

# Workshop on Neutrino Physics: Theory and Experiment



**October 19-25, 2019**



**Physics Department, Institute of Science,  
Banaras Hindu University, Varanasi - 221 005 (India)**

Government of India  
Ministry of Human  
Resource Development  
New Delhi

This workshop on “Neutrino Physics: Theory and Experiment” is supported by the Ministry of Human Resource Development (MHRD), Government of India, New Delhi under the SPARC programme to provide training for the next generation of neutrino physicists in both theory and experiment. The workshop brings together graduate students and postdoctoral fellows / Research Associates, along with some of the young teachers and researchers in neutrino physics, to create an intensive week long learning experience in an open and interactive environment that covers the full range of modern neutrino physics. Students will also have the opportunity to present individual posters on their current research. Posters of the participants will be displayed outside the lecture hall during the full workshop period.

We expect to have local travel support grants for limited number of participants, depending upon available funding, for qualified students in need of support. Registration fee of Rs. 5000/- is required for participants. We are expecting a limited number of participants up to 25 in number. Participants will get free suitable accommodation and working lunch during the workshop period. Interested applicants should arrange for a recommendation letter from their supervisor or mentor.

## List of Tentative Topics and Speakers

Neutrino Detectors	Prof. Brajesh C Choudhary, DU, Delhi
Neutrino Detectors: Front-End electronics & Trigger Systems	Prof. B. Satyanarayana, TIFR, Mumbai
Detection of atmospheric neutrino and neutrino oscillation	Prof. Gobinda Majumder, TIFR, Mumbai
An overview of global underground laboratories	Prof. Hao Ma, THU, Beijing China
Neutrino cross section theory & experiments	Prof. Mohammad Sajjad Athar, AMU, Aligarh
Long -baseline Oscillation Experiments	Prof. Monika Randhawa, PU, Chandigarh
Muon Distributions on Earth	Prof. Prashant Shukla, HBNI & NPD, BARC, Mumbai
$0\nu\beta\beta$ - decay experiments	Prof. Qian Yue, THU, Beijing, China
Introduction to Neutrino Physics	Prof. Raj Gandhi, HRI, Allahabad
Introduction to leptogenesis	Prof. Rukmani Mohanta, UoH, Hyderabad
Origin and nature of $\nu$ -mass, and Searches for exotic phenomena in neutrino experiments	Prof. Sanjib Kumar Agarwalla, IoP, Bhubaneswar
Low radioactivity techniques in $\nu$ - physics	Prof. S. T. Lin, SCU, Chengdu China
Geant4 based study of DEASA secondaries (interactive session)	Prof. Sonali Bhatnagar, DEI, Agra
Solar neutrino: Theory & experiments	Prof. Srubabati Goswami, PRL, Ahmadabad
Statistical methods in neutrino physics	Prof. S. Uma Sankar, IIT-B, Mumbai
Reactor Neutrino Experiments	Prof. Venktesh Singh, BHU, Varanasi
Neutrino flux measurements	Prof. Vipin Bhatnagar, PU, Chandigarh

## Organizing and Advisory Committee

Prof. Mohammad Sajjad Athar Aligarh Muslim University, Aligarh (India)
Dr. Henry Tsz-king Wong Academia Sinica, Taipei (Taiwan)
Dr. Venktesh Singh, Convener Banaras Hindu University, Varanasi (India)
Dr. Ajay Kumar, Co-convener Banaras Hindu University, Varanasi (India)
Prof. Vipin Bhatnagar Panjab University, Chandigarh (India)
Dr. B. Satyanarayana Tata Institute of Fundamental Research, Mumbai (India)
Prof. Qian Yue Tsinghua University, Beijing (China)

## Local Organizing Committee

Dr. Venktesh Singh, Convener
Dr. Ajay Kumar, Co-convener
Physics Department, Institute of Science, BHU, Varanasi
Mr. Abhishek Kumar & Mr. Aman Gandhi
Ms. Damini Singh & Mr. Niraj Kumar Rai
Mr. Pramod Kumar & Mr. Shshank Mishra
Physics Department, Institute of Science, BHU, Varanasi

**Guidelines for Application** Send email of your complete application form with academic detail to the Convener at [venkaz@yahoo.com](mailto:venkaz@yahoo.com) (copy to the co-convener at [atyagi44@yahoo.co.in](mailto:atyagi44@yahoo.co.in)) along with your CV and reason of participation before **August 15, 2019**. Request your mentor to send recommendation letter before last date to the above emails. For questions and comments, please email us.

