Session Program

13–17 May 2024

DPF - PHENO 2024

Neutrino Physics

University of Pittsburgh / Carnegie Mellon University

Sunday 12 May

14:00

Neutrino Physics: Exotics (NSI and BSM)

Session | **Location:** University of Pittsburgh, David Lawrence Hall 107 | **Convener:** Zahra Tabrizi

14:00–14:15 **Neutrinos Are Darkly Different**

Speaker
Jack Terrance Goldman

14:15–14:30
Constraints on long-range neutrino self-interactions from large-scale structure

Speaker
Xuheng Luo

14:30–14:45 **Higher-order Interference in a Generalization of Quantum Mechanics**

Speaker
Nabin Bhatta

14:45–15:00 **Cosmological case study of a tower of neutrino states**

Speaker
Dr Subhajit Ghosh

15:00–15:30 **-**

15:30

Monday 13 May

14:00

Neutrino Physics: Accelerator neutrinos flux and cross sections

Session | **Location:** University of Pittsburgh, David Lawrence Hall 107 | **Convener:** London Cooper-Troendle

14:00–14:15 **Pion-Argon Cross Section Measurement Using ProtoDUNE-SP**

Speaker
Jacob Michael Calcutt

14:15–14:30
Hadron production measurements at NA61/SHINE for accelerator-based neutrino experiments

Speaker
Lu Ren

14:30–14:45 **DUNE Systematic Flux Uncertainties**

Speaker
Mr Ian D. Kotler FRAS for the DUNE Collaboration

14:45–15:30 **-**

15:30

14:00

Neutrino Physics: Neutrino telescopes and high energy neutrinos

Session | **Location:** University of Pittsburgh, Barco Law Building 111 | **Convener:** Pablo François Felix Kunze

14:00–14:15
Modeling Uncertainties and Future IceCube Constraints on Neutrino Self-Interactions

Speaker
Dr Jeffrey Hyde

14:15–14:30
Final state radiation from high and ultrahigh energy neutrino interactions

Speaker
Bei Zhou

14:30–14:45
Searching for correlations between HAWC gamma-ray observations and IceCube high energy neutrino events.

Speaker
Natalia Tapia Arellano

14:45–15:00
Constraining Neutrino Self-Interactions Using IceCube Data from Multiple Sources

Speaker
Sabrina Hanning

15:00–15:15 **Results From TeV Neutrinos at the FASER Experiment**

Speaker
Ali Garabaglu

15:15–15:30 **The LHC as a Neutrino-Ion Collider**

Speaker
Max Fieg

15:30

16:00

Neutrino Physics: Accelerator neutrinos flux and cross sections

Session | **Location:** University of Pittsburgh, David Lawrence Hall 107 | **Convener:** Anil Thapa

16:00–16:15 **Unleashing the Power of EFT in Neutrino–Nucleus Scattering**

Speaker
Dr Zahra Tabrizi

16:15–16:30 **Recent MicroBooNE cross section results**

Speaker
London Cooper-Troendle

16:30–16:45
Quasi-Elastic Lepton Nucleus Scattering and the Correlated Fermi Gas Model

Speaker
Sam Carey

16:45–17:00
Measuring Neutral Pion Production in Muon Antineutrino Charged-Current Interactions at the NOvA Near Detector

Speaker
Dr Wanwei Wu

17:00–17:15
The Importance of Proper Flux Treatment and Model Validation in Cross Section Measurements and Comparisons

Speaker
London Cooper-Troendle

17:15–17:30
Comparison of Predictions of Neutrino MC Generators (Run in Electron-Mode) to a Global Extraction of the 12C Longitudinal and Transverse Nuclear Electromagnetic Response Functions from all Electron Scattering Measurements on Carbon

Speaker
Mr Zihao Lin

17:30

16:00

Neutrino Physics: Low Energy Neutrinos

Session | **Location:** University of Pittsburgh, Barco Law Building 111 | **Conveners:** Kaladi Babu, Ks Babu

16:00–16:15
Project 8: Measuring the Neutrino Mass Using Cyclotron Radiation Emission Spectroscopy

Speaker
Luiz de Viveiros

16:15–16:30
Reactor antineutrino flux from neutrino-13C neutral current interactions

Speaker
Min-Gwa Park

16:30–16:45 **Status of the D2O Detector for the COHERENT Experiment**

Speaker
Gen Li

16:45–17:00 **Status of the KATRIN Experiment**

Speaker
Byron Abraham Daniel

17:00–17:15 **A neutrino floor for the Migdal effect**

Speaker
Gonzalo Herrera

17:15–17:30 **Cherenkov Light Identification at Coherent Captain-Mills Experiment**

Speaker
Darcy Newmark

17:30

Tuesday 14 May

14:00

Neutrino Physics: Neutrino Mass Models

Session | **Location:** University of Pittsburgh, David Lawrence Hall 107 | **Convener:** Saarik Kalia

14:00–14:15 **Lepton Number Breaking from the Electroweak Scale**

Speaker
Wenjie Huang

14:15–14:30 **-**

14:30–14:45
Exploring $0\nu\beta\beta$ decay and leptogenesis in an extended seesaw model

Speaker
Dr Supriya Senapati

14:45–15:00
Probing superheavy dark matter through lunar radio observations of ultrahigh-energy neutrinos

Speaker
Jose Carpio Dumler

15:00–15:15 **Unitarity Conditions for Type 1 Seesaw Neutrino Models**

Speaker
Francis Burk

15:15–15:30 **FASER \nu a non-unitarity of the leptonic mixing matrix**

Speaker
jesus miguel celestino

15:30

16:00

Neutrino Physics: Neutrino Mixing and Decay

Session | **Location:** University of Pittsburgh, David Lawrence Hall 107 | **Conveners:** Vedran Brdar, Vedran Brdar

16:00–16:15
Atmospheric neutrino oscillations with IceCube: Recent results from DeepCore and future potential with the IceCube Upgrade

Speaker
Kayla Leonard DeHolton

16:15–16:30 **Latest oscillation analysis results from T2K**

Speaker
Tristan Schefke

16:30–16:45 **Decaying Sterile Neutrinos at MicroBooNE**

Speaker
Tao Zhou

16:45–17:00 **An Improved Search for Unstable Sterile Neutrinos at IceCube**

Speaker
Philip Weigel

17:00–17:15 **Tunneling away the relic neutrino asymmetry**

Speaker
Saarik Kalia

17:15–17:30 **-**

17:30

Wednesday 15 May

14:00

Neutrino Physics: Exotics (HNL, Tridents)

Session | **Location:** University of Pittsburgh, David Lawrence Hall 107 | **Convener:** Dr Supriya Senapati

14:00–14:15

A New Probe of Relic Neutrino Clustering using Decaying Heavy Dark Matter

Speaker
Writasree Maitra

14:15–14:30

HNL Dipole Portal at Muon Collider

Speaker
Mr Samiur R. Mir

14:30–14:45

Heavy Neutral Lepton Decay

Speaker
Yulun Li

14:45–15:00

Ultimate constraints for forward neutrino scattering processes at the LHC

Speaker
Dr Toni Makela

15:00–15:15

Tau Tridents at DUNE and FASER

Speaker
Diego Lopez Gutierrez

15:15–15:30

Uncovering Secret Neutrino Interactions at Tau Neutrino Experiments

Speaker
Prof. Seodong Shin

15:30

16:00

Neutrino Physics: Detectors

Session | **Location:** University of Pittsburgh, David Lawrence Hall 107 | **Convener:** Prof. Seodong Shin

16:00–16:15

Neutron kinematics reconstruction in the Upgraded Near Detector of the T2K experiment

Speaker
Abraham Meles Teklu

16:15–16:30

ProtoDUNE-II Offline Data Processing Strategy

Speaker
Dr Barnali Chowdhury

16:30–16:45

ANNIE with Large Area Picosecond Photodetector

Speaker
Yue Feng

16:45–17:00

Overview of the T2K Near Detector Upgrade

Speaker
Mr POOI SEONG CHONG

17:00–17:15 **DUNE and ProtoDUNE trigger and data acquisition systems**

Speaker
Matthew Gar Jun Man

17:15–17:30
Total neutron cross section measurement on CH with a novel 3D-projection scintillator detector

Speaker
Mr Haowei Zheng

17:30