

EUROPEAN STRATEGY PREPARATORY GROUP

Minutes of the thirteenth meeting held on
Thursday, 13 September 2012

Present: R. Aleksan, P. Braun-Munzinger, P. Chomaz, C. De Clercq, K. Desch, M. Diemoz, K. Huitu, P. Jenni, M. Krammer, Y. Kuno, P. McBride, T. Nakada (Chairman), M. Spiro, D. Wark, A. P. Zarnecki, F. Zwirner

Apologies: E. Tsesmelis (Scientific Assistant)

1. INTRODUCTORY COMMENTS

The Chairman welcomed Michel Spiro and thanked all the speakers and the organisers of the Open Symposium.

The minutes of the eleventh ESPG meeting (ESPG 2012-008 / ESPG 011) were approved.

There will be a meeting with the European Strategy Group on Tuesday, 18 September, 14:00-16:00 at CERN to discuss further scientific issues arising from the Open Symposium. EVO and phone connections will be available.

2. REVIEW OF THE OPEN SYMPOSIUM

The ESPG had a debriefing on the Open Symposium held 9-12 September in Krakow. The following issues were raised:

A. General comments

- It was suggested that a message should be sent to the participants of the Open Symposium that will welcome any additional comments that the community may want to submit. The message will be sent to the extended mailing list.
- The ESPG stressed the need to reopen the submission portal and there were discussions on whether people should be allowed to change their documents. It was decided by consensus that people should be encouraged to submit a new document or an erratum/addendum.
- There were 485 people registered and there were some late cancellations. There is a need for a head count from the organizers.
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B. Feedback on the venue

- There were positive comments made on the venue of the Open Symposium. It was overall characterized as very good.
- The size of the venue turned out to be exactly what was needed.
- WiFi worked well during all days of the conference.
- The on-site catering was a big plus – it was very well organised and the food was good. Technical support was excellent and the registration went smoothly. The reception hosted by the Local Organisers on the Monday evening was very much appreciated.
- Some minor details that were indicated: Microphones were not always functioning properly and the lighting on the screens was weak. A bell was needed to start the sessions. The tent was somewhat small and there were not enough seats for the participants for coffee and lunch. This could have been a problem if it were raining.

C. Sessions

- **Opening Speeches:** they were all well received and the speakers respected the time limitations. It was deemed very positive that there was representation from the Polish Ministry. The ESPG discussed whether a letter should be sent to the Ministry to thank them for their presence at the Open Symposium. Discussions on the issue were postponed until further coordination with the Local Organisers.
- **Overview Talk:** It was an excellent speech, but there were more details than needed for an overview talk in the introductory session.
- **Physics at High Energy Frontier and Flavour Physics Session:** Flavour was nearly skipped in the discussion, in particular SuperB, due to the lack of time. But the global view was welcomed by many in the community. The case for the connection between the two branches was clearly made. The subject of whether a new facility is needed for precision measurements of the Higgs properties provided for an interesting discussion. Some people expressed their opinion that the results from the 13 TeV LHC data would be needed in order to decide on the next high energy machine. The announcement of the interest from Japan to realise a 500 GeV (starting with 250 GeV) ILC received support in the discussion. Alternatives based on circular machines were also discussed.
- **Strong Interaction Physics Session:** A clear priority for the ALICE upgrade and continuation of the LHC heavy ion run beyond 2020 has been expressed by the European heavy-ion community. Not all possible items (especially at the low energy end) were mentioned. One outstanding issue concerning LHeC is whether the PDF measurements by LHeC are essential for interpreting the data and results to come from HL-LHC. The ESPG will discuss this issue of PDFs further in an upcoming meeting. Fabio Zwirner will follow-up on the theory and Peter Jenni with Marcella Diemoz will follow-up with the experiments. Peter Braun-Munzinger will discuss with LHeC. There is a group of about 20 people with interest in heavy quark physics with a fixed target at the LHC.
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- **Astroparticle Physics, Gravitation and Cosmology Session:** An issue which was raised is the scientific enlargement of CERN and the relationship with ApPEC. The possibility of a closer cooperation in using the LHC data in conjunction with observations of very high energy cosmic rays was raised. There was not much discussion on how to proceed concerning joint experiments in astroparticle and particle physics. Experiments are now large and expensive and need professional management. Neutrinos could be used as a test case for collaboration between ApPEC and CERN by forming a European programme for a long baseline neutrino experiment.
- **Physics of Neutrinos Session:** Discussion on the long baseline neutrino programme attracted the most attention - Laguna-LBNO in Europe, LBNE in the US and HyperK in Japan. In addition, an idea was expressed to use ESS as a neutrino source. It is likely that not all of these projects will be realised. The European neutrino community converged to a neutrino factory as the ultimate neutrino facility in the future. A decision on the short-baseline experiments at CERN is needed. The nuSTORM proposal can be the ultimate answer to the problem of the sterile neutrino.
- **Instrumentation, Computing and General Infrastructure Session:** The major issues discussed were the funding options available for the future computing, and whether other frameworks than the current GRID computing might be needed.
- **Accelerator Science and Technology Session:** The discussion was concentrated inadvertently on the debate regarding a future Higgs factory (linear collider, circular ring, and gamma-gamma).
- **Particle Physics Theory Session:** The lattice talk was very good and gave more visibility to the subject and a good discussion followed. Problems related to the funding for computing and more collaborative efforts, as well as the recognition of the theory works closely related to the experimental needs should be discussed in the European Strategy Group.

In conclusion, important issues remain to be discussed, including the LHC exploitation and the machine's luminosity and energy upgrades, which need further detailed discussion. This should be done with the advancing developments of a linear collider in mind. Specifically regarding the ILC, what would be the position of Europe and how would Europe contribute to such a machine should it be built outside Europe? How would a decision on a possible European contribution be taken? A strong statement on the science case for the ILC is also needed. Is all the required information already available and how should the ESPG proceed to compile existing information and/or solicit additional input? The High Energy physics group of the ESPG should go through the submitted cases and decide whether more information is required prior to a further discussion. In addition, further sharpening of positions and considerations for neutrinos are required as well as the PDF issues relating to LHeC and LHC. All these issues should be reflected in the Briefing Book.

3. PREPARATION OF THE BRIEFING BOOK

Points to be considered for the preparation of the Briefing Book:

- Establish scientific facts.
- Describe the various programmes.
- Prepare some comparisons (listing merits, constraints, questionnaires).
- As it will be a public document, the authors should restrict the write-up to facts and avoid strong opinions or recommendations that could be questioned.
- On the issue of whether all published results that were submitted should be quoted by the ESPG in preparation of the Briefing Book, the ESPG has the right and the mandate to weigh the inputs received. Contributions that are not considered important can be just listed and not used.
- The ESPG should wait for any input and requests from the European Strategy Group after the meeting on Tuesday, 18 September.

The schedule for preparation of the Briefing Book remains:

First draft of complete skeleton (internal deadline) – 5 October

Deadline for submission – 15 October

First complete draft – 22 October

Final draft – 16 November

4. NEXT PLENARY MEETING OF THE ECFA

It was reported that a number of presentations pertinent to the discussions of the ESPG will be made in the next Plenary Meeting of ECFA and a report should be made to the October meeting of the ESPG.

5. DATES OF THE NEXT MEETINGS

18 September – European Strategy Group meeting at CERN at 14:00

24 October – 11:00 – 18:00

29 November (12:00-19:00) and 30 November (09:00-19:00)

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