A Brief Announcement from the IUPAP Neutrino Panel

K. Scholberg
DPF 2019
July 31, 2019

What is IUPAP?

ABOUT US

The Role that IUPAP Plays

The International Union of Pure and Applied Physics (IUPAP) was established in 1922 in Brussels with 13 Member countries and the first General Assembly was held in 1923 in Paris.

The aims of the Union are:

- to stimulate and promote international cooperation in physics;
- to sponsor suitable international meetings and to assist organizing committees;
- to foster the preparation and the publication of abstracts of papers and tables of physical constants;
- to promote international agreements on other use of symbols, units, nomenclature and standards;
- to foster free circulation of scientists; to encourage research and education.

The Union is governed by its General Assembly which meets every three years. The Council is its top executive body, supervising the activities of the nineteen specialized International Commissions and four Affiliated Commissions.

IUPAP Neutrino Panel

IUPAP has established the Neutrino Panel with 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."

M. Sajjad Athar	AMU, Aligarh, India
Steve Barwick	UCI Physics and Astronomy
Thomas Brunner	McGill University/TRIUMF
Jun Cao	IHEP, Beijing
Mikhail Danilov	Lebedev Physical Inst., Russian Acad. of Sci.
Renata Zukanovich Funchal	University of São Paulo
Kunio Inoue	Tohoku University
Takaaki Kajita (+)	University of Tokyo
Marek Kowalski	DESY
Manfred Lindner (+)	Max Planck Institute for Nuclear Phys.
Ken Long	Imperial College, London/STFC
Nathalie Palanque-Delabrouille	CEA
Heidi Schellman	Oregon State University
Kate Scholberg	Duke University
Seon-Hee Seo	IBS, Center for Underground Physics
Nigel Smith (+)	SNOLAB
Walter Winter	DESY-Zeuthen
Sam Zeller	Fermilab

(+) Co-chairs

Objectives

4. Through consultation with the broad neutrino-physics community, funding agency and laboratory management and other stakeholders, the Panel will carry out a review of:
   (a) The present status of the global neutrino physics programme and the development that can be expected on a 5 to 10-year timescale through a science driven white paper;
   (b) The measurements and R&D (including software development) that are required for the near-term (<10-year) and medium- to long-term (10 – 25-year) programmes to fulfil their potential.
5. The Panel will identify opportunities within neutrino physics, mutual benefits of global connections within neutrino physics and other fields, as well as the synergies of an international programme.
6. The Panel will provide written updates to the C11 Commission at key milestones in its programme and a final report to the IUPAP General Council by October 2020.

Working Groups:

- **WG1: Three-neutrino oscillation studies**
  - delta-m^2; theta-ij, delta-cp, ...
- **WG2: Three-neutrino absolute mass**
  - 0ν double beta decay
  - Neutrino masses in cosmology
  - Kinematic neutrino mass measurements
- **WG3: Interactions, new neutrinos states and neutrinos as probes of fundamental physics**
  - Sterile neutrinos, coherent scattering, cross sections, NSI, MSW, GeV, Weinberg angle, …
- **WG4: Physics of neutrino sources**
  - Cosmological (BB, GZK, ...)
  - Astronomical (SN, AGN and others)
  - Solar
  - Atmospheric
  - Terrestrial
  - Reactors
  - Beams
  - Radioactive decays
- **WG5: New technologies and frameworks for neutrino physics**
  - Experimental and theoretical underpinning, future technologies and beams, ...

- Working groups are beginning their activities
- Expect requests for input in the coming year!