International Conference on Frontiers of High Energy Physics, Program Schedule (13-15 February 2025)
Organized by Department of Physics, IIT Bhilai

Day-1, 13th FEB 2025, Venue-L106, L107; Lecture Hall Complex

Time Slot	Venue	Title of Talk	Speaker Name	Theme Session Chair/Co-Chair
8:30 - 9:30	**Registration**			
9:30 - 10:00	**Inaguration by Director, IIT Bhilai**			
10:00 - 10:30	L-106	Probing New Physics with Neutrinos	Prof. Frank F Deppisch, University College London,	Prof. Urjit Yajnik
10:30 - 11:00		Neutrino Non-standard Interactions Effect	Prof. Anjan Giri, IIT Hyderabad	
11:00 - 11:30	**Tea Break**			
11:30 - 12:00	L-106	Future of Gravitational Wave Astronomy and LIGO India	Prof. Sanjit Mitra, IUCAA, Pune	Prof. Rukmani Mohanta
12:00 - 12:30		Will the topological defects oblige us with observation?	Prof. Urjit Yajnik, IIT Gandhinagar	
12:30 - 13:00		Detecting gravitational waves with pulsars as resonant Weber detectors	Prof. Ajit M Srivastava, Institute of Physics, Bhubaneswar	
13:00 -13:30	**Poster Session A**			
13:30 -14:30	**Lunch Break**			
14:30-15:00	L-106	Probing cosmic ray origin with recent results from the GRAPES-3 experiment	Prof. Pravat Kumar Mohanty, TIFR, Mumbai	Prof. Sanjit Mitra
15:00 - 15:30		Unlocking New Frontiers Through Multimessenger Astrophysics	Prof. Reetanjali Moharana, IIT Jodhpur	
15:30 - 16:00		Constraining spinning primordial blackholes with global 21 cm signal	Prof. Alekha C Nayak, NIT Meghalaya	
16:00-16:15	**Tea Break & Poster Session**			
16:15-16:45	L-106	Current status of singlet-doublet fermion dark matter	Prof. Narendra Sahu, IIT Hyderabad	Prof. Suchita Kulkarni
16:45 - 17:15		Constructing viable interacting dark matter and dark energy models: a dynamical systems approach	Prof. Prasanta K Das, Bits Pillani, GOA Campus	
Parallel Session I (17:15 - 18:30)				
17:15 - 17:32	L-106	Dr. Zafri Ahamed Borboruah,	Probing flavor violation and baryogenesis via primordial gravitational waves	Prof. Pravat Kumar Mohanty
17:32 - 17:49		Dr. Joydeep Roy	SMEFT analysis of charged lepton flavor violating B-meson decays	
17:49- 17:61		Abhishek,	Low Scale Leptogenesis and TM_1 Mixing in Two Higgs Doublet Model (2νHDM) with S_4	
18:01- 18:13		Partha Kumar Paul,	Cogenesis of matter and dark matter from triplet fermion	
Parallel Session II (17:15 - 18:30)				

17:15 - 17:27	L-107	Indrajit Ghose,	Exploring the effects of spacetime geometry on neutrino self interaction in context of neutrino oscillation in CCSN	Prof. Narendra Sahu
17:27- 17:39		Sabila Parveen,	Majorana CP Violation Insights from Decaying Neutrinos	
17:51- 18:03		Rishabh Sharma,	Effects of Strong Magnetic Field on Quarkonium Thermodynamics: NUFA Method	
18:03- 18:15		HEMANT KUMAR PRAJAPATI,	The Dark HyperCharge Symmetry	
19:00 onwards	**Conference Dinner**			
Day-2, 14th FEB 2025, Venue-L106, L107; Lecture Hall Complex				
9:00-9:30	L-106	Implications of recent Flavour Anomalies on New Physics	Prof. Rukmani Mohanta, University of Hyderabad	Prof. Amol Dighe
9:30-10:00		All you want to know about Leptoquarks	Prof. Tanumoy Mandal, IISER Thiruvananthapuram	
10:00 - 10:30		Exploring strongly interacting theories	Prof. Suchita Kulkarni, University of Graz, Austria	
10:30 - 11:00		TBD	Prof. Poonam Mehta, JNU, Delhi	
11:00 - 11:30	**Tea Break**			
11:30 - 12:00	L-106	Quark-Gluon Plasma in proton-proton and light-ion collisions	Prof. Raghunath Sahoo, IIT Indore	Prof. Ajit M Srivastava
12:00 - 12:30		Hydrodynamics and collectivity in relativistic heavy ion collisions	Prof. Amaresh Jaiswal, NISER, Bhubaneswar	
12:30 - 13:00		Spin hydrodynamics in relativistic heavy-ion collisions - theory and applications	Prof. Radoslaw Ryblewski, Institute of Nuclear Physics Polish Academy of Sciences, Poland	
13:00 -13:30	**Poster Session B**			
13:30 -14:30	**Lunch Break**			
14:30-15:00	L-106	Physics at LHC	Prof. Sanjay Kumar Swain, NISER, Bhubaneswar	Prof. Raghunath Sahoo
15:00-15:30		The State of machine learning in the CMS experiment at the LHC	Prof. Swagata Mukherjee, IIT Kanpur	
15:30-16:00		Exploring ultra-light bosons via superradiance: direct and indirect effect	Prof. Ujjal Kumar Dey, IISER Berhampur	
16:00-16:15	**Tea Break & Poster Session**			
16:15-16:45	L-106	Machine Learning-Based BSM Search Strategies at the LHC	Prof. Kirtiman Ghosh, Institute of Physics, Bhubaneswar	Prof. Sanjay Kumar Swain
16:45 - 17:15		Towards a more accurate EFT approach to Neutrino Masses	Dr. Chandan Hati, Instituto de Física Corpuscular, CSIC - UV, Spain	
Parallel Session I (17:15 - 18:30)				
17:15 - 17:32		Dr. S. Shivaramakrishna	Scalar dark matter and neutrino properties in radiative seesaw models	

17:32 - 17:49	L-106	Dr. Jai More	Seesaw Models and Charged Lepton Flavor Violation in Meson Decays: A Comparative Study	Prof. Reetanjali Maharana
17:49- 17:61		Lekhika Malhotra	Inflationary Gravitational Wave Spectral Shapes as test for Low-Scale Leptogenesis	
18:01- 18:13		Sagar Kumar Maity	Torsional four-fermion interaction and the Raychaudhuri equation	
18:13- 18:25		Yashonanda Maurya	Borel-Padé Approximant in Quantum Field Theory using Hankel Transform and Meijer-G Resummation	
Parallel Session II (17:15 - 18:30)				
17:32 - 17:49	L-107	Dr. Andrew Miller	Shedding light on dark matter with gravitational waves	Prof. Amaresh Jaiswal
17:49 - 18:06		Dr. Prantik Sarmah		
18:06- 18:18		Shashwat Sharma	Does thermal leptogenesis rely on initial memory?	
18:18- 18:30		BHAVYA SONI	Distinguishing between Dirac and Majorana neutrinos using temporal correlations	
19:30 onwards	**Dinner**			
Day-3, 15 FEB 2025, Venue-L106, L107; Lecture Hall Complex				
9:00-9:30	L-106	Light Shining through Astrophysical Walls	Prof. Amol Dighe, TIFR, Mumbai	Prof. Anjan Giri
9:30-10:00		Unriddle the Multidimensional Structure of Hadrons using the Light-Front Dynamics	Prof. Harleen Dahia, NIT Jalandhar	
10:00 - 10:30		In a nutshell, probing Quark-Gluon Plasma using jet quenching in heavy-ion collisions	Prof. Nihar Ranjan Sahoo, IISER Tirupati	
10:30 - 11:00		Dark Matter Induced Loop Corrections to Higgs Mass	Prof. Rahul Srivastava, IISER Bhopal	
11:00 - 11:30	**Tea Break**			
11:30-12:00	L-106	Machine Learning Applications at LHC	Prof. Aruna Kumar Nayak, Institute of Physics, Bhubaneswar	Prof. Harlin Dahiya
12:00-12:30		The INdian Dark matter direct search EXperiment (InDEx) at JUSL	Prof. Mala Das, SINP Kolkata	
12:30-12:50		Neutrino Masses and Higher Degree Seigel Modular Forms	Prof. Maibam Ricky Devi, Gauhati University	
12:50-13:10		Beam Optimization with non-standard interactions of neutrinos at DUNE	Prof. Jogesh Rout, Shree Ram College, S. Rampur, Odisha	
13:10-13:30		TBD	Prof. Sumit Kumar	
13:30 -14:30	**Lunch Break**			
14:30 onwards	**Closing Ceremony**			

Poster Session Distribution

Session	Name

Poster Session A	Chiranjibi Sahu, *Parity in Planck full-mission CMB polarization maps*
	AJAY KUMAR YADAV
	Kiranjyoti Swain, *Search for Higgs boson decays to 2 light pseudo-scalars in the 4b final state using Run-2 data in CMS*
	Bhavya Thacker, *Collider and CMB complementarity of leptophilic dark matter with light Dirac neutrinos*
	KUNJAL VARA, *Exploring the Stochastic Gravitational Wave Background (SGWB) with InPTA Data Release 2*
	ASHUTOSH DWIBEDI, *Diffusion Coefficients of D-meson in rotating Hadron gas*
Poster Session B	Charchit Kumar Sethi, *Pattern-Recognition Technique to Search for Dark-Dress Primordial Black Holes.*
	Subhalaxmi Nayak
	Kritika Rushiya, *Temporal correlations in two flavor neutrino oscillations with quantum decoherence effects and the nature of neutrino*
	Satyajit Puhan, *Transverse structure of photon using light-front formalism*
	Arnav Ramkrishnan, *Detectors and Phenomenology for 100 TeV: The Promise of Future Circular Collider (FCC*)
	Ramita Sarkar
	Dani Rose J Marattukalam, *Possibility of quantum Hall effect in neutron star environment: A chiral model approach*