Report from the Neutrino Panel

Heidi Schellman for the Panel
based on prior reports by Mandred Lindner

International Union of Pure and Applied Physics

The IUPAP Neutrino Panel

IUPAP has established the Neutrino Panel with the mandate:

- "to promote international cooperation
  in the development of experimental programs
  to study the properties of neutrinos"
  and
- "to promote international collaboration
  in the development of future neutrino experiments
  to establish the properties of neutrinos"

Start: co-chair's meeting during NEUTRINO 2018 in Heidelberg

➔ basic principle: science only, balanced and broad

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(DESY Zeuthen)

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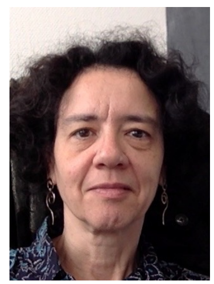

Renata Zukanovich Funchal (Sao Paulo)

Steven Barwick
(UC Irvine)

M. Sajjad Athar
(Aligarh Muslim U.)

Werner Rodejohann
(MPIK)

Nathalie Palanque-Delabrouille
CEA-Saclay

3 co-chairs from 3 regions
19 members / 11 countries

➔ topical, political, age and fair gender balance

➔ broad / balanced expertise

Additional "contributing authors" as required

- neutrinos ←→ sources
- with / without neutrinos

➔ topics/members matrix

Panel Web Page and Wiki

https://www.iupapneutrinopanel.org

IUPAP NEUTRINO PANEL

To stimulate and facilitate international cooperation in physics and the worldwide development of science.

In addition a wiki: https://www.mpi-hd.mpg.de/IUPAP

Home

members → Meet the Panel

mandate → Terms of Reference

CONTACT US

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Community Feedback to the IUPAP Neutrino Panel draft report

2021-07-08 / MANFRED LINDNER / 0 COMMENTS

The IUPAP **neutrino panel** has the mandate to promote international cooperation in the development of an experimental program to study the properties of neutrinos and to promote international collaboration in the development of future neutrino experiments to establish the properties of neutrinos.

A main objective of the panel is to carry out a review of the present status of neutrino physics and the requirements and R&D that are necessary for the research field to fulfill its near- to long-term potential. The draft report in the form of a science-driven white paper is now ready for comments from the world-wide neutrino community.

Link to the draft report

Link to the online feedback form for comments, corrections, …

We are grateful for any input which helps to further improve the document. The deadline for feedback is Aug. 29, 2021.

The IUPAP neutrino panel

Panel Meetings (Zoom)

WEDNESDAY, 30. MAY 2018

- IUPAP chair telecon 13:00 14:00

FRIDAY, 6. JULY 2018

- Zoom Telecon: IUPAP... 14:00 15:00

FRIDAY, 21. DECEMBER 2018

- IUPAP nu-panel chair... 19:00 20:00

TUESDAY, 15. JANUARY 2019

- 15:00 IUPAP nu pane... 15:00 16:30

TUESDAY, 19. FEBRUARY 2019

- 15:00 IUPAP nu pane... 15:00 16:30

TUESDAY, 26. MARCH 2019

- IUPAP-pre-call 14:30 15:00
- 15:00 IUPAP nu pane... 15:00 16:30

FRIDAY, 5. APRIL 2019

- IUPAP NP Co-Chairs... 15:00 16:30

TUESDAY, 30. APRIL 2019

- IUPAP Neutrino Panel... 15:00 17:00

WEDNESDAY, 15. JANUARY 2020

- IUPAP Neutrino Panel... 14:00 16:00

THURSDAY, 23. JANUARY 2020

- IUPAP Neutrino Panel... Zoom 14:00 16:00

FRIDAY, 21. FEBRUARY 2020

- IUPAP Neutrino Panel Zoom 14:00 16:00

WEDNESDAY, 18. MARCH 2020

- IUPAP NuPanel Co-C... Zoom 13:00 14:00

MONDAY, 23. MARCH 2020

- IUPAP Neutrino Panel... Zoom 13:00 15:00

THURSDAY, 30. APRIL 2020

- IUPAP Neutrino Panel... Zoom Meeting 14:00 16:00

MONDAY, 11. MAY 2020

- IUPAP Neutrino Panel... Zoom 14:00 15:00

FRIDAY, 22. MAY 2020

- IUPAP Neutrino Panel 14:00 16:00

TUESDAY, 26. MAY 2020

- IUPAP Neutrino Panel... Zoom 14:00 15:00

THURSDAY, 18. JUNE 2020

- IUPAP Neutrino Panel 14:00 15:30

TUESDAY, 28. JULY 2020

- IUPAP Neutrino Panel 14:00 15:30

WEDNESDAY, 19. AUGUST 2020

- IUPAP Neutrino Panel 14:00 15:30

THURSDAY, 17. SEPTEMBER 2020

- IUPAP Neutrino Panel 13:00 14:30

MONDAY, 26. OCTOBER 2020

- IUPAP Neutrino Panel... 14:00 15:30

TUESDAY, 24. NOVEMBER 2020

- IUPAP neutrino panel... 13:30 15:00

WEDNESDAY, 16. DECEMBER 2020

- IUPAP Neutrino panel 14:00 15:30

THURSDAY, 11. MARCH 2021

- IUPAP neutrino panel... 14:00 15:00

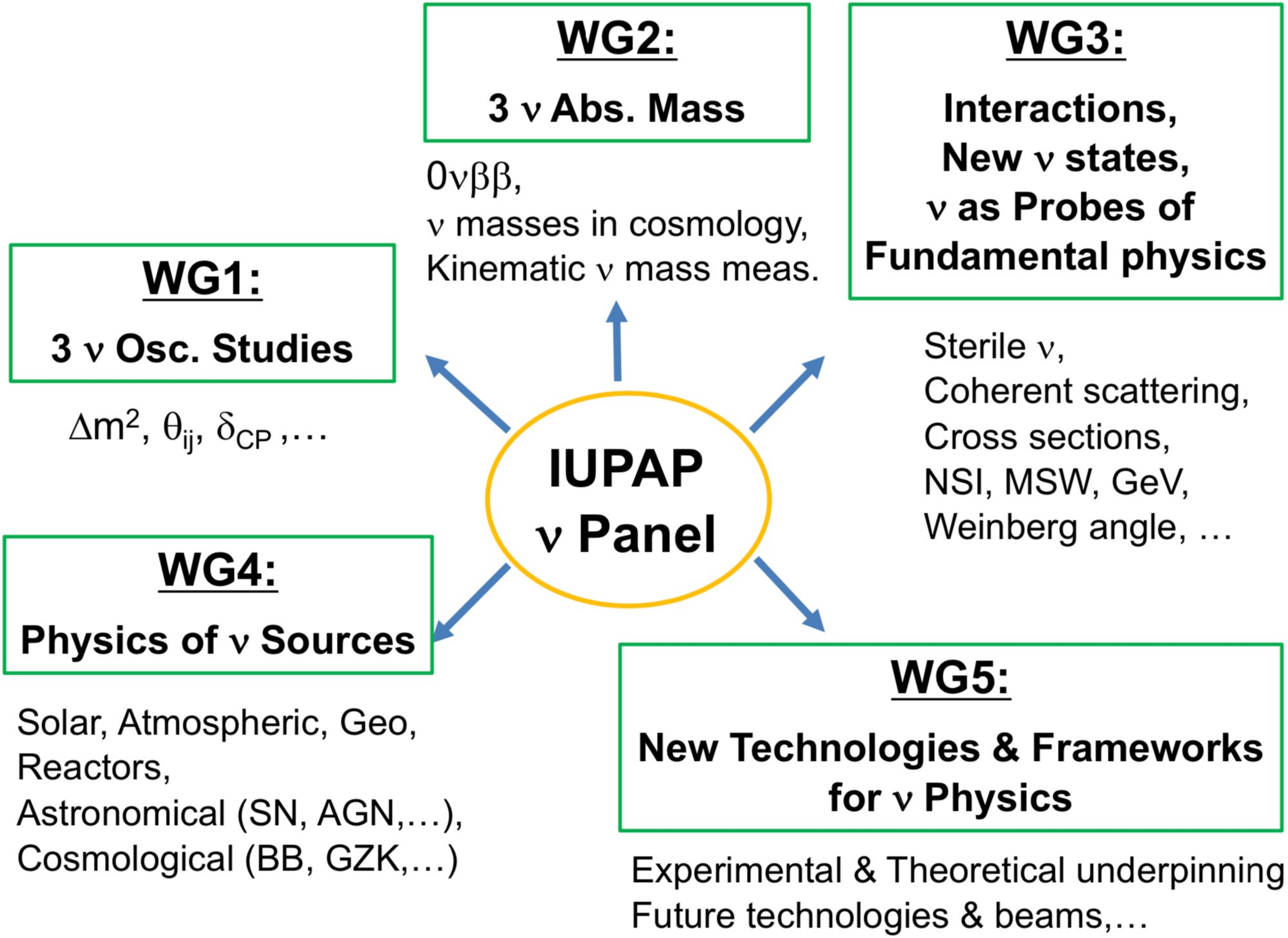
THURSDAY, 8. JULY 2021

- IUPAP neutrino panel... 15:00 16:00

TODAY

MONDAY, 13. SEPTEMBER 2021

- **IUPAP Neutrino Panel** 15:00 16:30


IUPAP
ν Panel
WG1:
3 ν Osc. Studies
Δm^2, θ_{ij}, δ_{CP} ,…
WG2:
3 ν Abs. Mass
0νββ,
ν masses in cosmology,
Kinematic ν mass meas.
WG3:
Interactions,
New ν states,
ν as Probes of
Fundamental physics
Sterile ν,
Coherent scattering,
Cross sections,
NSI, MSW, GeV,
Weinberg angle, …
WG4:
Physics of ν Sources
Solar, Atmospheric, Geo,
Reactors,
Astronomical (SN, AGN,…),
Cosmological (BB, GZK,…)
WG5:
New Technologies & Frameworks
for ν Physics
Experimental & Theoretical underpinning,
Future technologies & beams,…

Neutrino Panel

In consultation with the broad neutrino-physics community:

a) Cover the present status of the global neutrino physics program and the developments that can be expected on a 5 to 10-year time scale through a science driven white paper

b) Collect R&D and measures (including software development) that are required for the near-term (<10-year) and medium- to long-term (10-25-year) program to fulfil their potential

c) Collect feedback on a draft report from the community

➔ identify opportunities within neutrino physics, mutual benefits of global connections within neutrino physics and other fields, as well as the synergies of an international program

The Draft

IUPAP Neutrino Panel White Paper

The IUPAP Neutrino Panel:

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*Co-Chairs

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August 4, 2021

Contents

Altogether 220 pages

- 163 pages text
- 841 references

- very positive community feedback
- Proposal to publish as review

Status & Plans

- Absorbing final comments and completing the executive summary
- Final steps and plans:
  - Finalize executive summary - first week of October
  - submit to IUPAP C11and General Council
  - put final report on panel web page
  - ask for permission to publish the science part as review