

# Particle Physics Advisory Panel (PPAP) Report

Matthew Needham

21<sup>st</sup> September 2022

# Outline

- Introduction
- PPAP Membership
- Infrastructure Call
- ECR initiative
- Net zero event

# PPAP role

- Activity is demand driven
- We meet every 1-2 months at the moment
  - Over the summer more frequently due to the infrastructure call
- Interact with community
  - Annual community meeting
- Respond to requests for advisory information from STFC/stakeholders
  - e.g. provide input to the UKRI Infrastructure bids
- Keep the road map up to date
  - Aim to reflect the activities and aspirations of the community
  - 2021 roadmap <https://stfc.ukri.org/files/ppap-2021-roadmap-final/>

# Panel Membership 2021-22

- **Matthew Needham – University of Edinburgh (Chair)**
- Ben Allanach – University of Cambridge
- Andrea Banfi (Sussex)
- Adrian Bevan – QMUL
- Tracey Berry (Royal Holloway)
- Marco Gersabeck - University of Manchester
- Monica D’Onofrio – University of Liverpool
- Kimberly Palladino – University of Oxford
- Jaroslaw Pastenak – Imperial College London
- Yvonne Peters – University of Manchester
- Ruben Saakyan – UCL

Partial panel rotation from October  
Thanks to Ben, Yvonne and Jaroslaw for serving on  
the panel over the last years

# Panel Membership 2022-

- **Matthew Needham – University of Edinburgh (Chair)**
- Andrea Banfi (Sussex)
- Adrian Bevan – QMUL
- Tracey Berry (Royal Holloway)
- Marco Gersabeck - University of Manchester
- Monica D’Onofrio – University of Liverpool
- Kimberly Palladino – University of Oxford
- Ruben Saakyan – UCL
- **Andy Buckley – University of Glasgow**
- **Helen O’Keeffe – University of Lancaster**
- **Arttu Rajantie - Imperial College**

Welcome to Andy, Helen and Arttu and thanks for agreeing to be on the panel.  
(May add one more panel member)

# Infrastructure Call

- Wave 3 infrastructure call for **preliminary activities** announced in July 2022
- Timeline

We are here 

Process Step	Draft Timetable
STFC Infrastructure team provides proposals form and guidance to STFC Staff, Advisory Panels and Boards to start developing proposals	4 July (11 weeks open, ~6 are holiday)
STFC proposal submission deadline	16 September
SB and TAAB Individual Assessment of proposals	19 September – 28 October (6 weeks)
UKRI Commission	Mid-October 2022
Joint SB/TAAB meeting to review proposals	Early November
UKRI closing date	Early December

- STFC will put forward up to 3 proposals to UKRI
- Each of the 5 advisory panels plus QTFP was able to put forward up to 3 proposals for assessment by Science Board

# Infrastructure call for preliminary activities

- Not an open call: Left to each advisory panel to decide on process for their community to select their 3 proposals
- Panel chairs provided briefing by infrastructure team, material shown shared with full panel
- “Submissions from the external community can only come through an Advisory Panel and will not be accepted without Panel endorsement, to reflect that there is a level of community support and to manage communications and demand”
- “We have not provided any specific guidance for how you engage with the community on these ideas as we realise that differing approaches may be appropriate for parts of the STFC community, however we do welcome you discussing this with us further if you are unsure of how to approach this for the community/communities your Panel represents.”

# Infrastructure Call: PPAP process

- Simple proforma expressing interest with deadline 8<sup>th</sup> August
- First down-select by committee, reducing 9 proposals to 5
  - 7 criteria used in back-up
- 5<sup>th</sup> September deadline UKRI proforma to be sent to PPAP
- 16<sup>th</sup> September: Three selected proposals sent to STFC
  - Criteria: Community, Alignment, Excellence
- Advertized process to all heads of group and named contacts of submissions to the 2021 roadmap process



# Infrastructure Call: Selected Proposals

After long discussions we decided to put forward

- DATUM
- Storage-ring Electric Dipole Moment and Charged Lepton Flavour Violation Experiments
- SOLAIRE

We are happy to give our feedback on the projects discussed and also to take input on the community on how to organize for future calls.

# Infrastructure Call: ILC

We also received a document updating the situation with the ILC

This was not aimed at submission for the call but gave the landscape for possible bids in future infrastructure call rounds

# Infrastructure Call: UK Strategic Detector R&D Programme

Proposal aimed at supporting a new and sustained capability for mid-TRL detector systems R&D across UK particle physics / particle astrophysics institutes and laboratories.

Panel felt that though the proposal was excellent it was not well matched to the infrastructure call

More details on the proposal later from Dave Newbold.

PPAP proposes to write a letter of support to Science board to highlight some mechanism is needed to support this proposal.

# Infrastructure Call: Comments on the process

Process is still ongoing (selected proposals with science board)

All proposals were scientifically excellent and deciding between them was hard.

Several proposals were submitted to multiple panels: Need to think how best to handle this in the future

Judging community support, alignment to roadmap was relatively straightforward. Technical feasibility harder to judge for the panel, especially on short timescale.

Four proposals for activity (potentially) at Boulby: clearly strong community interest in developing Boulby laboratory. Need for a more strategic vision to make best use of available and potential space.

# Early Career Researcher Forum

This was a suggestion that was made during the roadmap consultation that we adopted as recommendation

**Recommendation 11.1:** An *Early Career Scientist in Particle Physics* Forum should be established by the community to help support and represent the views of the PDRA and PhD students in the UK. STFC should consider the inclusion of PDRA-level representation on its panels.

Discussed further in our meeting. We are drafting proposal: stalled in recent months due to the infrastructure call.

Aim to pick up now

Talk tomorrow on ECR in context of FCC community

# Net zero event

“STFC are organizing a Net Zero event. Aim is to understand where to focus energies around Net Zero in the future. Would like broader STFC community to be involved and engage with external organizations to understand how to solve key challenges. A meeting is planned to focus on

- Carbon Capture
- Hydrogen/Ammonia
- Fuel Switching/Electrification
- Batteries
- Wind
- Solar
- Earth Obs/monitoring”

I was asked to advertise this,  
and gauge community interest.  
ie if this meeting happens will people  
turn up?

Questions ?

Questions ?



# Early Career Researcher Forum

What can we do to kickstart this process

- An ECR mailing list should be created to complement the existing and broader Hi-Phi mailing list. This will provide a more direct channel to engage the ECR community in meetings and processes such as the roadmap ?
- Provide encouragement to hold ECR events ? Talk on ECR in future colliders context in this meeting
- Strengthen information sharing to ECR community on how the STFC panels and funding system work.

Aim to foster a sense of an ECR community

Goal: help the setting up of a ECR forum, driven by needs of the ECR community

Now coming out of the pandemic seems a good time to do this.

# Criteria for first ranking

1. To what extent does the project represent a platform to conduct or facilitate excellent, world leading research and innovation and/or will enable future world-leading capabilities to be established?
2. To what extent does the project demonstrate strategic, international or national importance to the discipline/sector and clear line of sight to relevant strategic drivers, e.g. UKRI strategy, STFC Delivery Plan, Industrial sector strategy, local or place, legal or regulatory, strategic partnerships.
3. Is there an opportunity for world leadership in the international context?
4. To what extent is there a clearly defined, or growing community who would utilise the capability including clear evidence of strong community support for this proposal.
5. Is there qualitative and/or quantitative evidence of potential for impact (economic or wider societal)
6. Level of innovation: does the project demonstrate it will enable a step-change in capability from the status-quo?
7. What is the level of feasibility and deliverability, have risks and other delivery issues been identified and are costs clear, and has there been or is there an independent review of the project?