

Scientific Program of NOW 2022



NEUTRINO OSCILLATION WORKSHOP
ROSA MARINA (OSTUNI, ITALY)
SEPTEMBER 4-11, 2022

Sunday 4

Arrival and Registration

Monday 5

Morning:

Session I (plenary): Oscillation parameters: Present

Chair: Gianluigi Fogli

Time	Speaker	Title
8.30 - 8.40	Paolo Bernardini	Welcome to NOW 2022
8.40 - 9.15	Alexei Smirnov	Neutrino oscillations unlocked
9.15 - 9.50	Lukas Berns	T2K results on long-baseline oscillations
coffee break (25')		
10.15 - 10.50	Adam Aurisano	NOvA results on long-baseline oscillations
10.50 - 11.25	Yasuo Takeuchi	SK oscillation physics (atmospheric, solar, Gd)
11.25 - 12.00	Kevin McFarland	Neutrino cross sections for current oscillation experiments

Afternoon:

Session I (parallel) Oscillation parameters: Present Conveners: Francesco Capozzi and Margherita Buizza Avanzini			Session V (parallel) Particle physics in the Cosmos Conveners: Martina Gerbino and Marco Chianese		
Time	Speaker	Title	Time	Speaker	Title
16.00 – 16.25	Yee Bob Hsiung	Reactor neutrino oscillations in Daya Bay	16.00 – 16.25	Juraj Klarić	Mapping the parameter space of low-scale leptogenesis
16.25 – 16.50	James Vincent Mead	Atmospheric neutrino oscillations in IceCube-DeepCore	16.25 – 16.50	Stefan Sandner	Bounds on RH neutrinos from observable Leptogenesis
16.50 – 17.15	Junjie Xia	T2K-SK joint nu oscillation sensitivity	16.50 – 17.15	Zurab Berezhiani	How antimatter can be produced in the cosmos
coffee break (25')					
17.40 – 18.05	Nicola Rossi	Updated solar neutrino results with the most recent Borexino data	17.40 – 18.05	Joern Kersten	Curing Sterile Neutrino DM with a Dark Force
18.05 – 18.30	Francesco Villante	New SSM vs helioseismic and solar neutrino data	18.05 – 18.30	Isabel Mira Oldengott	Decaying neutrinos in cosmology
18.30 – 18.55	Fernanda Psihas	Role of machine learning in neutrino physics	18.30 – 18.55	Thierry Lasserre	KATRIN constraints on local relic neutrino background
18.55 – 19.20	Arsenii Titov	Theoretical models on the structure of nu mixing matrix	18.55 – 19.20	Marcello Messina	Updates on PTOLEMY project

Tuesday 6

Morning:

Session II (plenary): Oscillation parameters: Future

Chair: Maria Gabriella Catanesi

Time	Speaker	Title
8.40 – 9.15	Monica Sisti	JUNO: on the way to physics data
9.15 - 9.50	Luca Stanco	DUNE and the neutrino oscillation program at FermiLab
coffee break (25')		
10.15 - 10.50	Zhenxiong Xie	Oscillation physics with Hyper-Kamiokande
10.50 - 11.25	Chiara Lastoria	Oscillation physics with KM3Net
11.25 - 12.00	Luis Alvarez Ruso	Neutrino cross sections for future oscillation experiments

Afternoon:

(note special plenary talk at the end)

Session II (parallel) Oscillation parameters: Future Conveners: Saori Pastore and Patrick Dunne			Session III (parallel) Multimessenger astrophysics Conveners: Giulia Pagliaroli and Andrii Tykhonov		
Time	Speaker	Title	Time	Speaker	Title
16.00 – 16.25	Jaafar Chakrani	The T2K near detector Upgrade	16.00 – 16.25	Chiara Perrina	Cosmic rays and gamma rays with DAMPE and HERD
16.25 – 16.50	Tailin Zhu	HK and the Intermediate Water Cherenkov Detector	16.25 – 16.50	Domenico della Volpe	Status and prospects of LHAASO
16.50 – 17.15	Richard Diurba	The role of ProtoDUNE-SP in future oscillation physics	16.50 – 17.15	Takashi Sako	TIBET ASgamma: Dawn of sub-PeV gamma-ray astronomy
coffee break (25')					
17.40 – 18.05	Joakim Cederkall	ESSnuSB	17.40 – 18.05	Sara Buson	The discovery of extragalactic neutrino factories
18.05 - 18.30	Fabio Pupilli	Monitored neutrino beams: NPO6/ENUBET	18.05 - 18.30	Kei Kotake	Neutrino and GW predictions from SN modeling
18.30 – 18.55	Deborah Harris	MINERvA results and prospects	18.30 – 18.55	Lucas Johns	Neutrino oscillations in Supernovae

Special plenary talk

Time	Speaker	Title
18.55 - 19.30	Serguey Petcov	Tribute to Bruno Pontecorvo and Samoil Bilenky

Dinner with typical Apulian products

Wednesday 7
Morning:

Session III (plenary): Multimessenger astrophysics

Chair: Georg Raffelt

Time	Speaker	Title
8.40 - 9.15	Simona Toscano	IceCube neutrinos at the high-energy frontier
9.15 - 9.50	Irene Tamborra	Multimessenger Astrophysics
coffee break (25')		
10.15 - 10.50	Ivan De Mitri	Recent observations on High Energy Cosmic Rays
10.50 - 11.25	Eli Waxman	EM transient surveys and HEN-GW searches
11.25 - 12.00	Stavros Katsanevas	Gravitational waves and neutrinos

Afternoon:

Session III (parallel) Multimessenger astrophysics Conveners: Giulia Pagliaroli and Andrii Tykhonov			Session I (parallel) Oscillation parameters: Present Conveners: Francesco Capozzi and Margherita Buizza Avanzini		
Time	Speaker	Title	Time	Speaker	Title
16.00 – 16.25	Maurizio Spurio	Highlights from the ANTARES neutrino telescope	16.00 – 16.25	Christoph Ternes	Global analysis of neutrino oscillation experiments
16.25 – 16.50	Pierre Cristofari	Research of Galactic Astrophysics Sources and PeV-atrons	16.25 – 16.50	Stephen Dolan	Uncertainties in theoretical modelling of nu cross sections
16.50 – 17.15	Luigi Antonio Fusco	Status of HE neutrinos galactic component search	16.50 – 17.15	Juan Miguel Carceller	NOvA: Results and prospects on cross sections and BSM
coffee break (25')					
17.40 – 18.05	Carmelo Evoli	Cosmic ray propagation in the Milky Way	17.40 – 18.05	Giorgia Karagiorgi	Overview of MicroBoone Results
18.05 – 18.30	Ersilia Guarini	Lessons on Astrophysical Transients from neutrinos	18.05 – 18.30	Igor Alekseev	Recent results from DANSS
18.30 – 18.55	Simeon Reusch	Tidal disruption events and HE neutrinos	18.30 – 18.55	Cristian Roca Catala	Recent results from PROSPECT
18.55 – 19.20	Srubabati Goswami	Analytical treatment of neutrino oscillation and decay in matter	18.55 – 19.20	Pablo del Amo Sanchez	Recent results from STEREO

Social event (after dinner)

Thursday 8
Free day, Excursion
Back to the Resort before dinner

Friday 9
Morning:

Session IV (plenary): Neutrino masses, states and interactions		
Chair: Giampaolo Co'		
Time	Speaker	Title
8.40 - 9.15	Guido Drexlin	KATRIN and direct mass searches
9.15 - 9.50	Giovanni Benato	Majorana neutrinos and rare decays: Where we are
coffee break (25')		
10.15 - 10.50	Andrea Giuliani	Majorana neutrinos and rare decays: Where we are going
10.50 - 11.25	Carlo Giunti	Overview of light sterile neutrinos
11.25 - 12.00	Igor Bernardi	CEvNS and COHERENT results

Afternoon:

Session IV (parallel) Neutrino masses, states and interactions Conveners: Natalia Di Marco and Valentina De Romeri			Session II (parallel) Oscillation parameters: Future Conveners: Saori Pastore and Patrick Dunne		
Time	Speaker	Title	Time	Speaker	Title
16.00 – 16.25	Koichi Ichimura	Recent results from KamLAND-Zen	16.00 – 16.25	Benjamin Tam	SNO+: reactor nu oscillations and solar nu prospects
16.25 – 16.50	Stefano Di Lorenzo	CUORE latest results and the path towards CUPID	16.25 – 16.50	Diana Navas	Prospects of oscillation physics with JUNO
16.50 – 17.15	Tommaso Comellato	The GERDA enterprise in the search for matter creation	16.50 – 17.15	Massimo Blasone	Quantum correlations in neutrino mixing and oscillations
coffee break (25')					
17.40 – 18.05	Michele Maltoni	Neutrino Non Standard Interactions (NSI)	17.40 – 18.05	Salvador Urrea Gonzalez	New physics from oscillations at the DUNE near detector
18.05 – 18.30	Evgeny Akhmedov	Neutrino magnetic moments and solar electron antineutrinos	18.05 – 18.30	Anna Suliga	Core-collapse SN to probe BSM physics
18.30 – 18.55	Patrick Bolton	Heavy neutral leptons via mixing and transition dipole moments	18.30 – 18.55	Afroditi Papadopoulou	Lepton-nucleus scattering for nu interactions and oscillations
18.55 – 19.20	Avelino Vicente	Scotogenic models: Neutrinos, dark matter and more	18.55 – 19.20	Steven Gardiner	Towards precision interaction simulations

Social Dinner

Saturday 10

Morning:

Session V (plenary): Particle physics in the Cosmos

Chair: Ofelia Pisanti

Time	Speaker	Title
8.40 - 9.15	Massimiliano Lattanzi	Cosmology and neutrino properties
9.15 - 9.50	Basudeb Dasgupta	Supernovae and neutrino oscillations
coffee break (25')		
10.15 - 10.50	Louis Strigari	Neutrinos and Dark Matter
10.50 - 11.25	Igor Irastorza	Searches for Axions
11.25 - 12.00	Gianpiero Mangano	The many facets of BBN

Afternoon:

Session V (parallel) Particle physics in the Cosmos Conveners: Martina Gerbino and Marco Chianese			Session IV (parallel) Neutrino masses, states and interactions Conveners: Natalia Di Marco and Valentina De Romeri		
Time	Speaker	Title	Time	Speaker	Title
16.00 – 16.25	Carla Macolino	Updates on Xenon 1Ton	16.00 – 16.25	Wouter Dekens	Theoretical overview of EFT for neutrinoless double beta decay
16.25 – 16.50	Ninetta Saviano	Signatures from PBH evaporation	16.25 – 16.50	Riccardo Brugnera	Neutrinoless double beta decay search with LEGEND
16.50 – 17.15	Philippa Cole	PBHs formation in early universe	16.50 – 17.15	Elena Ferri	Status of HOLMES, an experiment for measuring the nu mass
coffee break (25')					
17.40 – 18.05	Francesca Dordei	Updates on DarkSide	17.40 – 18.05	Johannes Rothe	NUCLEUS: CEvNS with reactor nu's and cryogenic detectors
18.05 – 18.30	Giuseppe Lucente	Constraints on ALPs from astrophysical probes	18.05 – 18.30	Christian Buck	CEvNS studies at nuclear reactors with CONUS
18.30 – 18.55	Manibrata Sen	DSNB to hunt for new physics	18.30 – 18.55	Nicola Cargioli	Probing light mediators, muon (g-2) and nu's with CEvNS
Concluding Talk (Plenary)					
Time	Speaker	Title			
18.55 – 19.30	Nicolao Fornengo	Prospects for Neutrino and Astroparticle Physics			
19.30 – 19.40	<i>Eligio Lisi</i>	<i>Acknowledgments</i>			

Sunday 11

Departures