

IPP Director's Report

2018 Annual General Meeting of Individual Members

J. Michael Roney

15 June 2018

Dalhousie, Halifax

Agenda

- Adoption of Agenda
- Directors Report to IPP Members and Council Election Results
- Preparation for IPP MRS grant submission
- Technical Resources: Detector Support for Frontier Technology
- Report from CPARC
- Reports from subset of IPP Projects
- Joint Session with CINP – yesterday
 - Reports from funding agencies and labs

Minutes of 2017 IPP AGM:

http://www.ipp.ca/governance/meet_mins.shtml

Joint CINP-IPP Meeting Agenda

THURSDAY 14 JUNE 2018

McCain Ondaatji Hall (Dalhousie University)

11:00

NSERC SAPES Chair Report

Jeffery Martin



McCain Ondaatji Hall (cap. 500), Dalhousie University

11:15 - 11:50

12:00

CFI Report

Olivier Gagnon



McCain Ondaatji Hall (cap. 500), Dalhousie University

11:50 - 12:15

TRIUMF Director Report

Jonathan Bagger



McCain Ondaatji Hall (cap. 500), Dalhousie University

12:15 - 12:50

13:00

SNOLab Director Report

Nigel Smith



McCain Ondaatji Hall (cap. 500), Dalhousie University

12:50 - 13:15

IPP AGM Agenda

THURSDAY 14 JUNE 2018
SUB 303 (Dalhousie University)

09:00	IPP Director's Report & Council Election Results <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Michael Roney</i>	09:00 - 09:30
	IPP MRS Grant submission - discussion <i>SUB 303 (cap. 100), Dalhousie University</i>		09:30 - 09:45
	Technical Resources <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Nigel Hessey</i> 	09:45 - 10:00
10:00	CPARC <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Tony Noble</i>	10:00 - 10:20
	T2K <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Akira Konaka</i> 	10:20 - 10:40
	NA62 and PiEdu <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Toshio Numao</i> 	10:40 - 10:55
11:00	BREAK <i>SUB 303 (cap. 100), Dalhousie University</i>		10:55 - 11:15
	Belle II <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Andreas Warburton</i>	11:15 - 11:30
	SNO+ <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Prof. Mark Chen</i>	11:30 - 11:45
12:00	ATLAS <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Peter Krieger</i> 	11:45 - 12:05
	SuperCDMS <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Dr Wolfgang Rau</i>	12:05 - 12:20
	Closeout <i>SUB 303 (cap. 100), Dalhousie University</i>	<i>Michael Roney</i>	12:20 - 12:30

IPP Council

2017-2018 IPP Council

- Ken Clark (SNOLAB) (2020) - SNOLAB
- Darren Grant (2019) - Alberta
- Blair Jamieson (2020) - Winnipeg
- Fabrice Retiere (2018) - TRIUMF
- J. Michael Roney [Chair] (2018) - Victoria
- Pierre Savard (2019) - Toronto
- Brigitte Vachon (2018) - McGill

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- Brigitte Vachon (2018) - McGill

Many thanks to Fabrice and Brigitte for your contributions and dedicated service !

IPP Council Elections

- Call for Nominations to Council announced April 26 by Adam Ritz, IPP Secretary-Treasurer.
- Nominations closed Monday, May 15

Candidates, in alphabetical order:

- Steven Robertson (IPP/McGill)
- Bernd Stelzer (SFU)
- Daniel Stolarski (Carleton)
- Reda Tafirout (TRIUMF)

- Election took place electronically May 16-30
- Votes were tallied by independent staff
- 73 members cast at least one vote

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- Daniel Stolarski (Carleton)
- Reda Tafirout (TRIUMF)

Thank you Steven, Bernd, Daniel and Reda for agreeing to stand for election and offer to serve our community in this important way!

IPP Council Elections

2018 IPP Council Election Results:

- Steven Robertson (IPP/McGill) - 25
- Bernd Stelzer (SFU) - 28
- Daniel Stolarski (Carleton) - 40
- Reda Tafirout (TRIUMF) - 36

Welcome Daniel Stolarski and Reda Tafirout
to the IPP Scientific Council for the next three years

IPP Council

2018-2019 IPP Council

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- Darren Grant (2019) - Alberta
- Blair Jamieson (2020) - Winnipeg
- Reda Tafirout (2021) - TRIUMF
- J. Michael Roney [Chair] (2023) - Victoria
- Pierre Savard (2019) - Toronto
- Daniel Stolarski (2021) - Carleton

Many thanks to Fabrice and Brigitte for your contributions and dedicated service !

Activities of Council

Met 12 times this year – three in-person (two at CAP Congresses)

- 30 May 2017 – old and new Council in person at CAP congress in Kingston
- 17 August 2017
- 15 September 2017
- 18 October 2017
- 21 November 2017
- 18 December 2017
- 28 January 2018 - IPP Summer Student Fellows selection; in person
- 27 February 2018 – IPP RS recruitment
- 23 & 28 March 2018
- 4 May 2018
- Thursday 14 June 2018 - in person at CAP Congress in Halifax
- Next meeting 15 June 2018 – old and new Council in person at CAP Congress in Halifax

Activities of Council

Activities of IPP Council in 2017-2018

- Promoting the Naylor Report on the Review of Fundamental Science
- HL-LHC accelerator upgrade and CERN relations with Canada
- NSERC Context document updated for SAPES
- Ottawa November ICFA Seminar preparations
- IPP moving towards charitable status
- TRIUMF 5-year plan
- Detector Technologies Support
- Mentorship for CERN BL4S applicants
- Maintain the Summer Student programme: grow support from universities
- Continue limited support for conferences: leverages support from universities
- Recruitment of IPP Research Scientist

Activities of Council

Letter from IPP Scientific Council to federal Minister of Science Kirsty Duncan advocating for Canadian contributions to the HL-LHC upgrade in the form of cryomodules for the crab cavities



The Honourable Kirsty Duncan, P.C., M.P.,
Minister of Science
House of Commons
Ottawa, ON K1A 0A2

J. Michael Roney, Director
Institute of Particle Physics
email: director@ipp.ca

12 December 187

Dear Minister,

We are writing in strong support of the request from Dr. Fabiola Gianotti, the CERN Director General, for a Canadian contribution to the High Luminosity Large Hadron Collider (HL-LHC) particle accelerator project. The HL-LHC is the highest priority project in subatomic physics in the coming decade and it will be addressing some of the most important scientific questions of our time, as detailed in the NSERC-sponsored Subatomic Physics Long Range Plan 2017-2022. Roughly 200 Canadian faculty, students and postdocs from across the country are engaged in this exciting enterprise. Through the rigorous scientific peer review processes of NSERC and CFI Canada is supporting this team on the ATLAS experiment, which is sited at the LHC. As Canada is not a member-state of CERN, there is an expectation that, with the Canada's level of development and technical expertise, we would also make an in-kind contribution to the HL-LHC accelerator. Contributions to the HL-LHC are already coming from the other major non-member state countries, like the U.S. and Japan.

The request is for an in-kind contribution of five crab cavity cryomodules, which are critical to the scientific success of this project. This crab cavity cryogenics contribution is an ideal opportunity for Canada for three main reasons: (i) it ensures this Canadian superconducting accelerator expertise is deployed in the highest profile component of the HL-LHC upgrade, thereby enhancing Canada's international reputation; (ii) it secures TRIUMF's reputation as a cutting-edge lab making critical contributions to science at the frontiers of knowledge; and (iii) it is extremely well matched to existing expertise and basically reuses existing TRIUMF designs and because of this, the \$12M cost is significantly lower than any other potential project that conceivably might be proposed. It is difficult to imagine another project as a high profile within the HL-LHC project, nor as well matched to Canadian technical expertise or industrial capacity, and therefore as cost-effective for Canada.

This is the time to engage with CERN as reliable a partner, especially as we hope to use our healthy relationship of reciprocity to draw on CERN expertise and assistance in the area of liquid argon detectors for dark matter at SNOLAB in the near future.

Sincerely,

The Scientific Council of the Institute of Particle Physics



J. Michael Roney, PhD, PPhys
University of Victoria
IPP Director



Ken Clark, PhD
SNOLAB



Darren Grant, PhD
University of Alberta



Blair Jamieson, PhD
University of Winnipeg



Fabrice Retiere, PhD
TRIUMF



Pierre Savard, PhD
University of Toronto



Brigitte Vachon, PhD
McGill University

IPP Research Scientists

Research Scientist	Project: w/data	Future Project	Host Institution
Corriveau(1990)	ATLAS	ATLAS, ILC	McGill
Hearty(1994)	BaBar	Belle-II	UBC
McPherson(1997)	ATLAS	ATLAS	Victoria
Robertson (2003)	BaBar/ATLAS	ATLAS, Belle-II	McGill
Sobie (1987)	ATLAS/HEPNET	ATLAS, Belle-II / HEPNET	Victoria
Teuscher (2005)	ATLAS	ATLAS	Toronto
Wright (2012)	SNO+, PICO	SNO+, PICO	Queen's

Recruiting a new IPP Research Scientist

Status of IPP Research Scientist Search

- Received letter of resignation of H. Tanaka effective Feb 2018
- Approval from Board of Trustees and NSERC to recruit
- Post advertisement Feb 5, deadline for receipt of applications 6 March 2018
- 55 applications
- 7 people on Long shortlist: (5 would do ATLAS, of these 2 proposed to move to other projects within a few years; 1 T2K, 1 T2K and IceCube)
- 3 on short-short list – visited Montreal, Ottawa, Toronto, Edmonton, Vancouver, Victoria
 - Danninger: ATLAS physics (previously on IceCube); UBC postdoc – plan for ATLAS
 - de Perio: XENON1T (previously on T2K) PhD UofT, Columbia postdoc – plan for T2k and long baseline neutrinos
 - Ilic: ATLAS; PhD UofT; Stanford Postdoc – start on ATLAS, move to HK and SuperCDMS; hardware strengths
- Each leads various efforts within collaborations
- Have received extensive feedback from community
(22 messages from 34 people)
- Expect to make offer soon

New Individual Members Recommended by IPP Council this past year

- **Pietro Giampa** – Experimentalist
 - PhD (2017) Queen's
 - Otto Hausser Postdoctoral Fellow, TRIUMF
- **Margaret Carrington** - Theorist
 - PhD (1989) SUNY
 - Faculty (Brandon)
- **Guillaume Giroux** – Experimentalist
 - PhD (2012) Bern
 - Faculty, Queen's
- **Erica Caden**– Experimentalist
 - PhD (2013) Drexel
 - Research Scientist, SNOLAB
- **Ryan Martin** – Experimentalist
 - PhD (2009) Queen's
 - Faculty, Queen's
- **Simon Viel** – Experimentalist
 - PhD (2014) UBC
 - Faculty, Carleton

New Individual Members applications being consider by IPP Council today

- **David Curtin**– Theorist
 - PhD (2011) Cornell
 - Faculty, Toronto
- **Caio Licciardi** – Experimentalist
 - PhD (2012) Regina
 - Faculty, Laurentian
- **David McKeen**– Theorist
 - PhD (2016) Chicago
 - BAE Research Scientist TRIUMF
- **Alan Robinson** - Experimentalist
 - PhD (2015) Chicago
 - Faculty, Montreal

IPP Summer Student Fellowships

- May and June in Canada with a subatomic physics project supported by NSERC USRA undergraduate student programme plus supervisor's research grant; followed by July and August at CERN participating in the CERN summer school programme of daily lectures and hands-on research in afternoons
- CERN offers positions to non-member state countries 'at cost'
- IPP pays for travel to CERN and stipend to augment USRA funding
- Gives Canadian students unrivalled opportunity to experience CERN's International research environment

IPP Summer Student Fellowships

- IPP Scientific Council identifies excellent students from across Canada in very competitive environment
- IPP RS Steven Robertson is now managing this programme for IPP
- In 2018 46 applicants - five students supported: 1 from BC, 3 from Ontario, 1 from Quebec → Students went to UVic, Carleton, McGill, Queen's before going to CERN
- Particular encouragement to non-CERN experiments to take students in first two months
 - in 2018: projects in Theory, Belle II, SuperCDMS, and ATLAS

IPP Summer Student Fellowships

- Contributions now coming from McGill, Alberta, Victoria, Toronto
- Each provided \$20k in funding to this programme to support students from their home institute or being supervised by a faculty at their home institute.
- Time to renew some of these funding agreements...
- CPARC is also contributing funds this year

More university players are encouraged to join this effort

IPP Summer Students

Year	Name	Undergrad	Supervision
2018	Lia Formenti Luke Polson Joshua Sandor Jon Corbett Gareth Smith	Guelph Victoria McGill Queen's Carleton	ATLAS at McGill Belle II at Victoria Theory at McGill SuperCDMS at Queen's ATLAS at Carleton

IPP Support for Conferences

- Council has a modest budget for contributions to Canadian particle physics conferences
 - focus: encouraging student participation
 - leverage of funds from other sources
- Since the last AGM the following conferences have been supported:
 - nEDM2017
 - WNPPC2018
 - TRISEP 2018
 - LWWI
 - NNN2018 (“International Workshop on Next generation Nucleon Decay and Neutrino Detectors”) Nov 2018
 - Testing Gravity is before Council

Communications with NSERC

- PGS-M: current process is a tri-council issue – requires higher level intervention to change
- Recent audits in some institutions have found a change in the interpretation of the eligibility for NSERC Discovery/Project grants to cover Postdoc relocation costs
 - Seemed to be an unintended consequence of some changes in process at NSERC or tri-council – now fixed
 - Please inform me of cases where such costs were claimed and passed audit in the past

Notable Visits and Events

- Oct 4 2017 - Kate Young Parliamentary Secretary visit to KEK
- Sept 2017 - Canadian HS team that won Beam Line 4 Schools takes data at CERN: article in Toronto Star, CBC, CTV, local papers, National Post – met with Minister Duncan
- Nov 2017 - ICFA Seminar in Ottawa
- May 2018 Mona Nemer (Chief Science Advisor) visit to CERN
- 6 June 2018 McGill VP Research and Innovation Martha Crago visit to KEK
- July 2018 Rosann O'Reilly Runte (CFI CEO) to visit to CERN

Mona Nemer, Canada's Chief Science Advisor Visit to CERN

16 May 2018



Dr. Mona Nemer

@ChiefSciCan

Follow

How amazing to be @CERN! Such extraordinary infrastructure and researchers from around the world, including many from Canada, this is truly one of the world's greatest centres for scientific research and a model of international collaboration. 🌍 🇨🇦



Focus of coming year for IPP

- **Continue to conduct outstanding science !!!**
- IPP MRS renewal
- Participation in TRIUMF Five-Year Plan for 2020-2025 plan
- Secure HL-LHC accelerator contribution from Canada – overall CERN-Canada engagement
- Maintain the IPP Base Programme
 - IPP Research Scientists
 - Summer Student programme: grow support from universities
 - Continue support for conferences: leverages support from universities
- Seek out additional sources of funding to augment NSERC MRS funds
 - IPP Board approved having IPP becoming a Charitable Organization
 - Consider Annual Report
- Build a database of HQP career paths after completion of training in the field
 - Include private sector success stories
- Build a database of Canadian industrial contracts awarded from funds granted to our field

IPP MRS Renewal

- IPP is supported by an NSERC MRS thematic grant out of the Subatomic Physics envelope
- Thematic MRS grants can be awarded for up to 5 years
- The IPP grant is up for renewal in April 2019 – the previous award was for 3 years:
 - FY 2016, 2017, 2018
- Until 2013 NSERC was awarding the grant directly to IPP. From 2013, the grant was required to go through a university
- IPP Board decided it should be held at Victoria, some advantages

IPP MRS Renewal

For discussion:

- Feedback from last external NSERC reviewers encouraged IPP to recruit more IPP Research Scientists – needs in non-collider areas (consider requesting funds for 1 and seek matching funds from donors to boost it to two)
- IPP Summer Student Fellowship
- Conference Support
- Early Career Fellowship Program

Early Career Development Fellowship

- Proposal follows from a consultation with the theory community
- Awarded in a national competition it will provide funds for students and postdocs to spend some time at an international lab, school or institute.
- Proposed budget: \$ 35, 250 (3 two-weeks, 3 one-month, 1 four-month trips)
- No more than 2 awards per institution per year.
- Pilot program for 5 years

Benefits

- Increases international exposure of theory students and postdocs.
- Encourages international collaboration of faculty members.
- Helps the students and postdoc to promote their career (prestige of winning a nationally competitive fellowship, letter of recommendation, etc...)
- Attractive feature for potential students and postdocs.
- Complementary to existing programs.

IPP MRS Renewal

For discussion:

9 Research Scientists
Early Career Development Fellowship *
IPP Summer Student Fellowships
Conference Support
Travel
Administration

* Early Career Development Fellowship

- Provides a new mechanism for outstanding HQP to gain
- international experience (NSERC 2020 priority)
- 3 two-week + 3 one-month + 1 four-month fellowships

Additional Material

IPP Summer Students

Year	Name	Undergrad	Supervision
2015	Dicaire Grant Morningstar Ojeda	Ottawa UBC McMaster McGill	Carleton TRIUMF Toronto McGill
2016	Abernathy Fascione Krupa Tomalty Trischuk	Queens Queens UBC/Okanagan McGill Toronto	St. Mary's Queens TRIUMF Toronto Carleton
2017	Barron Kudzman-Blais Richardson Wandler Egan	Alberta Toronto Laurentian Alberta McGill	Alberta UBC SNOLab Alberta UBC
2018	Lia Formenti Luke Polson Joshua Sandor Jon Corbett Gareth Smith	Guelph Victoria McGill Queen's Carleton	ATLAS at McGill Belle II at Victoria Theory at McGill SuperCDMS at Queen's ATLAS at Carleton

IPP Summer Students

Year	Name	Undergrad	Supervision
2007	Rabinovitch	Yale	TRIUMF
2008	Guindon Ilic Louca McCarthy	Ottawa Waterloo Waterloo Queens	Carleton Toronto McMaster Carleton
2009	Abouzeid Dupuis Feige LaFlamme Low	Carleton Victoria McGill McGill UBC	Toronto Victoria Toronto McGill McGill
2010	Krizka Moult LeBlanc Pachal Picard	Simon Fraser UBC Acadia Victoria Victoria	Toronto Victoria TRIUMF Victoria Montreal

IPP Summer Students

Year	Name	Undergrad	Supervision
2011	Buck Burke Collins-Fekete McDonald Portillo	Carleton Victoria Laval MacMaser Alberta	Carleton UBC Carleton Simon Fraser Alberta
2012	Abdel-Aziz Bluteau Boone Friedl Killick	Toronto Acadia UBC Carleton Carleton	Toronto TRIUMF UBC Carleton Carleton
2013	Abidi Hedrich Layden Rettie Waslaski	Toronto Thompson Rivers Waterloo Ottawa UBC	Carleton/UofT SFU McGill TRIUMF Toronto
2014	Noordeh Quenneville Strickland	York SFU Memorial	York SFU Victoria