IISER Thiruvananthapuram

CNSD2026 Schedule

Time	DAY-1 (7 July)		
9:15 - 9:45	Inauguration		
9:45 - 10:30	Venue : LHC Aryabhatta		
	Chair: Prof. Soumitro Banerjee		
	Fractional Order Chaos Prof. M. Lakshmanan		
10:30 - 11:00	Tea Break		
11:00 - 11:45	**Dynamical systems in arbitrary dimensions: A consistent generalisation of low-dimensional models** Prof. R. Ramaswamy		
	Venue : LHC Aryabhatta	Venue : LHC Venus	
	Chair: Prof. Reik Donner	Chair: Dr. Sangeeta Ujjwal	
11:45 - 12:15	**Study of synchronisation in multibody interactions using hypergraphs** Prof. Anirban Banerjee	**Oscillating Cell Shapes: Patterns, Mechanisms, and Dynamics** Dr. Rumi De	
12:15 - 12:45	**Evolution of cooperation in networks with environmental feedback** Prof. Supratim Sengupta	**Adaptive Diversification: speciation, fitness, predictability and the speed of evolution.** Prof. Vaibhav Madhok	
12:45 - 2:15	Lunch Break		
	Venue : LHC Aryabhatta		
	Chair: Prof. R. Ramaswamy		
2:15 - 3:00	**Parenclitic hypergraphs and their application in personalized cancer therapy [Online]** Prof. Boccaletti		
3:00 - 3:45	**Coherence Resonance in Excitable Systems and Networks [Online]** Prof. Eckehard Schöll		
3:45 - 4:15	Group Photo (Aryabhatta)		
	Tea Break		
	Venue : LHC Aryabhatta	Venue : LHC Venus	Venue : LHC Jupiter
	Chair: Prof. Anirban Banerjee	Chair: Prof. Supratim Sengupta	Chair: Prof. Vaibhav Madhok
4:15 - 4:35	**Self similar wave propagation in a tapered nonlocal nonlinear medium** Dr. M. S. Mani Rajan	**Unfolding the mystery of the complex biopolymer's stress response** Dr. Poulomi Sadhukhan	**Early Prediction of Information Cascades Using a Correlation-Guided Clustered Echo State Network** Dr. Hariharan Srinivasan
4:35 - 4:55	**Generation of ultra-short pulses in resonant optical fiber with stimulated Raman Scattering Effect** Dr. B. Kalithasan	**Collective dynamics of a minimal swarmalator model under external forcing** Dr. Md Sayeed Anwar	**Multistability and tipping in a conceptual model of the subpolar gyre (SPG)** Dr. Sneha Kachhara
4:55 - 5:15	**Beating solitons in the two-component nonlinear Schrödinger system** Dr. Stalin S	**Symmetry Breaking in Biological Systems: From Pattern Formation to Chromosome Inactivation** Dr. Shibashis Paul	**Functional Network Topography reveal underlying non-linear dynamic changes to predict Depression** Dr. Jasleen Gund
5:15 - 5:35	**Binomial Maps: A bridge between stochastic agent-based models and deterministic integer-valued iterated maps** Dr. Snehal Shekatkar	**Theoretical measures of species persistence** Dr. Jayant Pande	**From turbulence to graphs** Dr. Rajaram Lakkaraju
5:35 - 5:55	**Multistability in Orthogonal Machining with Nonsmooth Frictional and Time-delay Effects** Meiyazhagan Jaganathan	**The Role of Cell Volume in Non Linear Mathematical Models of Bacterial Growth** Shagun Nagpal Sethi	**Experimental evidence of double explosive synchronization** Dr. Taniya Khatun
7:00 - 8:30	Dinner		

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CNSD2026 Schedule

Time	DAY-2 (8 July)		
	Venue : LHC Aryabhatta		
	Chair: Prof. M. Lakshmanan		
9:15 - 10:00	**Vibrational Resonance: Recent Advances and Applications** Prof. Miguel AF Sanjuán		
10:00 - 10:45	**Unraveling the large-scale onset and withdrawal of Indian Monsoon through climatic phase transitions** Prof. R. I. Sujith		
10:45 - 11:15	Tea Break		
11:15 - 12:00	**Four Questions for Dynamical Young Experimentalists in India [Online]** Prof. Rajarshi Roy		
12:00 - 12:45	**Multidimensional Solitons [Online]** Prof. Boris Malomed		
12:45 - 1:00	Group Photo (Opposite to CDH3)		
1:00 - 2:15	Lunch Break		
	Venue : LHC Aryabhatta	Venue : LHC Venus	Venue : LHC Jupiter
	Chair: Prof. R. I. Sujith	Chair: Dr. Aasifa Rounak	Mini-Symposium Chair: Dr. V. K. Chandrasekar
2:15 - 2:45	**Tipping in forced and coupled ecological systems** Prof. Syamal K. Dana	**Numerical Investigation of Optical Parametric Amplification via Degenerate Four-Wave Mixing for Tunable Mid-Infrared Laser Generation at 2850 nm** Dr. Vasantha J. Raja	**Equilibrium States and Novel Bifurcation Transitions in a Periodically Driven Fluid Suspension)** Prof. Anil Kumar C V
2:45 - 3:15	**ECG Parametrization in Three Acts** Dr. Sandip George	**Compact visible combs exploiting cascading of optical nonlinearities in dispersion-engineered waveguides** Dr. Ravi Pant	**Nonlinear Normal Modes of a Thin, Highly Flexible Cantilever Beam Using an Energy Balance Approach** Dr. I R Praveen Krishna
3:15 - 3:45	**Spatiotemporal Dynamics, Emergent Order, and Control in Reaction-Diffusion Systems** Dr. Pushpita Ghosh	**Nonlinear Waves in Multicomponent Long Wave - Short Wave Resonant Interaction System** Dr. Kanna T	**From Attractors to Networks: Forecasting Chaotic Dynamics through Time-Series-Induced Networks** Prof. K. Satheesh Kumar
3:45 - 4:15	**Mechanics promotes synchronization in excitable tissue** Dr. Solingyur Zimik	**Beyond Dark-Bright Solitons: Higher-Order Bright–Dark Soliton Complexes in an NPR Fiber Laser** Dr. Nithyanandan K.	**Hopf bifurcation in sedimentation dynamics of a non-spherical particle** Ms. Ajeena Joseph
4:15 - 5:30	Tea Break + Poster Session -I		
5:30 - 6:30	SONCOS AGBM		
7:00 - 8:30	Dinner		

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CNSD2026 Schedule

Time	DAY-3 (9 July)		
	Venue : LHC Aryabhatta		
	Chair: Prof. Miguel AF Sanjuán		
9:15 - 10:00	**Designs and efficient means of creating quantum chaos** Prof. Arul Lakshminarayan		
	Venue : LHC Aryabhatta	Venue : LHC Venus	
	Chair: Dr. Sandip George	Chair: Prof. Syamal K. Dana	
10:00- 10:30	**Manipulating phases in many-body interacting systems with subsystem resetting** Dr. Shamik Gupta	**Proteins as Complex Systems** Prof. Somdatta Sinha	
10:30 - 11:00	**Mechanical systems with discontinuities, time-delay effects and noise** Dr. Aasifa Rounak	**Layering imparts Stability: Hierarchical organization allows large complex systems to be robust** Prof. Sitabra Sinha	
11:00 - 11:30	Tea Break		
	Venue : LHC Aryabhatta	Venue : LHC Venus	
	Chair: Prof. Sitabra Sinha	Chair: Prof. Avinash Khare	
11:30 - 12:00	**Reservoir Computing for the Prediction and Control of Complex Dynamics** Prof. Manish Shrimali	**Trotter Transition in BCS Pairing Dynamics** Dr. Aniket Patra	
12:00 - 12:30	**Single- and multi-scale functional network analysis of heavy precipitation events during the Indian monsoon season: Lessons learned and best practices** Prof. Reik Donner	**Non-commutative Painlevé hierarchies** Prof. Andrew Pickering	
12:30 - 1:00	**Dynamics of neural network learning, covariance matrix ensembles and spectral statistics** Prof. Pragya Shukla	**On a matrix KdV6 equation** Prof. Pilar Ruiz Gordoa	
1:00 - 2:15	Lunch Break		
	Venue : LHC Aryabhatta		
	Chair: Prof. Sudeshna Sinha		
2:15 - 3:00	**Climate Meets Complex Systems Science: Exploring Extreme Climate Events via a Complex Network Approach [Online]** Prof. Juergen Kurths		
3:00 - 3:45	**The constructive role of transient chaos in complex systems [Online]** Prof. Ulrike feudel		
	Venue : LHC Aryabhatta	Venue : LHC Venus	Venue : LHC Jupiter
	Chair: Prof. Andrew Pickering	Chair: Prof. Reik Donner	Chair: Prof. Manoj BS
3:45 - 4:15	**One Parameter Family of Elliptic Plane Pendulum Equations** Prof. Avinash Khare	**Frustration induced chimeras and motion in two dimensional swarmalators** Dr. R. Gopal	**SPARC Workshop on AI-driven UAV Systems and Networks**
4:15 - 4:45	**Remote synchronization and multistability induced by slow drive in chaotic Chua's circuit** Dr. Sangeeta Ujjwal	**Projective Synchronization in Chaotic Circuits** Dr. Thounaojam Umeshkanta Singh	
4:45 - 6:00	Tea Break + Poster Session -II		
6:00 - 7:00	Cultural Program		
7:00 - 8:30	Dinner		

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CNSD2026 Schedule

Time	DAY-4 (10 July)		
	Venue : LHC Aryabhatta		
	Chair: Dr. Shamik Gupta		
9:15 - 10:00	**Impact of Asynchronicity on Complex Systems** Prof. Sudeshna Sinha		
	Venue : LHC Aryabhatta	Venue : LHC Venus	
	Chair: Dr. Kanna T	Chair: Prof. Pilar Ruiz Gordoa	
10:00 - 10:30	**Extreme events of quantum walks on networks** Prof. M. S. Santhanam	**Multiscale Order and Entropy in Music, Text, Genes, and Turbulence** Prof. Mahendra K. Verma	
10:30 - 11:00	**Symbol sequences from three-rotor coincidences and their word-complexity** Prof. Govind Krishnaswami	**Exploring the El Niño Climate Phenomena Using Eigenvalue Statistics and Network Theory** Prof. Nivedita Deo	
11:00 - 11:30	Tea Break		
11:30 - 12:00	**Emergence and Control of Quantum Synchronization in Nonlinear Oscillators** Dr. Chandrasekar V. K.	**Quantum Simulations: Atomtronics & Interferometery** Dr. Utpal Roy	
12:00 - 12:30	**Quantum Chaos Across Scales: From Single Particles to Many-Body Systems** Dr. Soumik Bandyopadhyay	**Rogue wave solutions on the single- and double-periodic wave background of certain higher-order nonlinear Schrödinger family of equations** Prof. Senthilvelan Murugaian	
12:30 - 1:45	Lunch Break		
	Venue : LHC Aryabhatta	Venue : LHC Venus	Venue : LHC Jupiter
	Chair: Prof. Govind Krishnaswami	Chair: Prof. M. S. Santhanam	Chair: Prof. Pragya Shukla
1:45 - 2:05	**Predicting climate change effects: from ocean carbon sinks to population dynamics of living systems** Prof. Balakrishnan Ashok	**The Evolution and Formation of Indian Political Debate Networks** Dr. Satyam Mukherjee	**A Qualitative Study of Nonsmooth Dynamical Systems** Dr. Sanket Tikare
2:05 - 2:25	**Spatial synchrony at the extremes: Tail-dependence in temperature drives tail-dependence in birds' spatial synchrony across North America** Dr. Shyamolina Ghosh	**Dynamics of adaptive network with connection delay and external stimulus** Dr. Thamizharasan S	**Replicator-Mutator Dynamics on Networks with Spatial Nonlocality: Theory and Applications** Mr. Porikshit Mondal
2:25 - 2:45	**Existence and stability of wave solutions in the cubic-quintic-septimal nonlinear Schrödinger equation with spatially varying dispersion** Dr. Niladri Ghosh	**SPR based Symmetric Lattice Photonic Crystal Fiber infiltrated with Magnetic fluid for magnetic field detection** Dr. Aparna A Nair	**Synchronization of pulse-coupled oscillators in distributed power grid control** Mr. Ivan Sevostianov
2:45 - 3:05	**Dynamical Indicators of Critical Transitions in Astrophysical Systems** Dr. Devraj Pawar	**Effects of Time Delay on Tunability in Andronov-Hopf Oscillators** Dr. Rakesh Kumar	**Dynamics of binary stars using Recurrence Quantification Analysis** Dr. Anisha Kashyap
3:05 - 4:00	Venue : LHC Aryabhatta		
	Concluding Remarks, Award Ceremony and Feedback		
4:00 - 4:30	Tea Break / Departure		