

# European Strategy Update Workshop

IPPP 16-18 April 2018

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# This workshop

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- Aims to kick off the UK input
  - Ask ourselves what science we want to be doing in 20 years
- We were asked to organise the workshop to together a broad spectrum of UK academics, with a focus on engaging “mid career” academics
  - Has been nucleated around a list of mid-career academics provided by group leaders, and in addition had an open registration call
- Is science-, not politics-, focused
- Emphasis on discussion sessions
- Is not aiming to be a town meeting - that will happen later in the year, led by PPAP, aiming at a large-scale community meeting

# Outcomes

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- Aim to:
  - Identify consensus on the fundamental science questions
  - Engage minds across the community
    - Voices of experience and those driving future projects
    - But also encourage those who are focused on the “here and now” to look up!
  - Identify areas that will benefit from further studies and discussion
    - Nucleate further smaller workshops?
    - Propose to compile a document
- Speakers have been asked to:
  - Stimulate discussion by providing questions
  - Summarise broad areas of technology and physics analysis in an open-minded way
- Submission is in December 2018

# Outcomes

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- **Propose to write a short document summarising this meeting**
  - We can act as editors/writers, and welcome contributions from anyone who would like to contribute (particularly welcome speakers' input)
  - Please add your name to this googledoc in the relevant section you'd like to help with :
  - [https://docs.google.com/document/d/1j\\_1tsHLIm0qc1RBpYGIFxppYfvtFYsIPWvLg6P3G3Tk/edit?usp=sharing](https://docs.google.com/document/d/1j_1tsHLIm0qc1RBpYGIFxppYfvtFYsIPWvLg6P3G3Tk/edit?usp=sharing)
- **IPPP are willing to host future workshops if there is a desire for them – an open invitation to anyone who would like to organise one**

# Discussion session

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- **Keith Ellis will outline the European Strategy Update process**
- **Then open to the floor for further general discussion**
  - Would like to split the time roughly equally between collider and non-collider physics
    - (We have the slides of Guenther Dissertori outlining the various scenarios for colliders, can use these to focus our minds if there's a wish for that)
- **Further opportunity to discuss at PPAP meeting 16<sup>th</sup>-17<sup>th</sup> July, venue TBC – can then discuss what input from community should be**

# Discussion Points

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- **CERN has now supported non-CERN based activities**
  - would we encourage this in other areas e.g. Japanese linear collider?
- **Encourage CERN to interact more closely with member states in funding of RD-initiatives?**
- **Should CERN continue to fund CLiC and FCC R&D?**

# Discussion Points

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- **Prioritisation of accelerators is not obvious and warrants more discussion**
- **ILC decision is a key part of the process**
- **ep has new motivations with the projections for Higgs-coupling measurements (?)**
- **Concerns over too long to wait for FCC for sociological reasons**
  - Can a more diverse range of experiments help inform next-generation high-energy programme and help with this?

# Points raised during meeting

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- Theory
  - What about theory combinations on e.g. EDM's
  - Pdf uncertainties large at 100 TeV - drives need for ep?
  - Global fits including neutrinos
  - Nuclear theorist engagements with neutrino community
- Accelerators and Detectors
  - RD collaborations - need for more? (e.g. TDAQ)
  - Si - work across Europe on e.g. producing wafers, dicing etc.
  - R&D towards muon colliders
  - Need to support research software engineer roles



# Points raised during meeting

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- Neutrinos
  - Supernemo - converging on consensus
  - Global fits including neutrinos
  - ESS as neutrino source?
  - Long range planning for neutrino experiments?  
Technologies required earlier?
- Dark Matter
  - Should make statement about axions, despite lack UK involvement
  - Increase contact between collider experiment constraints and direct detection
  - Satellite - fortuitous the data is public - can we rely on this in future?