

PPAP Community Meeting 2016

Birmingham 26th-27th July 2016

C. H. Shepherd-Themistocleous (RAL)

Outline

- Background and remit
- PPAP membership
- Recent activities
- Near future

Particle Physics Advisory Panel (PPAP)

The five advisory panels were formed in 2009 and revised in 2011.

- Particle Physics Advisory Panel
- Nuclear Physics Advisory Panel
- Particle Astrophysics Advisory Panel
- Astronomy Advisory Panel
- Solar System Advisory Panel

“The purpose of the Advisory Panel is to provide a link between Science Board and the community, and represent the needs of the community to STFC.”

Remit

- Maintain an overview of activities within the area
- Develop and maintain a science vision and long term strategy /roadmap by assessing the merit of current and future science opportunities
- Develop and maintain a technology roadmap for their area of research
- Consult and interact with the community to ensure its views are canvassed and there is an appropriate and effective route for communication with STFC on strategic programmatic issues
- Provide advice to Science Board on specific questions as requested
- Liaise with other Advisory Panels when appropriate
- The remit of the panels will include Technology Development, Theory, High Performance Computing and Data Curation issues in their respective areas.

Membership

Claire Shepherd-Themistocleous (RAL) - Chair

Steven Abel (IPPP)

Rob Appleby (Manchester)

Lars Eklund (Glasgow)

Roger Jones (Lancaster) - Deputy Chair

Victoria Martin (Edinburgh)

Yorck Ramachers (Warwick)

Robert Thorne (UCL)

Morgan Wascko (IC)

**We welcome contact on matters of interest, concern and
news of new initiatives at any time**

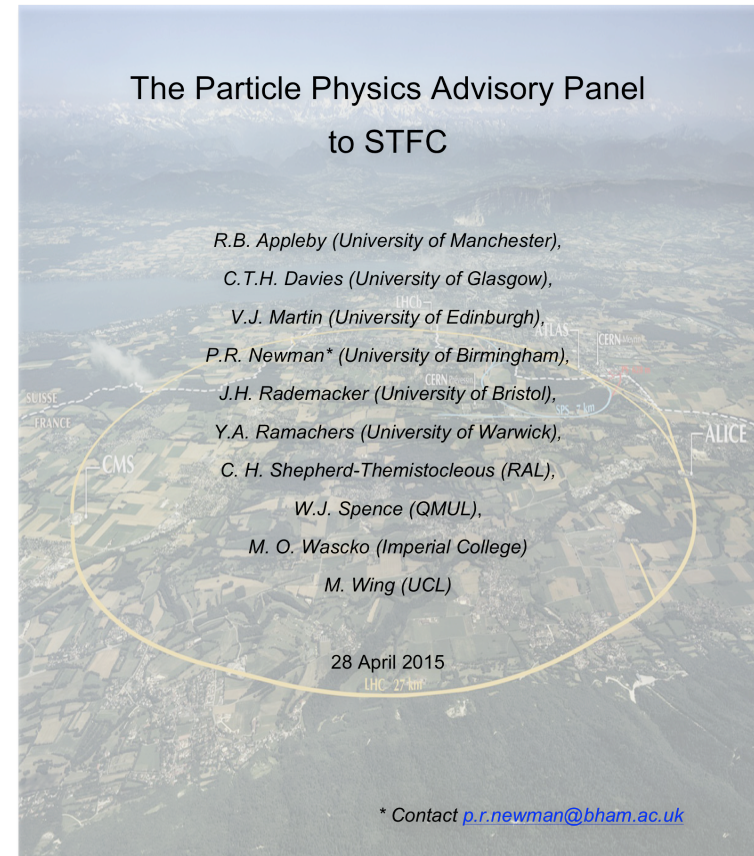
Activities

- Panel meets every ~2 months and more frequently as matters arise. Mostly remote, one face-to-face per year.
- Meetings with PIs as the need arises.
- Organize annual Community Meeting
- Update Roadmap as appropriate. Last major update April 2015.
- Report to SB.
- Provide input as required. Recent examples:
 - Government Green Paper on changes to funding for universities and research. Direct and via SB. (Jan 2016)
 - Input to Nurse Review via SB and as a direct response to government consultation (April 2015)
 - House of Commons Science and Technology Committee Inquiry into the Science Budget (August 2015)

Roadmap

- Update of 2012 Roadmap in April 2015
- SB conducting a Balance of Programme exercise.
- Update to the Roadmap (via an appendix) will form part of the input to SB.
 - Info gathered over the next two days will be useful here.

Update to the UK Particle Physics Roadmap



Particle Physics Roadmap (2015 version)

	Exploitation Phase [Operational now]	Upgrade Phase [in ~5 years]	Medium-term Construction [in ~10 years]	Design stage [awaiting decision]	R&D for longer term projects [$\gtrsim 15$ years]
Energy Frontier	ATLAS & CMS	ATLAS & CMS phase 1 upgrades	ATLAS & CMS phase 2 upgrades	ILC LHeC	FCC / SppC CLIC
	Characterisation of Higgs Boson Searches for Direct Production of new massive particles				
Flavour Physics	LHCb NA62 g-2, COMET	LHCb phase 1 upgrade		SHIP	
	Searches for evidence of new particles through quantum loops Understanding matter / antimatter asymmetry in quark sector Understanding lepton flavour quantum number violation				
Neutrino Physics	T2K MINOS+, NO ν A SNO+, SuperNEMO			DUNE / Hyper-K	Neutrino Factory
	Characterisation of Neutrino Mass Spectrum Neutrino contribution to matter / antimatter asymmetry				
Non-Accelerator Experiments	e, n EDM searches	LUX-ZEPLIN			
	Direct searches for dark matter particles Searches for new physics via anomalous electric dipole moments				

- Primary science drivers in blue
- ‘Flagship elements’ in bold font
- Experiments receiving STFC experiment grants in red

Vibrant theory programme in support of all activities

Input requested by Science Board

- Input required by 23 September 2016
- Review:
 - Quote from email to Chairs of panels. “This review will not involve individual project reviews, but rather examine the subject areas and its scientific priorities, balance, breadth and distribution (R&D, exploitation, construction, operations).”

Questions to PPAP from SB

- Set of questions given to panels. Broad areas of questions:
 - Update to roadmap, scientific priorities, support movement to new opportunities.
 - Breadth and balance between R&D, construction, operation and scientific exploitation
 - Given the flat cash environment sustainability and balance of programme.
 - Key technologies, benefit for the UK, STFC support for development of tech.
 - Balance of skills and skills impact for UK.
 - Computing needs in the future.

Programme for meeting

■ Tuesday

- Overview, reports from STFC and SB
- Neutrinos & non-accelerator
- Flavour physics

■ Wednesday

- Energy Frontier
- Technology – This is a new session.
- Theory
- Long discussion session

Lunch and tea breaks good opportunities for you to speak to PPAP members

Many thanks to Birmingham for hosting the meeting