

## ACP - NAS

Astroparticle physics Community Planning – Non-Accelerator Subsurface

Short Status Update:

IPP AGM June 12<sup>th</sup>, 2020

(Facilitated by the McDonald Institute and SNOLAB)

Tony Noble

Director of the McDonald Institute / Queen's University

## Long Range Planning: Why is this a useful exercise?

- The funding agencies, and those community leaders representing SAP in Canada, refer to the long range plans to understand the collective scientific strategy.
- The scientific strategy that emerges from the community will help define the research programs at National labs and the planning of resources therein.
- If the community wishes to pursue large scale programs requiring government investments beyond the current envelope, this will require a clear and comprehensive plan across all of SAP. This will help mobilize funding for these initiatives in a timely way.

## Drivers:

### Road map:

- Create a long-view road map for the community scientific direction that informs and transcends shorter-term planning mandates
- Consider the limited size of the Canadian community and establish consensus on scientific focus and impact.
- Using a community-driven approach, support the collection and presentation of ideas surrounding the scientific vision for Canadian ACP-NAS.

### Resources:

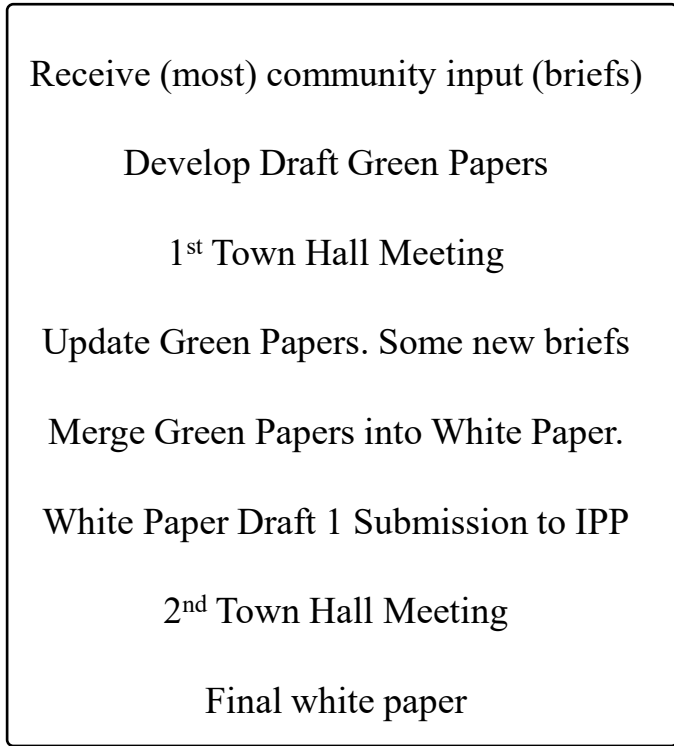
- Prepare and align our national experimental facilities (SNOLAB & TRIUMF) to be responsive to the community's scientific needs.
- Foster dialogue and collaboration between theory and experiment in developing the scientific strategy.
- Identify and support the creation of technology, fabrication or assembly resources aligning with scientific needs.
- Provide Canadian Universities with a clear scientific strategy to guide institutional prioritization and investments.

### Future funding:

- Create a scientific strategy that can be utilized by federal and provincial governments to create and bolster funding to the community either through large dedicated budgets, targeted programs, or increases to existing funding mechanisms.
- Where prioritization is needed by funders, create a community-driven plan to highlight key areas for long-term Canadian success.

# Rough Plan & Timelines

## ACP - NAS



March 2020

May 6-7 2020

June 30, 2020

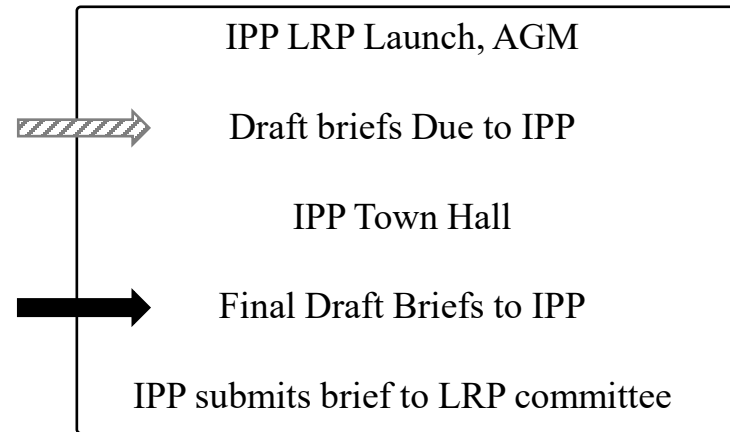
Mid July, 2020

July 28, 2020

Final Glossy ACP Report

Late Fall 2020

## IPP/CINP



June 11-12, 2020

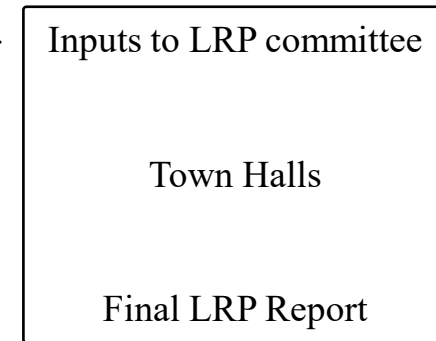
June 30, 2020

July 15-16, 2020

July 28, 2020

Dec 1, 2020

## NSERC LRP



Sept, 2021

Final Glossy Report

## The ACP Organization

### ACP Steering Committee

Tony Noble

Nigel Smith

Mike Rooney

Garth Huber

Reiner Kruecken

Pauline Barmby

Jeter Hall and Fouad Elgindy (ex-officio)

### ACP Co-Chairs

Erica Caden (Neutrino)

Ken Clark (Neutrino)

Alex Wright (Neutrino)

Carsten Krauss (Neutrino)

David Morrissey (Dark Matter)

Simon Viel (Dark Matter)

Fabrice Retiere (Technology)

Sylvia Scorza (Technology)

## ACP - NAS

Receive (most) community input (briefs)

Develop Draft Green Papers

1<sup>st</sup> Town Hall Meeting

Update Green Papers. Some new briefs

Merge Green Papers into White Paper.

White Paper Draft 1 Submission to IPP

2<sup>nd</sup> Town Hall Meeting

Final white paper

Final Glossy ACP Report

- We originally received 17 briefs from the community.
- Many were cross-disciplinary.
- Some related to theory, others experimental.

Convenor co-chairs digesting briefs according to themes

Dark Matter

Neutrino Messenger

Neutrino Properties

Technologies

Prepared for the Town Hall meeting of May 6<sup>th</sup> and 7<sup>th</sup>



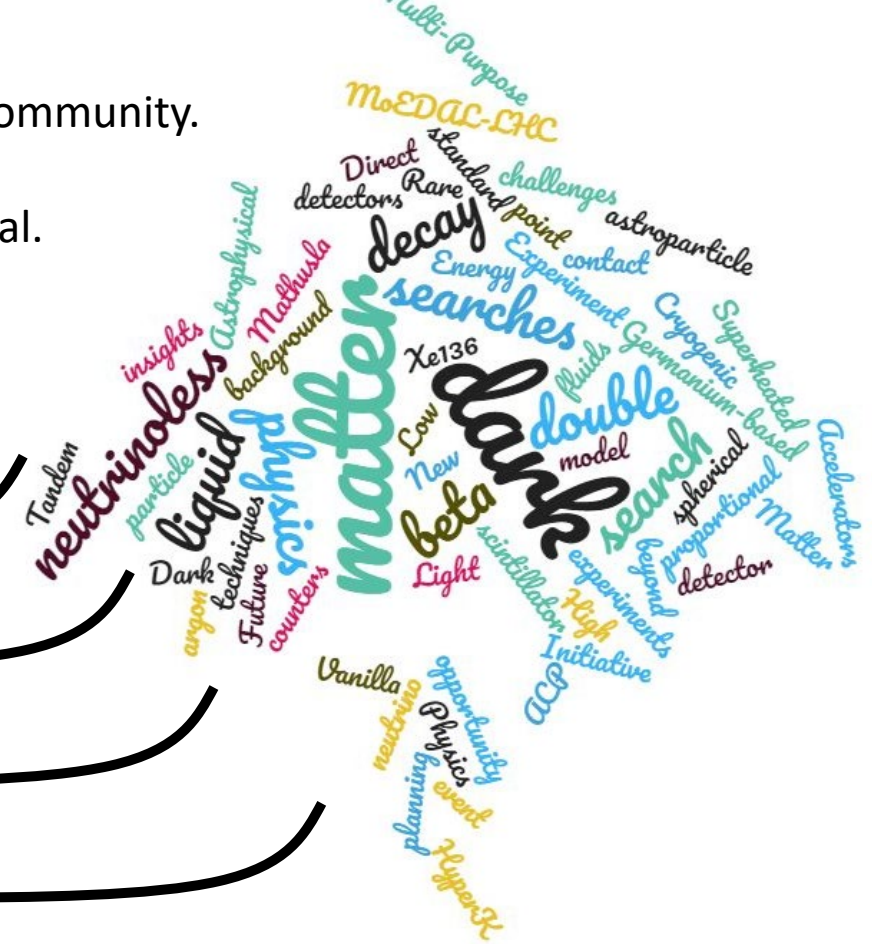
Draft Dark Matter Green Paper



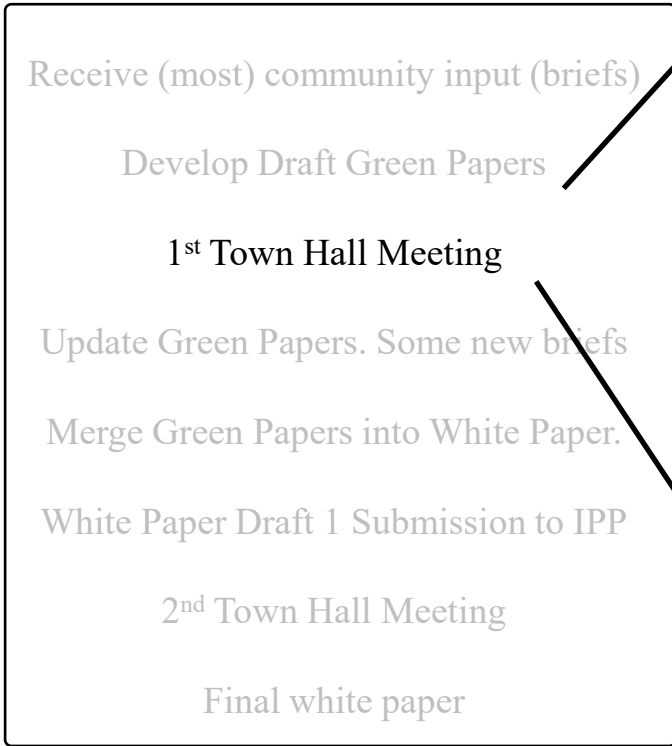
Draft Neutrino Green Paper



Draft Technology Green Paper



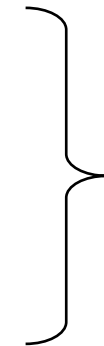
**ACP - NAS**



Final Glossy ACP Report

**Town Hall:**

Green Paper Thematic Discussions		
Wednesday "Morning"	Dark Matter	David Morrissey Simon Viel
Wednesday "Afternoon"	Technology	Fabrice Retiere Silvia Scorza
Thursday "Morning"	Neutrino	Erica Caden, Ken Clark Carsten Krauss, Alex Wright
Community Strategy Discussion		
Thursday "Afternoon"	20 year vision	Panel discussion



- Presentation led by convenors
- Q/A and Input from participants.
- Open Mic discussions



- Opening remarks SNOLAB & McDonald Institute
- Panel Discussion
- Open Mic with participants.

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Final white paper

Final Glossy ACP Report

- A few new briefs received stimulated by the Town Hall
- Convenors continue to update Green Papers: Close to final now. Final versions will be posted on the website\*.
- White Paper writing team:
  - Tony Noble
  - Nigel Smith
  - Erica Caden
  - Ken Clark
  - David Morrissey
  - Fabrice Retiere

Draft has been started



## Town Hall “Outcomes”:

Town Hall attendance was great.

- Dark Matter session: 4 hours 163 attendees
- Technology session: 3 hours 113 attendees
- Neutrino session: 3 hours 111 attendees
- 20-year vision session: 4 hours 126 attendees

“Great to see the community come together to discuss the exciting science that Canadian astroparticle physicists will be engaged in over the next decade. The Town Hall allowed SNOLAB to gain an understanding of the broad interest of the community we support, and encouraged by the strong drive to deliver world leading science in Canada.” Nigel Smith

- Community was engaged in the process and clearly interested to continue the dialogue.
- The participants had a good discussion around the pros and cons of having the community coalesce around priority projects. The general feeling was that a mandate, say from NSERC to the LRP committee, or a higher level driver, would be required. This would then drive the entire SAP community to be thinking in this way
- We have a strong program, and are well positioned to make the case for continued Canadian leadership in astroparticle physics