Computing
Panel Discussion

Panel members

- Ian Bird

- Amber Boehnlein

- Simone Campana

- Roger Jones

- Weidong Li

- Matthias Kasemann

- Graeme Stewart

Scope of panel discussion

- As part of the preparation work leading up to the Open Symposium:
  - All inputs submitted to the EPPSU were reviewed.
  - EPPSU-PPG, EPPSU-ESG and ECFA initiated discussions with colleagues, communities and heads of collaborations.
  - ECFA initiated several European community surveys.

- <u>Three</u> topics were identified as important to further discuss:
  1. **Knowledge preservation, training and career perspectives**
  2. **HEP Computing evolution**
  3. **Coordination of computing-related R&D activities**

- Organization of today's discussion:
  - Recurring questions associated to each of the three topics will be presented.
  - Brief introductory remarks made by panel members.
  - Followed by discussion involving panel members and audience.

- Goal:
  - **Make progress towards formulating constructive answers/suggestions to these questions, to bring forward to the European Strategy.**
    - ▸ Today's discussion will provide input to the writing of the "Briefing Book"

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3

1. Knowledge, training, career

- **What key area(s) of knowledge/expertise in community need(s) to be further developed?**

- **How to attract and retain the best and the brightest to the challenges of HEP computing (within HEP, from other research fields, from industry)?**

- **What initiatives already exist to train new experts?**
  - How effective are these initiatives?
  - What new initiatives could be considered?

- **How can the profile, visibility and employment perspectives of HEP computing scientists be improved?**

2. HEP Computing evolution

European Strategy
Update

- **How should HEP computing evolve in order to support future scientific programs and their specific needs?**

  - E.g. issues related to this evolution include: cost associated with CPU/storage, data management plan, data format optimization, policy viz computing cost and commitments, how to ensure efficient use of different types of resources (e.g. heterogenous, exascale, etc.) available in the future, etc…

- **What areas of computing R&D activities should the community be involved in, at what level of efforts, and on what timescale?**

  - Use/development of emerging technologies (e.g. quantum computing, different accelerators (GPU, FPGAs))?
  - Community involvement in the design/development of future exascale computer systems?
  - Learning from advances made in other fields and/or industry (e.g SKA, …)
  - Work related to issues of OpenAccess, OpenData, data preservation, and analysis preservation.
  - etc…

3. Coordination of R&D

- **How to best coordinate computing R&D in particle physics?**
  - within Europe and abroad ?
  - across different disciplines (astroparticle, neutrino, cosmology…)?

- **How to fund different types of computing R&D programs?**

- **What kind of resources can be shared between institutions and laboratories, and how?**