, or been delayed. This has had a significant impact upon CINP's support programs.

As life gradually is returning to some kind of new normal, we are starting to see new applications being submitted for:

- **Junior Scientist (JSci) Travel Support Program**
  Allows graduate students and PDFs to broaden their research horizon and become more mature scientists, by attending workshops that can provide future job skills, or by disseminating their work at a major conference. Applications are accepted on a continuing basis, and must be submitted at least 2 months (preferably even earlier) before the expected date of travel.
  https://cinp.ca/junior-scientist-travel-support-program-jsci

- **Conference Support Program**
  CINP regularly provides support towards Conferences, and Workshops.
  https://cinp.ca/conference-support

Please keep these funding opportunities in mind for your next event.

16. Scientific Working Group Chairs

Nuclear Structure: Adam Garnsworthy (TRIUMF)
Nuclear Astrophysics: Iris Dillmann (TRIUMF)
Fundamental Symmetries:
Gerald Gwinner(Manitoba)
Hadron Structure/QCD:
Svetlana Barkanova (Memorial)
Nuclear Theory:
Alexandros Gezerlis (Guelph)
Nuclear Education and Training:
Juliette Mammei (Manitoba)

17. CINP Contact Information

CINP Executive Director:

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

Garth Huber, Ph.D.
CINP Executive Director
c/o University of Regina
306-585-4240
huberg@cinp.ca

CINP Treasurer:

Greg Hackman
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treasurer@cinp.ca

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