

Neutrino Theory Network Workshop

Report of Contributions

Contribution ID: 1

Type: **not specified**

Welcome and introduction

Tuesday, 21 June 2022 09:00 (15 minutes)

Presenter: MACHADO, Pedro (Fermilab)

Session Classification: Plenary

Contribution ID: 2

Type: **not specified**

Theoretical and experimental challenges in neutrino-nucleus interaction modeling

Tuesday, 21 June 2022 16:10 (1h 20m)

Session Classification: Round table

Contribution ID: 3

Type: **not specified**

New opportunities for BSM discovery at neutrino experiments

Wednesday, 22 June 2022 16:10 (1h 20m)

Session Classification: Round table

Contribution ID: 4

Type: **not specified**

Flavor Symmetries for Neutrino Mixing

Wednesday, 22 June 2022 10:05 (25 minutes)

Presenter: CHEN, Mu-Chun (University of California, Irvine)

Session Classification: Plenary

Contribution ID: 5

Type: **not specified**

Near Detector Tuning and New Physics Searches

Wednesday, 22 June 2022 11:25 (25 minutes)

Presenter: LI, Shirley (Fermilab)

Session Classification: Plenary

Contribution ID: 6

Type: **not specified**

QED factorization theorems for scattering with nuclear targets

Wednesday, 22 June 2022 14:25 (25 minutes)

Presenter: PLESTID, Ryan (University of Kentucky)

Session Classification: Plenary

Contribution ID: 7

Type: **not specified**

Direct and Indirect BSM searches at Neutrino Experiments

Wednesday, 22 June 2022 15:15 (25 minutes)

Presenter: TABRIZI, Zahra (Northwestern University)

Session Classification: Plenary

Contribution ID: 8

Type: **not specified**

Astrophysical Neutrinos and Their Entanglement

Tuesday, 21 June 2022 10:05 (25 minutes)

Presenter: BALANTEKIN, Baha (University of Wisconsin)

Session Classification: Plenary

Contribution ID: 9

Type: **not specified**

Neutrino-nucleus scattering, a Quantum Monte Carlo perspective

Tuesday, 21 June 2022 11:50 (25 minutes)

Presenter: LOVATO, Alessandro (ANL)

Session Classification: Plenary

Contribution ID: **10**

Type: **not specified**

Lattice QCD for neutrinos

Tuesday, 21 June 2022 15:15 (25 minutes)

Presenter: WAGMAN, Michael (Fermilab)

Session Classification: Plenary

Contribution ID: 11

Type: **not specified**

Quantum many-body computations of lepton-nucleus quasielastic scattering

Wednesday, 22 June 2022 11:00 (25 minutes)

Presenter: ACHARYA, Bijaya (JGU-Mainz)

Session Classification: Plenary

Contribution ID: 12

Type: **not specified**

Towards probing the diffuse supernova neutrino background in all flavors

Wednesday, 22 June 2022 11:50 (25 minutes)

Presenter: SULIGA, Anna Malgorzata (Niels Bohr Institute)

Session Classification: Plenary

Contribution ID: 13

Type: **not specified**

Electron and neutrino interaction Measurements for precision oscillation measurements

Tuesday, 21 June 2022 14:25 (25 minutes)

Presenter: HEN, Or (MIT)

Session Classification: Plenary

Contribution ID: 14

Type: **not specified**

Experimental needs from theory: cross sections

Thursday, 23 June 2022 11:00 (30 minutes)

Presenter: MAHN, Kendall (Michigan State University)

Session Classification: Plenary

Contribution ID: 15

Type: **not specified**

Experimental needs from theory: new physics

Thursday, 23 June 2022 11:30 (30 minutes)

Presenter: PALAMARA, Ornella (Fermilab)

Session Classification: Plenary

Contribution ID: 16

Type: **not specified**

Experimental needs from theory: astrophysics

Thursday, 23 June 2022 12:00 (30 minutes)

Presenter: HABIG, Alec (Univ. of Minnesota Duluth)

Session Classification: Plenary

Contribution ID: 17

Type: **not specified**

Interpretation of MicroBooNE results

Tuesday, 21 June 2022 09:15 (25 minutes)

Presenter: MARTINEZ SOLER, Ivan Jesus (Fermilab and Northwestern U.)

Session Classification: Plenary

Contribution ID: **18**

Type: **not specified**

Achilles: A Modern Theory Driven Event Generator

Tuesday, 21 June 2022 09:40 (25 minutes)

Presenter: ISAACSON, Joshua

Session Classification: Plenary

Contribution ID: 19

Type: **not specified**

Neutrino Mass Models and Nonstandard Interactions

Tuesday, 21 June 2022 11:00 (25 minutes)

Presenter: BABU, K.S. (Oklahoma State University)

Session Classification: Plenary

Contribution ID: 20

Type: **not specified**

Neutrino Nonstandard Interaction Phenomenology

Tuesday, 21 June 2022 11:25 (25 minutes)

Presenter: DEV, Bhupal (Washington University in St. Louis)

Session Classification: Plenary

Contribution ID: 21

Type: **not specified**

Successful nu-p process in neutrino-driven core-collapse supernova outflows

Tuesday, 21 June 2022 14:50 (25 minutes)

Presenter: MUKHOPADHYAY, Payel (Stanford University)

Session Classification: Plenary

Contribution ID: 22

Type: **not specified**

New Constraints on New Explanations of the MiniBooNE Anomaly

Wednesday, 22 June 2022 09:15 (25 minutes)

In this talk, I will describe some of the latest constraints on new explanations of the MiniBooNE excess. I will focus on results using the T2K near detector, CHARM, and Minerva. I will present results for both dark neutrino scenarios and neutrino dipole interactions.

Presenter: ARGUELLES-DELGADO, Carlos (Harvard University)

Session Classification: Plenary

Contribution ID: 23

Type: **not specified**

Theory of QED radiative corrections to neutrino scattering at accelerator energies

Wednesday, 22 June 2022 09:40 (25 minutes)

Presenter: HILL, Richard (University of Kentucky and Fermilab)

Session Classification: Plenary

Contribution ID: 24

Type: **not specified**

Dimuons in neutrino telescopes: New predictions and first search in IceCube

Wednesday, 22 June 2022 14:50 (25 minutes)

Presenter: ZHOU, Bei (Johns Hopkins University)

Session Classification: Plenary

Contribution ID: 25

Type: **not specified**

The Fermilab Experimental Neutrino Program

Thursday, 23 June 2022 10:00 (30 minutes)

Presenter: BRICE, Stephen (FNAL)

Session Classification: Plenary

Contribution ID: 26

Type: **not specified**

Common physics challenges of modern neutrino event generators

Tuesday, 21 June 2022 14:00 (25 minutes)

Presenter: FRIEDLAND, Alexander (SLAC)

Session Classification: Plenary

Contribution ID: 27

Type: **not specified**

Neutrino polarizability

Wednesday, 22 June 2022 14:00 (25 minutes)

Presenter: PETROV, Alexey (Wayne State University)

Session Classification: Plenary

Contribution ID: **28**

Type: **not specified**

NTN introduction

Thursday, 23 June 2022 13:30 (10 minutes)

Presenter: CARENA, Marcela (Fermilab)

Session Classification: Review (closed session)

Contribution ID: 29

Type: **not specified**

NTN Scientific Advisory Board - Report

Thursday, 23 June 2022 13:40 (10 minutes)

Presenter: DE GOUVEA, Andre (Northwestern University)

Session Classification: Review (closed session)

Contribution ID: **30**

Type: **not specified**

Current status and prospects: neutrino-nucleus interactions

Thursday, 23 June 2022 13:50 (15 minutes)

Presenter: ROCCO, Noemi

Session Classification: Review (closed session)

Contribution ID: **31**

Type: **not specified**

NTN phenomenology effort

Thursday, 23 June 2022 14:05 (15 minutes)

Presenter: MACHADO, Pedro (Fermilab)

Session Classification: Review (closed session)

Contribution ID: **32**

Type: **not specified**

NTN astro/cosmo effort

Thursday, 23 June 2022 14:20 (15 minutes)

Presenter: BEACOM, John (Ohio State University)

Session Classification: Review (closed session)

Contribution ID: 33

Type: **not specified**

Questions from panelists

Thursday, 23 June 2022 14:35 (25 minutes)

Session Classification: Review (closed session)