

# The IUPAP Neutrino Panel

Snowmass Day, Sept 24, 2021

**Manfred Lindner**



International Union of Pure and Applied Physics

# The IUPAP Mandate

“to promote **international cooperation** ...

- in the development of **experimental program** to study the properties of neutrinos
- in the **development of future neutrino experiments** to establish the properties of neutrinos”

## Chronology:

- Mandate by IUPAP
- Co-chair’s meeting @ NEUTRINO 2018 in Heidelberg
  - ➔ basic principles: science focussed, balanced and broad, not another roadmap
- many panel meetings & lots of work...
- summer 2021: draft report circulated widely in the community
- final report within next weeks



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(IBS, Daejeon)



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**Jun Cao**  
(IHEP)



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**Heidi Schellman**  
(Oregon State U.)



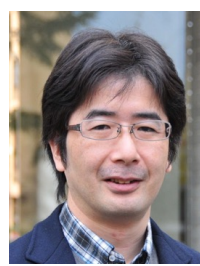
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(Lebedev Phys.Inst.)



**Sam Zeller**  
(Fermilab)



**Thomas Brunner**  
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**Kunio Inoue**  
(Osaka U.)



**Renata Zukanovich Funchal**  
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**Steven Barwick**  
(UC Irvine)



**M. Sajjad Athar**  
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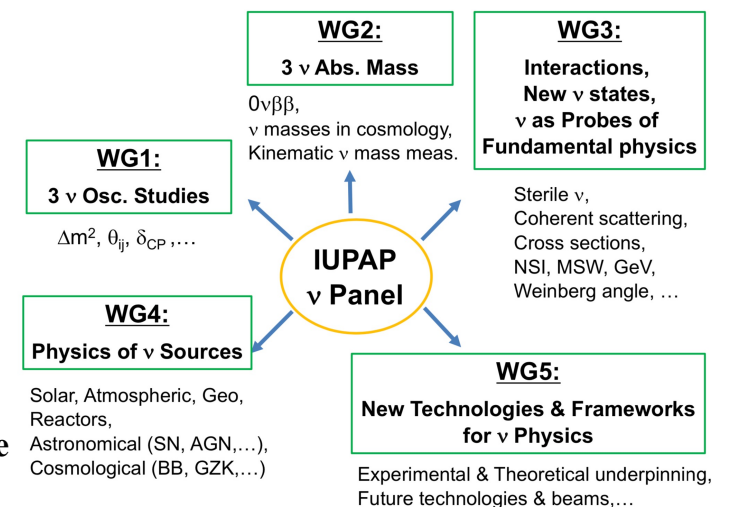
**Nathalie Palanque-Delabrouille**  
(CEA-Saclay)

**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

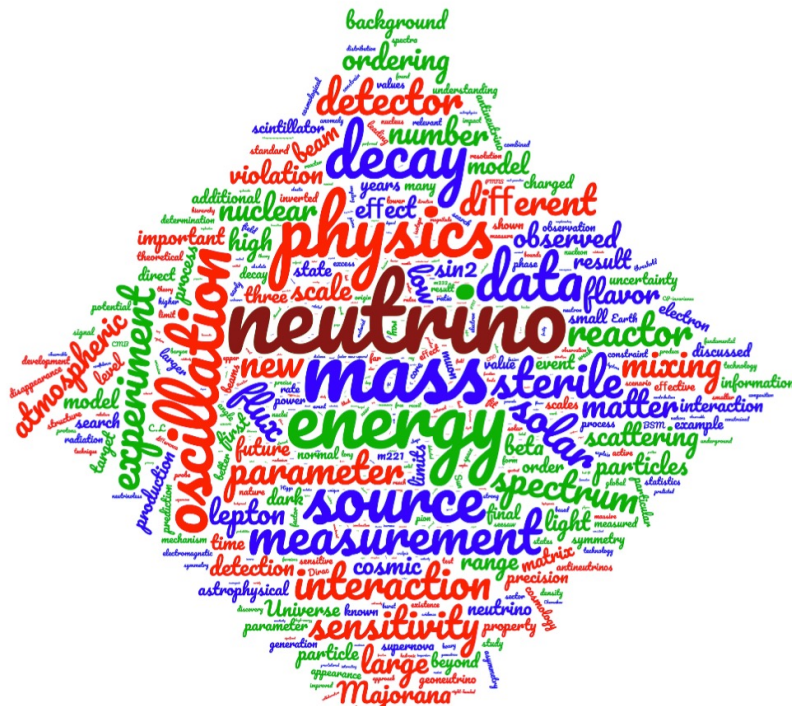
- neutrinos  $\leftrightarrow$  sources
- with / without neutrinos

- topics/members matrix



# The Draft

## IUPAP Neutrino Panel White Paper



Altogether 220 pages

- 163 pages text
- 841 references

request for community input

→ report will very soon be final  
will also be published as a review

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# Outcome

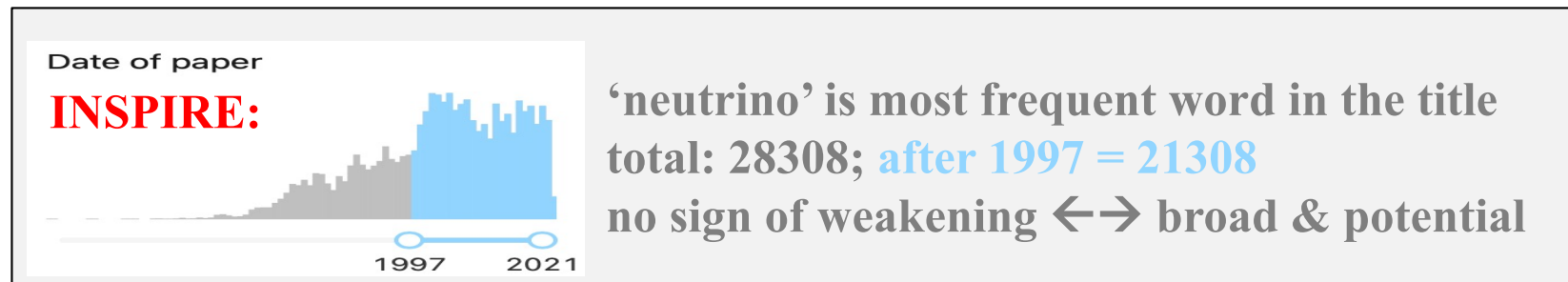
- a) Cover the **present status** of the global neutrino physics programme and the **development** that can be expected on a 5 to 10-year time scale
- b) Collect **R&D and measures** required for the **near-term** (<10-year) and **medium- to long-term** (10-25-year) program to fulfill their potential

→ **an extensive science driven (review-like) white paper**

- not a road map - it is impossible to prioritize many very diverse topics
- number of pages, words, ordering,... ↔ logic & similar scientific depth

→ **point towards various technologies (capabilities, infrastructure, ...)**

→ **exciting cross-over to other science in particle physics and beyond**



- many interesting opportunities within neutrino physics, connections to other fields, synergies, ... → international cooperation & best use of resources
- valuable input for discussions about the future