




ICFA Neutrino Panel phone meeting #10 28-Aug-2014 13:00 UTC

London	28-Aug-2014 14:00 BST	UTC + 01:00
Beijing	28-Aug-2014 21:00 CST	UTC + 08:00
Chicago 	28-Aug-2014 08:00 CDT	UTC - 05:00
Madrid	28-Aug-2014 15:00 CEST	UTC + 02:00
Mumbai	28-Aug-2014 18:30 IST	UTC + 05:30
Padova	28-Aug-2014 15:00 CEST	UTC + 02:00
Paris	28-Aug-2014 15:00 CEST	UTC + 02:00
Sao Paulo 	28-Aug-2014 10:00 BRST	UTC - 03:00
Seoul	28-Aug-2014 21:00 KST	UTC + 08:00
Tokyo	28-Aug-2014 22:00 JST	UTC + 09:00
Vancouver 	28-Aug-2014 06:00 PDT	UTC - 07:00
Wroclaw	28-Aug-2014 15:00 CEST	UTC + 02:00

Present: J. Cao, D. Duchesneau, A. de Gouvea, T. Kobayashi, S.B. Kim, K. Long, M. Mezzetto, J. Sobczyk, H. Tanaka, G. Zeller

Apologies: R. Funchal, S. Geer, M. Maltoni, N. Mondal, M. Shiozawa

Notes:**1. Introduction and adoption of agenda****All**

Principal objective for this meeting:

- Getting us started once more on our year-two agenda;

Noted that the LBNF Interim International Executive Board will meet on the 23rd and 24th September. This appears to be the start of the formation of the LBNF collaboration and the beginning of the necessary dialogue between Laboratory and collaboration.

2. Notes on recent meetings and actions arising:

The notes on the previous meeting had been circulated and were accepted. The status of the actions was:

- **HT/MS:** Short note on benefits of narrow-band beam serving water Cherenkov;
 - **Done.** To be discussed under agenda item.
- **MW:** Short note on benefits of wide-band beam serving LAr detector;
 - **Done.** To be discussed under agenda item.
- **KL:** Make contact with M. Spiro to explore Panel APPIC connection and Turner to explore Panel connection with OECD Astro-particle-physics international forum.
 - **Done.** Contact made with both M. Spiro and M. Turner. Response from M. Spiro, none yet from M. Turner. Need to take forward; propose to track as action item.
- **KL:** Draw up strawman roadmap for discussion/revision etc.
 - **Done:** circulated in advance of our meeting and discussed under item 4.
- **KL:** Draw up initial list of FA/lab discussions and a possible timeline
 - **Superseded:** discussed under item 6.

- **All:** Contribute questions for FA/lab discussions for revision etc.
 - **Stands.**

We noted the list of goals that we'd set ourselves for our second year (appended to these notes).

3. Discussion of “benefits” documents previously circulated: All

The WBB and NBB slides distributed ahead of the meeting were presented by HT (NBB) and KL (WBB). We agreed that the principal arguments had been given in the slides. In the coming year, the relevant collaborations will be developing the Hyper-K and LBNF activities. Going forward, the qualitative arguments would need to be come more quantitative; this would be the job of the collaborations.

We agreed to generate a 2—3 page summary of the arguments. AdeG and SG agreed to generate a draft by 15Sep14 which would then be circulated (**Action: AdeG and SG**).

4. Discussion of strawman roadmap: All

Initial analysis of possible development of Hyper-K programme was discussed as an exercise. Information for the programme had been provided by T. Nakaya. There were parts of the programme that were “collaboration business” others that were of a more strategic nature. The timeline for the project itself was determined by the granting of resources. It seemed therefore appropriate to gather the information on the individual project timelines (essentially done) and engage with the projects to understand the additional programmes required to deliver the performance required.

In the discussion, noted that given the projects (LBNF, Hyper-K etc.) the issue was to work out how the “chunks” fit together to identify gaps in the programme and to try and develop strategies such that the gaps fit together. This analysis would benefit from the identification of complementarity between the “chunks” and the R&D which is common.

Agreed:

- Good role for the Panel would be to engage with the collaboration principals to try and define the supporting and R&D programmes and to incorporate them in the roadmap.

5. Discussion of FA/lab (and community) consultations: All

This seems to be the most difficult of our tasks for this year. We **agreed:**

- To collect a list of the relevant funding agencies. The list should include a commentary on the role of the various bodies;
- With that list, the “locals” would interact with the local funding agencies. To make this interaction effective we will have to agree the issues that need to be addressed and tailor them to the concerns of the local agencies;
- We would work towards a single meeting in summer 2015 with representatives of the funding agencies. To define this meeting we'd

have to be clear of the issues to be raised and the outcomes that we seek;

- Target date for the meeting could be EPS or Lepton Photon, with a preference for the later meeting.

This is an **action** for all.

6. Discussion of initial list of questions for FA/lab discussions: All

No ideas for questions/issues had been circulated. We agreed that such a list was important and that we would generate the list first, then order the list (**action All**).

7. Discussion of how to initiate definition of RD programme: All

Supporting and R&D programme necessarily serves the principal experiments. Therefore, we **agreed** that we need to interact with the principal collaborations and large stakeholder groups and listen to their requirements, problems and concerns. One possible venue is the annual Neutrino Beams and Instrumentation Workshop which this year will be held at FNAL from 23rd to 26th September.

We agreed the following **actions**:

- **KL**: Catalyse the production of a list of the principal experimental and stakeholder groups.
- **KL**: Identify volunteers to lead discussion with the various stakeholder or experimental groups (ideally Panel members would take the lead with a subset of these).

8. Discussion of how to quantify precision required in supporting programme: All

- To initiate discussion and perhaps identify leads for various areas.
- Dealt with under item 7.

9. Discussion how to proceed re promoting best practice in s/w & codes: All

We noted the NuSTEC initiative launched by J. Morfin and collaborators and that the various MCs were written/developed independently by international teams. The coordination, and the inclusion of the appropriate theoretical expertise in these efforts, was noted as important.

We agreed the following **actions**:

- **JS/GZ**: Talk to leaders of the NuSTEC activity to understand needs of their community.
- **KL**: Contact A. e Sousa (developer of neutrino oscillation global fitting code) to understand what if any support Panel can give.

10. Discussion how to “explore opportunities for the international collaboration required to realize the Neutrino Factory”: All

KL reminded Panel of this element of our “charge”. DD commented that presently there is a strong push to define the international collaboration to deliver LBNF and that therefore one would have to wait to see how this evolved before seeking to develop the collaborative aspects of the Neutrino Factory. SG commented that such an approach was a good means of admitting the reality: world community is focused on LBL as the

next step, so now is not the time to launch the NF project. In the longer term the Panel's position (as indicated in our initial report) is that there is likely to be a need for a NF, so the R&D needs to be preserved. DD pointed out that a comment to this effect might be of value in a future recommendation of our Panel (perhaps in the context of the RD programme). In this context, the benefit of nuSTORM was considered to be a "bonus" to the development of the "international collaboration needed to realize the Neutrino Factory".

11. Inviting constructive criticism from peers outside the neutrino community: All

The Panel had heard a number of criticisms that the neutrino community was making the neutrino case within its own community but was not active enough in reaching out to the general PP peer group (Ritz, Stone). In addition, the case for more than one LBL experiment needs to be made to and accepted by the general PP peer group.

As a concrete step, HT had proposed the comment that one step might be to instigate a review of the Panel's initial report. SG commented that the critical thing is to sell the programme to the non-neutrino physicists; that was the purpose of the introductory chapter of our report.

- **We agreed:**
 - Think it over and decide next time; implies try to write ToR;

12. DONM

- **KL:** to create a Doodle for October.

13. AoB

- None.

Summary of actions:

- **All:** Contribute questions for FA/lab discussions for revision etc.
- **AdeG/SG:** Generate a draft NBB/WBB document by 15Sep14 which would then be circulated for comment to the Panel.
- **All:** Consider how best to engage with principals of the various collaborations in order to define the chunks of the supporting and R&D programmes.
- **All:** Contribute to listing all relevant funding agencies and laboratories.
- **All:** Contribute to the development of a list of key questions for the funding agencies/labs.
- **KL:** Catalyse the production of a list of the principal experimental and stakeholder groups.
- **KL:** Identify volunteers to lead discussion with the various stakeholder or experimental groups (ideally Panel members would take the lead with a subset of these).
- **All:** Consider pros and cons of initiating a review of our initial report.
- **KL:** to create a Doodle for our next Panel meeting in October.

Reminder of our goals for our second year:

1. Engage with establishment: FA reps and Directors;
2. Develop road-map for InuP;
3. Develop proposal for RD programme;
4. Explore opportunities for international collaboration necessary to realise NF
5. Establish clear set of goals for the precision with which ν_μ and ν_e cross section measurements must be made;
6. Initiative to promote best practice in s/w & codes;