

**ICFA Neutrino Panel phone meeting #14 13-Jan-2015 13:00 UTC**

London	13-Jan-2015 14:00	BST	UTC + 01:00
Beijing	13-Jan-2015 21:00	CST	UTC + 08:00
Chicago	13-Jan-2015 08:00	CDT	UTC - 05:00
Madrid	13-Jan-2015 15:00	CEST	UTC + 02:00
Mumbai	13-Jan-2015 18:30	IST	UTC + 05:30
Padova	13-Jan-2015 15:00	CEST	UTC + 02:00
Paris	13-Jan-2015 15:00	CEST	UTC + 02:00
Sao Paulo	13-Jan-2015 10:00	BRST	UTC - 03:00
Seoul	13-Jan-2015 21:00	KST	UTC + 08:00
Tokyo	13-Jan-2015 22:00	JST	UTC + 09:00
Vancouver	13-Jan-2015 06:00	PDT	UTC - 07:00
Wroclaw	13-Jan-2015 15:00	CEST	UTC + 02:00

**Present:** D. Duchesneau, S. Geer, A. de Gouvea, S.B. Kim, K. Long, M. Mezzetto,

**Apologies:** J. Cao, R. Funchal, T. Kobayashi, M. Maltoni, M. Shiozawa, H. Tanaka, N. Mondal, J. Sobczyk, M. Wascko, G. Zeller

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

Principal objectives:

- Final comments so we can release the complementarity document;
- Discussion of our next steps and in particular the use of the Sunday before the next Large Neutrino Infrastructures meeting in April 2015. In particular we need to be getting ready to present a first iteration of our;
  - RoadMap; and
  - RD programme.

**2. Notes on recent meetings and actions arising:**

- Notes accepted.
- Status of actions:
  - **KL:** Complete revision of “complementarity” document;
    - **Done.**
  - **KL:** Communicate Panel’s date and organisational preferences to ApPIC;
    - **Done.**
  - **KL:** Catalyse creation of initial draft of straw-man roadmap;
    - **Done.** In the sense that it has been initiated.
  - **KL:** Catalyse production of initial draft of straw-man RD programme;
    - **Stands.** This meeting will be an important step; then need to work together to complet.

- **KL:** [Added] initiate contact with NuSTEC, NuInt, NNN re RD programme;
  - **Superseded.** We agreed that some actions had been taken (KL had spoken to NuSTEC organisers, for example). The systematic error discussion is progressing without the Panel's input; perhaps we've helped stimulate it. However, at this point it is not clear what additional benefit we can have in this area above continuing to argue for the need for a coherent programme targeted at delivering timely improvements.
- **KL:** Liaise to see if neutrino-experiment-spokesperson meeting would be welcome;
  - **Superseded.** We agreed that while it would be possible for the Panel to take such an initiative, it would not be possible for the Panel to set the appropriate agenda since the areas where greater co-operation might be of benefit to the collaborations is better known to the spokespeople. We therefore agreed not to seek to make create this forum.
- **KL:** Set up Doodle poll for Panel phone meeting in December
  - **Done.**

### 3. Joint ICFA asnuPanel/ApPIC/ApPEC meeting; 19/20/21 April 2015

All

We **agreed** that Sunday 19Apr15 would be the Panel's day to discuss and refine its emerging roadmap for presentation on the Monday in the "ICFA Panel Report" slot. We would also use this time to define the contents of the second year report (probably essentially the roadmap, RD programme and narrative). We **agreed** that this would be the 2015 Panel "in person" meeting.

We discussed the meeting agenda proposed by S. Katsenevas. The following actions emerged:

- **KL:** Suggest that a short paragraph be drafted to define the goals of the Large Neutrino Infrastructures meeting;
- **KL:** Clarify what is meant by "FNAL suggestion" on some of the talks;

In addition, we noted that it would be necessary to continue to argue that Asia should be the venue for the third Large Infrastructures meeting.

### 4. Sign off of "complimentarity document"

All

Document agreed as final; KL to post.

- Note added: before document was submitted to our WWW page and arXiv, last minute comments from MW were included.

**4. Development of roadmap:****All**

We went through and agreed the following assignments for the preparation of the roadmap:

- **LBL NBB:** Kobayashi, Shiozawa
  - As neither TK nor MS were on the call, **KL** to contact them to liaise to get the roadmap input.
- **LBL WBB:** Tanaka, Wascko, (Zeller)
  - **KL** to contact HT and MW to liaise to get information for the roadmap. Agreed to invite GZ to contribute.
- **SBL:**
  - **Accelerator-based sterile:** Geer, Mezzetto
    - SG and MM agreed to gather the required information.
    - SG reported that gathering the US data was in hand. Require to investigate experiments and timelines in Asia. Proposals in Europe need to be clarified and discussed (MM).
  - **Reactor and source (oscillation and sterile):** Kim, Cao
    - SBK agreed to take the lead as JC was not on the call. **SBK** will contact JC to take this forward.
- **Deep underground:** Mezzetto
  - We agreed this this category would also include proton decay, supernovae; and solar neutrinos. MM agreed to gather the information.
- **Non-terrestrial source:** Mondal, Duchesneau
  - We agreed that this heading would include non-terrestrial and non-accelerator-based measurements.
  - **DD** agreed to take the lead and to contact NM to gather the necessary information..
- **Neutrino fixed-target:** Sobczyk, Zeller
  - Neither JS nor GZ were on the call, so **KL** to contact.
- **Supporting programme:** Wascko
  - Detector performance evaluation, neutrino-nucleus cross-section measurement, hadro-production;
  - **KL:** to contact MW to ask him to take the lead in gathering the necessary information.
- **Simulation, combination, theory, code dev:** Maltoni, de Gouvea, Sobczyk
  - **AdeG** agreed to take the lead and contact M.Maltoni and JS.
- **Non-oscillation programme:** de Gouvea
  - **Agreed to add:** consideration of non-oscillation programme in so much as it affects the accelerator based programme.
- **Agreed:**
  - **Deadlines:**
    - Drafts of roadmap sections by mid-February

- **KL** to set the date by Doodle:
  - **Effective deadline; 1 week before meeting date**

#### **5. Development of RD programme:**

**KL/All**

*We agreed:*

- To include the RD programme as a section of the roadmap;
- The RD programme needs to identify “high-level needs” rather than detailed R&D programmes and it should not emphasise those programmes that will necessarily be carried out by detector collaborations to ensure the performance of their detectors or to mitigate their (experimental) systematic errors.

It was felt that initial report had already made the classification. **KL** agreed to assimilate the present information.

#### **6. Panel representation from Latin America:**

**AdG, SG, HT, SZ**

AdG reported that the Americas representatives had gone back to the list of nominees and consulted once more with the Latin American community. The result was that they proposed that R. Gomez from Brazil be asked to join the Panel in R. Funchal’s place. The proposal was accepted by those present. It was agreed that:

- **KL**: would recommend to the Panel by email that R. Gomez be adopted;
- **AdeG**: would remain in contact with R. Gomez so that he is aware of the Panel’s actions;
- **KL**: assuming that all were in favour; RZF would be emailed to explain the actions the Panel had decided to take and R. Gomez would be invited to join the panel;

#### **7. First discussion of “year 2” Panel report:**

**KL/ALL**

*Agreed:*

- Structure of report would match the goals we set ourselves our Initial Report; some of the goals have been superseded; this would be noted or explained as appropriate;
- The principal content of the report will be a rational presentation of the roadmap (including the RD programme);

#### **8. DONM**

- By Doodle; Mid Feb

#### **9. AoB**

- None.

#### **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

- a. We discussed the possibility that it might be the completion of MICE and the development of nuSTORM may emerge as the concrete programme to deliver maintain and take forward the development of the Neutrino Factory;
  - b. DD commented that it might be that the development of a concrete plan might be a topic for the Panel's third year.
5. Establish clear set of goals for the precision with which  $\nu_\mu$  and  $\nu_e$  cross section measurements must be made;
    - a. Goal for this year as it needs to be part of the information reported in our roadmap document.
  6. Initiative to promote best practice in s/w & codes;
    - a. We discussed the need to promote the growing recognition of the value of such a programme in the US. We agreed it was necessary to find out whether the increased awareness in the US was matched in Asia and Europe. Need to evaluate whether there is benefit to promote global coordination.

#### Summary of actions:

- **KL:** Catalyse production of initial draft of straw-man RD programme;
- **KL:** Contact TK and MS re LBL NBB input to the roadmap;
- **KL:** Contact HT and MW (and GZ) re LBL WBB input to the roadmap;
- **SBK:** Contact JC re reactor and source input to the roadmap;
- **DD:** Contact NM re "non-terrestrial source" input to the roadmap;
- **KL:** Contact JS, GZ re neutrino-fixed target input to the roadmap;
- **KL:** to contact MW to ask him to take the lead in gathering the necessary information for the supporting programme.
- **AdeG:** Contact M.Maltoni and JS re code, simulation, theory input to the roadmap;
- **KL:** assimilate the headings for the RD programme from the initial report;
- **KL:** recommend to the Panel by email that R. Gomez be adopted;
- **AdeG:** remain in contact with R. Gomez so that he is aware of the Panel's actions;
- **KL:** assuming that all were in favour; mail RZF to explain the actions the Panel had decided to take and invite R. Gomez to join the panel;