

IPP Director's Report 2017 Annual General Meeting of Individual Members

J. Michael Roney

28 May 2017

Ottawa

Agenda



- Adoption of Agenda
- Directors Report to IPP Members and Council Election Results
- Reports from IPP Projects – focus on technologies
- Theory developments related to IPP Projects
- HEPNET and HEP Computing
- Technical Support (MRS+TRIUMF)
- Joint Session with CINP – tomorrow morning
 - Reports from funding agencies and labs

Minutes of 2016 IPP AGM:

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

Agenda – Sunday

Ellis 324 (Queen's University)

13:00	IPP Director's Report & Council Election Results <i>Ellis 324, Queen's University</i>	<i>Michael Roney</i> 13:00 - 13:30
	ATLAS <i>Ellis 324, Queen's University</i>	<i>Peter Krieger</i> 13:30 - 14:00
14:00	NA62 <i>Ellis 324, Queen's University</i>	<i>Toshio Numao</i>  14:00 - 14:15
	Belle II <i>Ellis 324, Queen's University</i>	<i>Christopher Hearty</i> 14:15 - 14:35
	HEPNET and HEP Computing <i>Ellis 324, Queen's University</i>	<i>Randy Sobie</i>  14:35 - 14:50
	Technical Support (MRS+TRIUMF) <i>Ellis 324, Queen's University</i>	<i>Fabrice Retiere</i> 14:50 - 15:20
15:00	BREAK <i>Ellis 324, Queen's University</i>	15:20 - 15:50

Agenda – Sunday

Ellis 324 (Queen's University)

16:00	Theory developments related to IPP Projects	<i>Heather Logan</i>
	<i>Ellis 324, Queen's University</i>	15:50 - 16:20
	T2K	<i>Blair Jamieson</i>
	<i>Ellis 324, Queen's University</i>	16:20 - 16:40
	ICECUBE	<i>Darren Grant</i>
	<i>Ellis 324, Queen's University</i>	16:40 - 17:00
17:00	SNO+	<i>Christine Kraus</i>
	<i>Ellis 324, Queen's University</i>	17:00 - 17:20
	(n)EXO	<i>David Sinclair</i>
	<i>Ellis 324, Queen's University</i>	17:20 - 17:40
	VERITAS	<i>Ken Ragan</i>
	<i>Ellis 324, Queen's University</i>	17:40 - 17:50
18:00	SuperCDMS	<i>Dr. Wolfgang Rau</i>
	<i>Ellis 324, Queen's University</i>	17:50 - 18:10
	PICO	<i>Tony Noble</i>
	<i>Ellis 324, Queen's University</i>	18:10 - 18:30
	DEAP	<i>Prof. Mark Boulay</i>
	<i>Ellis 324, Queen's University</i>	18:30 - 18:50

Agenda – Monday

BioSci 1102 (Queen's University)

08:00	<p>NSERC SAPES Chair's Report</p> <p><i>BioSci 1102, Queen's University</i></p>	<p><i>Heather Logan</i></p> <p>08:00 - 08:35</p>
	<p>News from CFI</p> <p><i>BioSci 1102, Queen's University</i></p>	<p><i>Heidi Bandulet</i></p> <p>08:35 - 09:00</p>
09:00	<p>TRIUMF Director Report</p> <p><i>BioSci 1102, Queen's University</i></p>	<p><i>Jonathan Bagger</i></p> <p>09:00 - 09:35</p>
	<p>SNOLab Director Report</p> <p><i>BioSci 1102, Queen's University</i></p>	<p><i>Nigel Smith</i></p> <p>09:35 - 10:00</p>
10:00		

IPP Council

2016-2017 IPP Council

- Darren Grant (2019) - Alberta
- Thomas Gregoire (2017) - Carleton
- Christine Kraus (2017) - Laurentian
- Fabrice Retiere (2018) - TRIUMF
- J. Michael Roney [Chair] (2018) - Victoria
- Pierre Savard (2019) - Toronto
- Brigitte Vachon (2018) - McGill

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Many thanks to Thomas and Christine for your contributions and dedicated service !

IPP Council Elections

- Call for Nominations to Council announced April 13 by Adam Ritz, IPP Secretary-Treasurer.
- Nominations closed Monday, May 4

Candidates, in alphabetical order:

- Ken Clark (SNOLAB)
- Blair Jamieson (Winnipeg)
- Bernd Stelzer (SFU)

- Election took place electronically May 7-17
- Votes were tallied by independent UVic staff
- 71 members cast at least one vote

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- Blair Jamieson (Winnipeg)
- Bernd Stelzer (SFU)

- Thank you Ken, Blair and Bernd for agreeing to put your name forward in this election and offer to serve our community!

IPP Council Elections

2017 IPP Council Election Results:

- Ken Clark (SNOLAB) - 43
- Blair Jamieson (Winnipeg) - 50
- Bernd Stelzer (SFU) - 33

Welcome Ken Clark and Blair Jamieson to Council for the next three years

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

Focus of IPP Council in 2016-2017

- **Respond to Federal Review of Fundamental Research**
 - Attendance by IPP Councillors Grant and Vachon at consultation meetings in Alberta and Quebec
 - IPP RS Sobie also at Alberta consultation meeting
- Maintain the Summer Student programme: grow support from universities
- Continue limited support for conferences: leverages support from universities

Activities of Council

- Met five times this year – two in person
 - 13 June 2016 – old and new Council in person at CAP congress in Ottawa
 - 28 June 2016
 - 8 July 2016
 - 9 December 2016
 - 19 January 2017 - IPP Summer Student Fellows selection
 - Next meeting Tuesday 30 May 2017 – in person at CAP Congress in Kingston

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
Tanaka (2007)	T2K	T2K, SuperCDMS	Toronto
Teuscher (2005)	ATLAS	ATLAS	Toronto
Wright (2012)	SNO+, PICO	SNO+, PICO	Queen's

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 2017 five students supported: 2 from Alberta, 2 from Ontario, 1 from Quebec → Students went to UBC, UofA, SNOlab before going to CERN
- Particular encouragement to non-CERN experiments to take students in first two months
 - in 2017: projects in SNO+, IceCube, and ATLAS

IPP Summer Student Fellowships

- Contributions now coming from McGill, Alberta, Victoria and 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...

More university players are encouraged to join this effort

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:
 - WNPPC2017
 - TRISEP 2017
 - LWWI
 - NuInt 2017
 - Testing Gravity
 - Theory Canada

Activities of Director

- Annual review of Research Scientist activities
- Input into Federal Review of Fundamental Research
- NSERC SAPES pre-meeting: research environment context
- NSERC Large Project Day report from IPP to SAPES
- TRIUMF ACOT meetings in autumn and spring
- Recommendation of new SAPES Members to NSERC
- Service on MRS Prioritization Boards
- ICFA Meetings in Chicago (ICHEP) and Valencia (IFIC) representing Canada
 - Next ICFA Seminar is in Ottawa in November
- Continuing advocacy with Japanese Government for funding support at JPARC and KEK
- Informational and Representational meeting with NSERC (VP P. Charest), CFI (CEO G. Patry, Programs Director, Nasser-Eddine)
- Advocacy efforts in Ottawa: meeting with Innovation, Science and Economic Development (ISED) ADM personnel about contribution to High Luminosity LHC machine from Canada - preparations involving consultations with CERN, TRIUMF (Management and Board rep.), SNOlab, ATLAS Canada. Also involves considerations of question of possible Associate Membership

Fundamental Science Review

- IPP Council fully engaged in providing input
- Find the ‘Naylor Report’ at www.sciencereview.ca/eic/site/059.nsf/eng/home

Concurrent with these improvements designed to augment the effectiveness, accountability, and efficiency of various elements of the system, significant reinvestment is required. This reinvestment should be undertaken on a multi-year basis, coupling predictability with better planning. Targeted increases are recommended based on benchmarking, contingent in several cases on presentation and approval of multi-agency plans for improvements to programs. New spending would be balanced across:

- investigator-led research operating grants (the highest priority);
- enhanced personnel supports for researchers and trainees at different career stages;
- targeted spending on infrastructure-related operating costs for small equipment and Big Science facilities; and
- enhancement of the environment for science and scholarship by improved coverage of the institutional costs of research.

Fundamental Science Review

Exhibit 7.5: A Four-year Plan to Renew Canadian Research (\$ Millions)

	Year 1	Year 2	Year 3	Year 4
Investigator-led Direct Project Funding ^a	135	270	405	405
Specialized Direct Project Funding ^b	20	40	60	80
Total Direct Project Funding	155	310	465	485
Operating Funds for Major Research Facilities ^c	35	35	35	35
Operating Funds for Small Capital Projects ^d	30	30	30	30
Scholarships and Fellowships ^e	35	70	105	140
Research Chairs for Excellent Scholars and Scientists ^f	35	140	140	140
Facilities and Administration Costs (Research Support Fund) ^g	96	206	362	478
Total	386	791	1,137	1,308

^a Recommendation 6.1. The Panel recommends an increase of \$485 million in investigator-led direct project funding phased in over four years.

^b Recommendation 6.1 and recommendations 6.4, 6.5, 6.6, and 6.7. The Panel recommends that \$80 million of the increase for investigator-led research be earmarked for international collaborations, multidisciplinary work, high risk, high reward projects, and research in response to fast breaking issues or crises, phased in over four years.

^c Recommendation 6.10. The Panel recommends that \$35 million a year in funding be provided for CFI to change the sharing ratio for operating costs for MRFs from the current 40:60 to 60:40.

^d Recommendation 6.11. The Panel recommends that \$30 million a year in funding be provided for CFI to increase the operating support available to the recipients of small capital awards.

^e Recommendation 7.1. The Panel recommends that funding be provided to reinvigorate and harmonize scholarships and fellowship programs at a cost of \$140 million per year, phased in over four years.

^f Recommendation 7.2. The Panel recommends the CRC program be renewed at a cost of \$140 million per year, phased in over two years.

^g Recommendation 7.3. The Panel recommends that funding be provided to move the coverage of facilities and administration costs by the RSF on a trajectory from the current level of 21 per cent to 40 per cent, over four years. Exhibit 7.4 shows a full breakdown of RSF options and trajectories.

Fundamental Science Review

The cumulative base increase would move annual spending in steady-state across the four agencies and closely related entities from approximately \$3.5 billion to \$4.8 billion. This phased-in increase requires dedicating an additional 0.4 per cent of the Government of Canada's annual budget to an area of shared jurisdiction where federal leadership is essential and welcomed. Given global competition, the current conditions in the ecosystem, the role of research in underpinning innovation and educating innovators, and the need for research to inform evidence-based policy-making, it is also among the highest-yield investments in Canada's future that any government could make.

CALL TO ACTION:

Now is the time to engage with MPs as individuals and to get university presidents to push for implementation of Naylor Report

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
 - Possibly an unintended consequence of some changes in process at NSERC or tri-council
 - Please inform me of cases where such costs were claimed and passed audit in the past

Promoting the Field

- ICFA Seminar in Ottawa, Nov. 2017 : bring international leaders in the field and use it to engage government policy makers, being jointly organized locally by TRIUMF and IPP
- 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

Focus of coming year for IPP

- **Continue to conduct outstanding science !!!**
- Participation in TRIUMF Five-Year Plan for 2020-2025 planning process:
 - Call for Proposals is out now
 - TRIUMF Science Week: 10-15 July 2017 (13 July-Particle Physics focus)
- Advocate for adoption of Naylor Report
- 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
- Begin preparing for IPP MRS renewal
- Seek out additional sources of funding to augment NSERC MRS funds
 - IPP Board moving towards having IPP becoming a Charitable Organization
 - Consider means to further support theory community
 - e.g. an Early Career Fellowship program

Late-breaking News

Letter from Fabiola Gianotti (CERN DG)

Dear Michael, Rémi and Rob,

As you perhaps know, every year CERN runs a competition for high-school kids from all over the world, called Beam Line for Schools (BL4S): <http://beamline-for-schools.web.cern.ch>.

The students submit proposals for experiments (real experiments!) at CERN. The proposals are examined by the same scientific committee (SPSC) which selects experiments at the PS and SPS, which then recommends two winning teams every year. The winners are invited to come to CERN for a couple of weeks in September to do their experiments at one of the PS beam lines. At the end of the experiment, they have to produce a paper summarizing their results. Traditionally, CERN's Council visits the BL4S teams while they are performing their experiments at the end of the September Council week.

The two winners of this year are a Canadian school and an Italian school. I enclose the information about the Canadian proposal and school.

You can have a look at the previous winners here: <http://beamline-for-schools.web.cern.ch/bl4s-winners>. The names of the experiments are so cute and funny, and the experiments are really good and compelling.

I thought I would share this information with you.

Best regards,

Fabiola

Late-breaking News

Team name: Charging Cavaliers

Country of origin: Canada

School: Père-René-de-Galinée

City/Cities represented: Cambridge, Ont

Number of students in team 11

Gender and age of all team members

6 girls – aged 17-18; 5 boys aged 16-19

Additional Material

IPP Projects – Experimental Program

EXPERIMENT	Start data-taking (IPP Project)	End data-taking	No. IPP RS (Current FTE)	No. NSERC Applicants (FTE)
ATLAS	2009(1996)	2035+	5(4)	38(34)
BaBar	2000 (1998)	2008	1(0.1)	10(4)
Belle II	2018(2013)	2025+	3(1.8)	10(6)
DEAP-3600	2014(2008)	2017+	0	13(5)
EXO/EXO-200(WIPP)	2008(2007)	2014+	0	11(5)
IceCube w/DeepCore	2009(2014)	2020+	0	6(3)
NA62	2014 (2015)	2023+	0	2(1)
PICO	2004(2006)	2013/2020+	0	8(4)
PIENU	2009(2006)	2013	0	4(2)
SNO+	2013(2008)	2017+	1(1)	14(7)
SuperCDMS/@SNOLAB	2012(2013)	2014/2020+	1(0.2)	5(2)
T2K	2009(2004)	2020+	1(0.8)	17(13)
Veritas	2007(2004)	2018+	0	2(2)

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

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