

ICFA Neutrino Panel phone meeting #15 20-Feb-2015 22:00 UTC

London	20-Feb-2015 22:00 GMT	UTC + 00:00
Beijing	21-Feb-2015 06:00 CST	UTC + 08:00
Chicago 	20-Feb-2015 16:00 CDT	UTC - 06:00
Madrid	20-Feb-2015 23:00 CEST	UTC + 01:00
Mumbai	21-Feb-2015 03:30 IST	UTC + 05:30
Padova	20-Feb-2015 23:00 CEST	UTC + 01:00
Paris	20-Feb-2015 23:00 CEST	UTC + 01:00
Sao Paulo 	20-Feb-2015 18:00 BRST	UTC - 04:00
Seoul	21-Feb-2015 07:00 KST	UTC + 09:00
Tokyo	21-Feb-2015 07:00 JST	UTC + 09:00
Vancouver 	20-Feb-2015 14:00 PDT	UTC - 08:00
Wroclaw	20-Feb-2015 23:00 CEST	UTC + 01:00

Present: D. Duchesneau, S. Geer, K. Long, T. Kobayashi, M. Shiozawa, H. Tanaka, J. Sobczyk, M. Wascko

Apologies: J. Cao, R. Gomes, A. de Gouvea, S.B. Kim, M. Maltoni, M. Mezzetto, N. Mondal, G. Zeller

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

- Principal topic: discussion of the contributions to the roadmap and how to prepare for a first discussion of it at our meeting on the 19th April 2015 and at the second meeting on Large Neutrino Infrastructures on the 20th and 21st April 2015. Both meetings take place at FNAL.

2. Notes on recent meetings and actions arising:

- Notes were accepted with the correction of a mistake noted by DD in the wording of the “non-terrestrial source” bullet in the discussion of the sections of the roadmap.
- Status of actions:
 - **KL:** Catalyse production of initial draft of straw-man RD programme;
 - **Initiated:** as part of roadmap preparation.
 - **KL:** Contact TK and MS re LBL NBB input to the roadmap;
 - **Done.**
 - **KL:** Contact HT and MW (and GZ) re LBL WBB input to the roadmap;
 - **Done.**
 - **SBK:** Contact JC re reactor and source input to the roadmap;
 - **Done.**
 - **DD:** Contact NM re “non-terrestrial source” input to the roadmap;
 - **Ongoing.**
 - **KL:** Contact JS, GZ re neutrino-fixed target input to the roadmap;
 - **Done.**
 - **KL:** to contact MW to ask him to take the lead in gathering the necessary information for the supporting programme.
 - **Done.**

- **AdeG:** Contact M.Maltoni and JS re code, simulation, theory input to the roadmap;
 - **Ongoing.** Contact not yet made, actions stands.
- **KL:** assimilate the headings for the RD programme from the initial report;
 - **Stands.**
- **KL:** recommend to the Panel by email that R. Gomes be adopted;
 - **Done.**
- **AdeG:** remain in contact with R. Gomes so that he is aware of the Panel's actions;
 - **Done.**
- **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;
 - **Done.**

2. Joint ICFA nuPanel/APpIC/ApPEC meeting; 19/20/21 April 2015 All

- To review present agenda and refine our plans.
 - We agreed to meet on Sunday 19Apr15 to discuss the roadmap that will be presented on Monday 20Apr15.
 - After discussion of the roadmap in the Large Neutrino Infrastructures meeting, we thought it would be valuable to have a debriefing session on the morning of Wednesday 22Apr15.
- We discussed the balance of the discussion sessions in the Large Neutrino Infrastructures meeting between the accelerator and the non-accelerator programme. **KL** to pass on our comments regarding this balance.

3. Development of roadmap: All

- LBL NBB: Kobayashi, Shiozawa
 - Agreed that TK and MS would make a bar chart/milestone analysis similar to the one prepared for the WBB.
- LBL WBB: Tanaka, Wascko
 - Noted that the J-PARC accelerator upgrade work would be carried out in the period 2015—2018 with generating a ramp-up in flux delivered.
 - Agreed to add evolution of precision on θ_{23} ;
 - Noted objection made at presentation to ICFA that presenting the evolution of precision in terms of $n\cdot\sigma$ might allow interpretation that discovery is a long way off. Need to work out a different presentation technique.
- SBL:
 - Accelerator-based sterile: Geer
 - SG noted that MMez would make roadmap for Asian contributions. TK agreed to feed information to MMez.
 - We agreed that the places in which nuSTORM could contribute should be added. Perhaps this should be in the form of a decision point around 2020 when it would be clear whether there is need for a more sensitive experiments.

- Figures of merit for long-baseline experiments are clear. We need to define an appropriate figure of merit for the SBL experiments.
 - Reactor (oscillation and sterile): Kim, Cao
 - Agreed that we need to add the necessary information. Need evolution of precision on θ_{13} θ_{12} .
- Deep underground: Mezzetto
 - Agreed that we need to add the necessary information.
- Non-terrestrial source: Mondal, Duchesneau
 - First draft discussed. Agreed that it would be interesting to add precision a line indicating the evolution of the precision as had been done for LBL.
- Neutrino fixed-target: Sobczyk, Zeller
 - Timeline and performance indicators would be extracted and compiled into roadmap.
- Supporting programme Wascko, Long
 - Agreed that we need to add the necessary information. CENF + FNAL Neutrino Platform need to be included. The development of FNAL SBL to include consideration of infrastructure beyond specific experiments. Need for developments to be coordinated such that FENF and CENF have complementary capabilities.
 - Agreed that one also needed to consider Asia in this too since there is presently capability in ND280/T2K and in the future perhaps capability in the form of nuPRISM and other experiments.
 - In addition, FNAL programme includes support for Detector R&D; charged-particle beam; neutrino test beam; also support for s/w tools;
- Simulation, combination and code development: Maltoni, de Gouvea, Sobczyk
 - Agreed that we need to add the necessary information.
- Non-oscillation programme de Gouvea
 - Agreed that we need to add the necessary information.

4. Discussion of “year 2” Panel report:

KL/ALL

- We agreed that the second nuPanel report will be based around the roadmap. **Action: KL** to make a skeleton.

5. DONM

- Agreed to meet in March when there was progress on roadmap to discuss.
 - **KL:** Make Doodle for late March for a meeting as appropriate.

6. AoB

- Agreed there should be a draft set of slides for the next meeting for discussion.
- Agreed to draft a short note in answer to N. Lockyer comment on the background in H₂O versus LAr.

Summary of actions:

- **KL:** Catalyse production of initial draft of straw-man RD programme;
- **DD:** Contact NM re “non-terrestrial source” input to the roadmap;
- **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:** Flag the balance of discussion of accelerator and the non-accelerator programme in the Large Neutrino Infrastructures meeting.
- **KL:** Make skeleton of roadmap.
 - **KL:** Make Doodle for late March for a meeting as appropriate.

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;