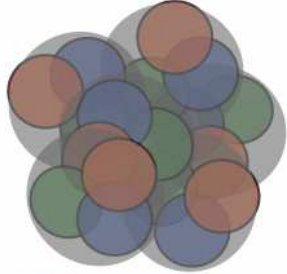


C I N P



I C P N

**Canadian Institute of  
Nuclear Physics**

**Institut canadien de  
physique nucléaire**

**Garth Huber  
CINP Executive Director**

**2025 Individual Members AGM**

**June 12, 2025**

**University of Saskatchewan, Saskatoon, SK**

# Agenda

## 1. Guest Presentation

- Pan-Canadian MRS Coordination Board  
Jim Pinfold

## 2. Executive Director's report

## 3. Financial Report

- Prepared by Greg Hackman

## 4. Discussion Items

## 5. Comments and Suggestions from Membership

## 6. Adjourn

# What is the CINP?

- The 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.
  - Federally incorporated under the Canada Not-for-profit Corporations Act.
- Represents researchers covering all aspects of experimental and theoretical nuclear physics. Co-ordinates planning on a national scale and exchanges information within and between the various sub-fields of nuclear physics.
- Leads initiatives to strengthen the level and quality of nuclear physics research in Canada, including fellowships, undergraduate research scholarships, student travel awards, and targeted conference support.

# CINP Membership Classes



## INDIVIDUAL MEMBERS

- Open to any resident of Canada who has sufficient training and competence in the discipline of Nuclear Physics to enable the individual to play a significant role in the activities of the Institute.
- No dues or assessments.

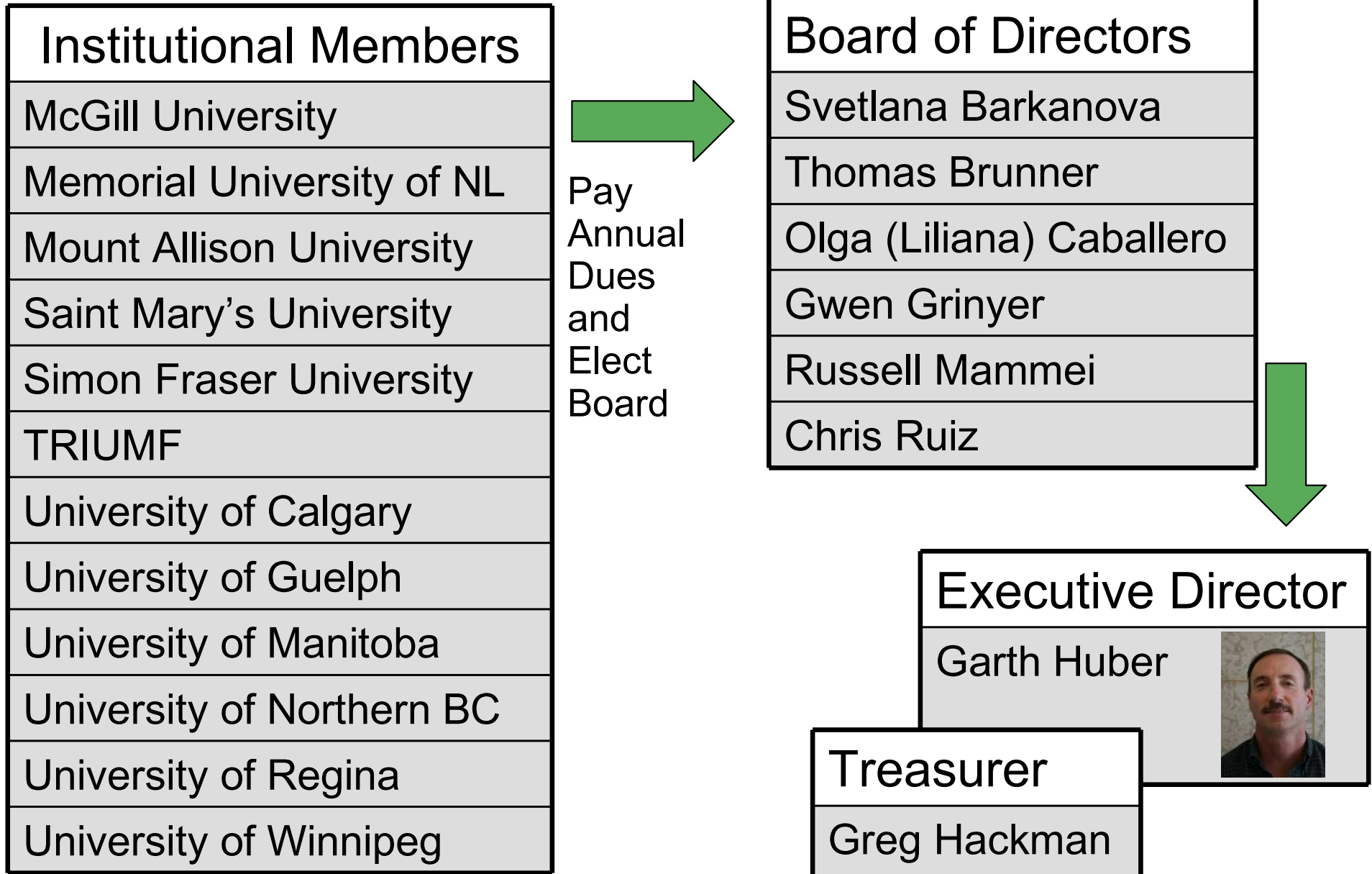
## INSTITUTIONAL MEMBERS

- Universities and laboratories which are actively involved in academic research in Nuclear Physics.
- Meet annually to elect the Directors of the Institute.
- Must pay annual dues as levied by the Board of Directors.

## AFFILIATE MEMBERS

- Industrial corporations, charitable organizations, etc. with staff members who have expertise in Nuclear Physics.
- Recognition will be based on annual donations.
- Qualified staff members permitted to attend Institute activities.

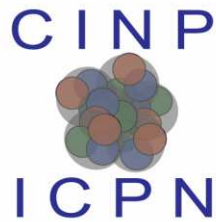
# CINP Governance



# Our thanks to:

- **Thank you to Rituparna Kanungo, who is stepping down from the CINP Board after many years of service**
  - Four terms as Board member (2013-25)
  - President: 2015-22
  - Secretary: 2014-15
- Please welcome incoming Board member Svetlana (Memorial) who was elected at the CINP Institutional Members meeting on May 14
- **The Institutional Members are the owners of the CINP, and have a significant say in CINP policy through the Board**
  - It's highly desirable to have a regular rotation of CINP members on the Board, and for as wide representation as possible
  - If your university is not yet listed, please consider joining us!

# CINP Individual Membership



- **Small growth in membership in last year**
  - Net gain of 11 members since last year
  - 20 new Associate Members, offset by net loss of 9 due to finding permanent positions outside Canada or leaving field
  - 1 new Faculty Member, offset by loss of Rene Roy (Laval)

## New Faculty Member:

M. Bradley (Saskatchewan)

## New Associate Members:

V. Akshaya (Manitoba)	L. Opitz (Regina)
H. Asch (SFU)	S. Plante (Regina)
S. Ciccone (Guelph)	M. Quinn (Regina)
M. Cockshutt (Victoria)	R. Rai (McGill)
D. Duque (UBC)	H. Regi (Regina)
D. Galach (McGill)	A. Roitman (McGill)
G. Gelinas (UBC)	R. Ross (McGill)
F. Ghaly (Calgary)	D. Shah (McMaster)
A. Hamdi (Regina)	H. Singh (Regina)
R. Hill (Queen's)	
J. Issa (Victoria)	

	Now	1 Year Ago	Change
As of May 1, 2025			
<b>Faculty Level</b>	<b>93</b>	<b>93</b>	<b>+0</b>
<b>Associate</b>	<b>98</b>	<b>87</b>	<b>+11</b>
<b>Experiment Major Interest</b>	<b>145</b>	<b>132</b>	<b>+13</b>
<b>Theory Major Interest</b>	<b>44</b>	<b>46</b>	<b>-2</b>

# Scientific Working Groups

Working Group	Members	Chair
Nuclear Astrophysics	76	Nicole Vassh (TRIUMF)
Nuclear Structure	79	Paul Garrett (Guelph)
Fundamental Symmetries	92	Jeff Martin (Winnipeg)
Hadrons/QCD	57	Svetlana Barkanova (Memorial)
Nuclear Theory	37	Alex Gezerlis (Guelph)
Nuclear Physics Education & Training	66	Ruben Sandapen (Acadia)

## SWG Chair Duties:

- be main point-of-contact for SWG membership
- help facilitate CINP scientific program, e.g. contribute material to or suggest authors for the CINP website and newsletter, and help organize workshops
- help write the CINP Brief for input to the NSERC Subatomic Physics Long Range Plan, and to provide input on other CINP activities, such as the annual presentation at NSERC Large Projects Day and the AGM
- act as an advisor to the CINP Executive Director on related scientific issues, funding, and long range planning



# CINP 2024–25 Accomplishments

## NSERC MRS Grant Renewal (2025–30)

### SAPES comments on CINP grant application:

- **Excellence of Researcher: Outstanding**
  - The co-applicants were: G. Hackman (PI), G. Huber, CINP Board Members
- **Merit of the Proposal: Very Strong**
  - SAPES noted the crucial role of LRP planning and that it is imperative that the community be given the resources necessary for this process. CINP's many HQP support programs, including conference support grants, and summer research positions, were explicitly noted.
- **Training of Highly Qualified Personnel: Very Strong**
  - CINP has many excellent programs ... significantly enhances the opportunities for students beyond what would be available from their supervisors grants
  - field of nuclear physics"
- **Need for Funds: Very Strong**
  - "One of the most important functions of CINP is to coordinate the nuclear physics community's response to policy issues, such as input to the LRP... This effort is enthusiastically supported by the Section"
- **Funds Awarded:**
  - FY25-26: \$100k (includes \$23.3k for LRP)    FY26-27: \$100k (incl LRP)
  - FY27-28: \$80k    FY28-29: \$82k    FY29-30: \$84k
- **After removing LRP commitment, the remaining funds are a decrease from current activities, we were spending COVID surplus at ~\$90k/year**

# CINP 2024–25 Accomplishments



- **Nuclear Physics Representation**

- The CINP is vital in giving the nuclear physics research community a coherent and strong voice
- CINP presentation at SAPES Fall Orientation Session on Dec 15, and observer at Large Project Day
  - Large Project Day is now entirely *in-camera*
- Input to SAPES membership
- NP Community Representative at Advisory Committee on TRIUMF (ACOT)
- Nigel Smith (TRIUMF Dir) has instituted a regular set of meetings with ED of CINP, IPP, McDonald Inst
- Pan-Canadian MRS Coordination Board
- Formal observer to NuPECC (Nuclear Physics European Collaboration Committee)

# CINP 2024–25 Accomplishments



- **Nuclear Physics Representation**

- In-person meetings in Ottawa on November 8, 2024 (GH & IPP Director Carsten Kraus)
- NSERC, CFI, Innovation Science and Economic Development Canada (ISED)
- Virtual meeting on November 21 with Office of the Chief Science Advisor (OCSA)

- **Three issues were discussed:**

- a) **Follow up on initiatives announced in 2024 Federal Budget**

- Likely role of new Capstone Organization
- Plans for implementing new Major Research Facilities (MRF) framework
- Implementation of announced new Tri-Council funds
- Future additional supports for Graduate Students

- b) **Canada's role in future major international science projects**

- Possible CERN Associate membership
- Proposed Canada/USA Science & Technology agreement

- c) **Canadian Subatomic Physics Long Range Plan 2027-2034**

- Requested their support and input for this initiative
- NSERC and CFI emphasized the need for the new LRP to provide more clarity than the past on community priorities that can go towards the evaluation of new and ongoing projects.
- The meetings were extremely useful, and were well received
- Having the meetings in autumn, rather than in February (in association with the former Large Project Day) was very effective, as federal budget is still being written then, and so there is more chance of a positive impact.
- Another trip is planned for autumn 2025

# CINP role in 2027–34 Long Range Plan



- **CINP and IPP are tasked to consult with their respective communities, and prepare Briefs to the LRP Committee, following a fair and rigorous process.**
  - The CINP Brief must summarize the scientific vision and priorities of the Canadian nuclear physics research community, including both experimental and theoretical facets.
- **The CINP Brief writing committee consists of the six SWG Chairs with the Executive Director as lead editor.**
  - Two SWG Chairs (P. Garrett, N. Vassh) were asked to serve on the SAP-LRP. We thank Greg Christian and Corina Andreoiu for agreeing to take their places on the CINP Brief Writing Committee.
  - After input is received, Brief writing committee will meet in person at TRIUMF in August to finalize the Brief and our recommendations.
  - CINP Executive Director is also an ex-officio (non-voting) member of and resource to the LRP Committee.
- **43 Notices to Submit Briefs received by CINP**
- **34 Briefs submitted so far**
- **CINP Town Hall Meeting: TOMORROW!**
- **Final version of Briefs due: June 27**

# CINP 2024–25 Accomplishments



- **CINP Undergraduate Research Scholarships (URS)**

- A supervisor can nominate only their best student for the award.
- \$6k student stipend which must be matched by supervisor to at least \$10k
- \$1300 travel supplement available if the supervisor intends to send the student to a laboratory or to work with a second collaborator for an extended period

- **CINP URS is complementary to the NSERC USRA in several key aspects:**

- 1) Gifted international students studying in Canada are eligible to apply for the CINP URS, but not the NSERC USRA
- 2) Optional Travel Award allows the supervisor to send student to a lab or work with second collaborator for an extended period.

- **13 applications were received, funds were available for 6x\$6000 awards**
- **Selection Committee: Martin Alcorta (TRIUMF), Chair, Ruben Sandapen (Acadia), GH**

- **The 5 year budget plan will cap the URS at 6x\$6000 awards through FY29**
- **As a further budget measure, the Travel Supplement currently offered as part of the URS program will be discontinued for FY26-29. It was kept for FY25 as this was already committed as part of the 2025 application process.**

# CINP 2024–25 Accomplishments



## 2025 CINP Undergraduate Research Scholarships

Student	Supervisor	Project Title
Mika Nalbandian (Queen's)	Takamasa Momose (UBC)	Setting up the mercury-based magnetometer for TUCAN @ TRIUMF
Simon Pankratz (Winnipeg)	Russell Mammei (Winnipeg)	TUCAN nEDM large substrate deposition chamber setup and commissioning
Julia Parker (Guelph)	Liliana Caballero (Guelph)	Exploring the effect of enhanced alpha decay rates on the r-process
Aryan Prasad (Toronto)	Makoto Fujiwara (TRIUMF)	Development towards gravity measurement with laser-cooled antihydrogen
Zachary Sullivan (Regina)	Gwen Grinyer (Regina)	Resonant proton elastic scattering on $^{17}\text{F}$
Ripanjeet Toor (Alberta)	Andrzej Czarnecki (Alberta)	Hadron-mediated coupling of 5 photons



# CINP 2024–25 Accomplishments



## • CINP Graduate Fellowship

- Program began in 2021
- Two \$15,000 fellowships to PhD students of very high merit, matched by supervisor or home institution to at least \$35,000
- In addition to academic and scientific criteria, the application has an EDI component, where applicants wrote a 1 page description of what role a PhD student and Graduate Fellow can play in promoting and advancing EDI in our community
- 17 applications were received for fellowship, competition very tight
- **Selection Committee:** Russell Mammei (Winnipeg), Andrea Capra (TRIUMF), Ruben Sandapen (Acadia)

### Akshaya Vijay (Manitoba)

*Supervisor: Wouter Deconinck*

The Electron-Ion Collider (EIC), to be built at Brookhaven National Laboratory, will explore proton mass, spin, and dense gluon systems. Her research focuses on the barrel electromagnetic calorimeter of the ePIC detector, also known as the Barrel Imaging Calorimeter (BIC), including: developing and optimizing the BIC through hardware prototyping, clustering algorithms, and physics simulations.

### Frank Wu (SFU)

*Supervisor: Corina Andreoiu*

Study of electromagnetic transition rates in semi-magic  $^{118,120}\text{Sn}$  using thermal neutron capture at ILL in Grenoble, France. Gamma-ray cascades from the capture state will be used to extract the lifetimes of  $^{118,120}\text{Sn}$  excited states with the fast-timing technique. His results will shed light on the collectivity and degree of configuration mixing of the excited states in these isotopes.

# 2024 Graduate Fellowship Report

- **Zarin Ahmed (Guelph)** *Supervisor: Paul Garrett*
- *Investigating Shape Coexistence and Collectivity in  $^{96}\text{Zr}$  via “Safe” and “Unsafe” Coulomb Excitation*
- The Zr ( $Z=40$ ) isotopes exhibit a striking evolution in nuclear structure near  $A\sim 100$ , with a sharp transition in shape occurring near  $N=60$ . In this region, ground-state configurations of even-even Sr and Zr isotopes, transition abruptly from spherical to deformed shapes, indicative of a quantum phase transition (QPT).
- To extend and refine the spectroscopic data relevant to these open questions, a multi-step Coulomb-excitation experiment was conducted at INFN–Legnaro National Laboratories (INFN-LNL), in Italy. In the experiment, a 528-MeV  $^{96}\text{Zr}$  beam was accelerated using the Tandem and ALPI systems at LNL and was directed onto a  $^{92}\text{Mo}$  target.
- Over the past year, my work has focused on a detailed, component-wise analysis of the AGATA-PRISMA dataset, which has laid the groundwork for my PhD analysis of the measured cross sections to extract the electromagnetic transition probabilities in  $^{96}\text{Zr}$ .

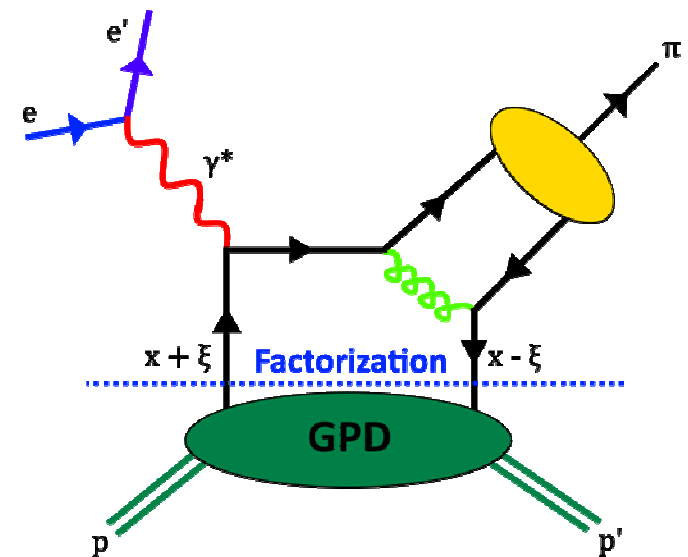


- For more details, please see the article in the May CINP Newsletter



# 2024 Graduate Fellowship Report

- **Nathan Heinrich (Regina)** *Supervisor: Garth Huber*
- *Pion Electroproduction and Generalized Parton Distribution (GPD) Extraction*
- One of the major problems in our understanding of the proton has been the spin crisis, in which it is unclear how spin emerges from its constituent parts (quarks and gluons). To address this issue, a new kind of object had to be developed called Generalized Parton Distributions (GPDs) which encode the total angular momentum of the quarks and gluons inside the proton.
- GPD extractions can only be performed if the hard-soft factorization regime has been reached. The most important conditions of reaching this regime are  $\sigma_L \sim Q^{-6}$  and  $\sigma_T \ll \sigma_L$ , where  $\sigma_T$  and  $\sigma_L$  refer to the contributions from the longitudinally and transversely polarized virtual photons.
- While the factorization theorem is expected to be valid at  $Q^2 \geq 10 \text{ GeV}^2$ , various other experimental studies assume applicability at more moderate  $Q^2$ . This verification is the primary purpose of this study.
- Over the course of the last year a great deal of progress has been made to understand rate dependent corrections, needed to ensure that the data are accurate and reliable.
- With the conclusion of these studies, work is beginning on the extraction of Rosenbluth separated cross-sections, with publications expected after that.



- For more details, please see the article in the May CINP Newsletter

# CINP 2024–25 Accomplishments

## • Community Outreach

- CINP facilitates new connections and allows the disparate Canadian nuclear physics community to develop a common identity
- CINP website <http://cinp.ca/> content added regularly
- 2 Newsletters annually



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

### 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.



Canadian Institute of Nuclear Physics  
Institut Canadien de Physique Nucléaire

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Information and News

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- Newsletters
- Conference Support
- AGM slides
- CINP White Papers

Scientific Working Groups

- Overview
- Nuclear Astrophysics
- Nuclear Structure
- Fundamental Symmetries
- Hadronic Physics/QCD
- Education and Training

Important Links

- Subatomic Physics Long Range Plan
- NSERC News
- SAPES Chair Reports (2010-)
- GSC-19 Chair Reports (2001-09)
- IUPAP Working Group WG.9



Griffin with DESCANT and SCEPTAR

The Canadian Institute of Nuclear Physics 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.

# CINP NSERC Expenditures

## – Prepared by Greg Hackman

FY24 (preliminary)	
FY24 Installment	75,000
Conference Sponsorship	10,500
Student Conf Support	12,457
Junior Scientist Travel	6950
Undergrad Scholarships	60,500
URS Travel Supplement	4,536
Graduate Fellowships	26,000
Representation Travel	4,010
Recruitment	2,250
Misc	670
<b>FY24 Expenses</b>	<b>128,529</b>

- Rapidly drew down COVID19 surplus
  - Projected \$130,700 last year
- Unencumbered carry-forward into 2025: \$31,401

FY25 (budgeted)	
FY25 Installment	100,000
Conference Sponsorship	7,000
Student Conf Support	6,000
Junior Scientist Travel	7,000
Undergrad Scholarships	36,000
URS Travel Supplement	3,900
Graduate Fellowships	30,000
Representation Travel	
ACOT (1 trip)	1,250
Other domestic	3,350
International	0
Recruitment	1,750
LRP	\$23,333
Misc	730
<b>FY25 Projected Expenses</b>	<b>113,313</b>

# CINP NSERC 5 Year Budget Plan

## – Prepared by the two GHs

NSERC By Year					
	FY2025	FY2026	FY2027	FY2028	FY2029
<b>Installment</b>	<b>100,000</b>	<b>100,000</b>	<b>80,000</b>	<b>82,000</b>	<b>84,000</b>
Conference Sponsorship	7,000	7,000	7,000	7,000	7,000
Student Conf Support	6,000	6,000	6,000	6,000	6,000
Junior Scientist Travel	0	0	0	0	0
Undergrad Scholarships	36,000	36,000	36,000	36,000	36,000
URS Travel Supplement	3,900	0	0	0	0
Graduate Fellowships	30,000	30,000	30,000	30,000	30,000
Representation Travel	4,600	4,750	4,900	5,050	5,200
LRP	23,333	13,333	0	0	0
Recruitment	1,750	1,750	1,750	1,750	1,750
Misc	730	750	770	790	810
<b>Expenses</b>	<b>113,313</b>	<b>99,583</b>	<b>86,420</b>	<b>86,590</b>	<b>86,760</b>
<b>Surplus (Deficit)</b>	<b>(13,313)</b>	<b>417</b>	<b>(6,420)</b>	<b>(4,590)</b>	<b>(2,760)</b>
<b>NSERC Account Balance</b>	<b>18,088</b>	<b>18,505</b>	<b>12,085</b>	<b>7,495</b>	<b>4,735</b>

# CINP Private Account

– Prepared by Greg Hackman



FY24 (preliminary)	
FY24 Dues assessed	\$28,000
Executive Director	\$24,000
Finance Expenses	
Audit	\$3,885
Bank	\$0
Industry Canada	\$36
Total FY24 Expenses	\$27,921
Surplus (Deficit)	\$79
Balance at end	\$17,995

FY25 (budgeted)	
FY25 Dues assessed	\$27,500
Executive Director	\$24,000
Finance Expenses	
Audit	\$3,885
Bank	\$100
Industry Canada	\$12
Total FY25 Expenses	\$27,997
Surplus (Deficit)	(\$497)
Balance at end	\$17,498

- Tiny surplus in 2024, Small deficit predicted in 2025
- Uncertainty in dues, Exec Dir compensation may lead to increasing deficits
- Need to increase private account revenue – fee increases will need to be solidly justified



## 4. Discussion Item:

### Feedback from Graduate Fellowship Selection Committee

- **Current eligibility:** Students can apply at any stage of their PhD program, including the final year of their MSc program prior to beginning PhD studies.
- **Comment:** It is difficult to equitably compare early career students to more senior PhD students, not only in terms of their capabilities, but also in terms of what referees can write about. Some letters came from previous undergraduate supervisors, which are less relevant for a PhD fellowship.
- **Suggestion:** Restrict students to either:
  - those who have finished their candidacy/comprehensive exam?
  - or those who have completed at least 3 years of graduate studies?
  - or maybe those who have completed at least 12 credits (4 classes) of graduate level coursework?

## 4. Discussion Item:

### Feedback from Graduate Fellowship Selection Committee

- **Current eligibility:** A CINP faculty member can sponsor an unlimited number Graduate Fellow applications.
- **Comment:** There were 17 applications for only 2 awards (11% success rate). One supervisor's group submitted 4 applications.
- Since the supervisor is already asked to compare (in their letters) the merits of 2 or more of their students, there should be a limit on the number of applications submitted per supervisor's group.
- **Suggestion:** URS supervisors are restricted to only a single application per year. Should there be a limit of 1 or 2 for Graduate Fellowships?
- When this was previously raised, many CINP members did NOT want a limit.

## 4. Discussion Item:

### Feedback from Graduate Fellowship Selection Committee

- **Comment:** Including all of the required documents, a given application is ~30 pages long. Is there anything that can be shortened?
- A completed application consists of:
  1. Undergraduate and graduate transcripts, information about all academic institutions attended, expected date of PhD completion
  2. Matching Funds Form, 1 page
  3. CV, 2 page limit
  4. Educational Objectives and Professional Goals, 1 page limit
  5. Proposed Plan of Study and Research, 2 page limit
  6. Previous Research Experience, 2 page limit
  7. EDI Statement, 1 page limit
  8. List of academic honors and awards. **Remove, since can be already in CV**
  9. 3 Letters of Recommendation

Most of this seems highly relevant. Would you reduce anything?



# Agenda Items

- 5. Comments & Suggestions from Membership**
- 6. Adjourn**