Astronomical Society of India Symposium (ASIS003) **Cosmic Vision 2047:** **Solar and Planetary Dynamics through Observations and AI/ML** 08-10 September 2025	
Day – 1 [08 September 2025]	
Registration	8:00 – 8:45 AM
Inaugural Session **8:40 – 10:00**	
09:00 – 10:00	• Lightening the Lamp by the Chief Guest and Other Dignitaries (5 Min) • Welcome Address by the JECRC University Representative (5 Min) • Keynote Address by the Chief Guest (20 min) • Overview of the Scientific Program of the Symposium – delivered by Chair, SOC (10 min) • Address by the Vice-Chancellor, JECRC University (5 Min) • Message by the President, ASI (5 Min) • Vote of Thanks by the Co-Chair, SOC (5 min) • National Anthem
10:00 – 11:00 | Group Photo & High Tea	
Opening Session **The Sun and Space: Opening New Horizons** **Chair**: Dibyendu Chakrabarty	
11:00 – 11:30 Invited Talk	**Nat Goplaswamy, NASA/GSFC** Observing the Low Frequency Radio Sky from the Moon Under NASA's Commercial Lunar Payload Services Program
11:30 – 12:00 Invited Talk	**Santosh Vadawale, PRL** Advancing Solar X-ray Spectroscopy: From 'Sun-as-a-star' to High Cadence Imaging Spectroscopy
Technical Session 1 **Magnetic Genesis and Photosphere-Chromosphere Dynamics** **Chair:** Jagdev Singh	
12:00 – 12:30 Invited Talk	**Kuldeep Verma, IIT-BHU** Internal Structure of the Sun and Solar-like Stars Using Seismology
12:30 – 13:10 Contributory Talks (12 minutes each)	**Sandeep K. Dubey, USO-PRL** Investigating Bidirectional Flows in a Quiescent Prominence Using MAST Ca II 8542 Å Line Scan Observations **Jithu J Athalathil, IIT Indore** Investigating Nonlinear Quenching Effects on Polar Field Buildup Using Physics-Informed Neural Networks **Dibya Kirti Mishra, ARIES** Exploring Historical Solar Activity: Neural Network Detection of Plages in Suncharts

13:10 – 13:30 Invited Talk (Online)	**Jayant Joshi, IIA** Quiet-Sun Ellerman Bombs and Their Impact on the Upper Solar Atmosphere
13:30 – 14:30 | Lunch	
Technical Session 1 (Contd.) **Magnetic Genesis and Photosphere-Chromosphere Dynamics** **Chair:** Santosh Vadawale	
14:30 – 14:50 Invited Talk	**Pradeep Kayshap, VIT Bhopal University** Solar Jets: Physical Properties and Triggering Processes
14:50 – 15:10 Invited Talk	**Sanjay Kumar, Patna University** Exploring the Source Region Dynamics of Coronal Transients Utilizing Data-Constrained MHD Simulations
15:10 – 16:00 Contributory Talks (12 minutes each)	**Mirabbos Mirkamalov, Samarkand State University** Probing the Role of Pre-eruptive Magnetic Fields and Electric Currents in the HXR Footpoint Asymmetry During Flares **Akash Bairagi, IIT-BHU** Numerical Modelling of the Magnetic Reconnection in the Chromospheric Current Sheets **Srinjana Routh, ARIES** Radio Insights on Large-scale Chromospheric Flows: A Study Using Nobeyama 17 Ghz Data **Hema Kharayat, MLKPG College, Balrampur** Solar Chromospheric Differential Rotation Across Latitudes Using Ca-K Line Features from Kodaikanal Observatory
16:00 – 16:45 | Tea & Poster Session	
Technical Session 1 (Contd.) **Magnetic Genesis and Photosphere-Chromosphere Dynamics** **Chair:** Kirit D. Makwana	
16:45 – 16:57 Contributory Talk	**Amit Chaturvedi, USO-PRL** On Spatial Distribution of Umbral Dots
17:00 – 17:30 Invited Talk (Online)	**Lakshmi Pradeep Chitta, MPS** Structure of the Photosphere and the Corona — New Insights with Solar Orbiter
17:30 – 18:00 Invited Talk (Online)	**Sanjiv K. Tiwari, LMSAL & BAERI** Fine-Scale Heating Events in the Solar Atmosphere Revealed by Recent High-Resolution Telescopes

Day – 2 [09 September 2025]	
Technical Session 2 **Solar Corona and Transient Phenomena** **Chair:** Bhargav Vaidya	
09:00 – 9:30	**Jagdev Singh, IIA**

Invited Talk	Coronal Spectroscopy: Past, Present, and Future
09:30 – 09:50 Invited Talk	**NPS Mithun, PRL** An X-ray Perspective on Solar Flares
09:50 – 10:10 Invited Talk	**Arun Kumar Awasthi, Polish Academy of Sciences** Probing the Physics of Radiation and Particles Emitted During Energetically Rich Solar Flares
10:10 – 10:50 Contributory Talks (12 minutes each)	**Garima Karki, Kumaun University** Spectroscopic Evidence of Magnetic Reconnection Between a Solar Jet and a Filament Channel **Devesh Sharma, IIT Indore** Modelling the Wave Dynamics of Solar Atmosphere to Study Coronal Heating **Yogesh Kumar Maurya, USO-PRL** Exploring Solar Jet Onset, Evolution, and Their Associated Magnetic Topology Through a Data-constrained Magnetohydrodynamics Evolution of Active Region Ar13141
10:50 – 11:30 |Tea and Poster Session	
Technical Session 3 **Origin of Space Weather** **Chair:** Nitin Yadav	
11:30 – 12:00 Invited Talk	**Dibyendu Chakrabarty, PRL** ASPEX on-board Aditya-L1: Heliospheric, Solar Wind and Space Weather Science Potential
12:00 – 12:20 Invited Talk	**Kirit D. Makwana, IIT Hyderabad** Turbulence and Intermittent Structures at Kinetic Scales in Solar Wind
12:20 – 13:10 Contributory Talks (12 minutes each)	**Anjali Agarwal, IIA** Examining the Mesoscale Inhomogeneity in a CME Substructure Near 1 AU **Kushagra Upadhyay, USO-PRL** Solar Radio Observations at USO-PRL: Programs and Initiatives for Solar Sciences and Space Weather Monitoring **Kishor Kumbhar, University of Mumbai** Kinetic Instabilities Constraining Proton Temperature Anisotropy in Corotating Interaction Regions at 1 AU **Bijoy Dalal, PRL** Energetic (< 2 MeV) Ion Measurements from ASPEX-STEPS During the Earth-bound Phases of Aditya-L1
13:10 – 13:30 Invited Talk	**Vipin K. Yadav, SPL, VSSC** Interplanetary Magnetic Field (IMF) Fluctuations During Solar Transient Events: Observations by MAG Payload onboard Aditya-L1 Spacecraft
13:30 – 14:30 | Lunch	
Technical Session 4	

Coupling and Dynamics of Solar Atmosphere **Chair:** Abhishekh K. Srivastava	
14:30 – 15:00 Invited Talk	**Ramesh Chandra, Kumaun University** Solar Filament Eruptions and Coronal Loop Dynamics
15:00 – 15:20 Invited Talk	**Nitin Yadav, IIT Delhi** The Alfvénic Nature of Vortex Flows in the Solar Atmosphere
15:20 – 16:00 Contributory Talks (12 minutes each)	**Shakti Singh, NIT Delhi** Long-period Decayless Kink Oscillation Detected in Solar Coronal Loop **Simrat Kaur, USO-PRL** Numerical Study of a B-class Flare Using the Using the XSM, GOES, HMI/SDO and AIA/SDO **Mayank Rajput, NIT Rourkela** MUSER Imaging of Decimetric Radio Emission: Unveiling Its Link to Off-limb Prominence Eruption Rather Than the on-disk Solar Flare
16:00 – 16:30 | Tea & Poster Session	
Technical Session 4 (Contd.) **Coupling and Dynamics of Solar Atmosphere** **Chair:** Shibu K. Mathew	
16:30 – 17:00 Invited Talk	**Vaibhav Pant, ARIES** High-Resolution Observations of Transverse Waves in the Solar Corona: From Loops to Plumes
17:00 – 17:20 Invited Talk	**Anshu Kumari, USO-PRL** Source Sizes of Type II Radio Bursts
17:20 – 18:20 Contributory Talks (12 minutes each)	**Sripan Mondal, IIT-BHU** Mutual Association of Waves and Reconnection in the Solar Corona **Vishwa Vijay Singh, USO-PRL** Exploring Flare Onset and Flare–CME Coupling: Multi-Instrument Observations of a Superfast CME Associated with an X3.3-Class Flare from HEL1OS/Aditya-L1, Udaipur LWA, and AIA/SDO **Bablu Mandal, ARIES** A Spatio-Temporal Study of a Steady Supersonic Downflow in AR 12135 Using IRIS data **Shilpa Patra, NIT Delhi** Flare Ribbons and Reconnection Dynamics in an M3.4 Solar Flare from NOAA AR 13668: Evidence of J-Shaped Flare Ribbons **P. R. Singh, University of Allahabad** Relation Between the Ca II (H & K) Lines and Mg II Lines During Solar Cycle 24
18:30 – 19:30 | Cultural Program @ JECRC University	
19:30 – 21:30 | Conference Dinner @ JECRC University	

Day – 3 [10 September 2025]	
Technical Session 5 **Geoeffectiveness and Comparative Planetary Space Weather** **Chair:** Nat Gopalswamy	
09:00 – 09:30 Invited Talk	**Anil Raghav, University of Mumbai** Multiscale Features Inside ICMEs
09:30 – 10:00 Invited Talk	**Bhargav Vaidya, IIT Indore** Fostering Synergy Between Magnetohydrodynamic Space Weather Modeling and in-situ Space-based Data
10:00 – 10:20 Invited Talk	**Susanta Kumar Bisoi, NIT Rourkela** Inner-heliospheric Signatures of Steadily Declining Solar Magnetic Fields and Their Possible Implications
10:20 – 11:00 Contributory Talks (12 minutes each)	**Subhash C. Kaushik, Govt. PG Autonomous College, Datia** Space Weather During Extremely Disturbed Geomagnetic Field and CR Variations **Sreejith S. Nair, NIT Warangal** Simulating the Eruptive Flux Ropes Using Data-driven Magnetofrictional Approach **Akshita Bhardwaj, IIT Roorkee** Self-Similar Analysis of Shock Waves in Jupiter's Magnetosphere
11:00 – 11:30 Tea and Poster Viewing	
Technical Session 5 (Contd.) **Geoeffectiveness and Comparative Planetary Space Weather** **Chair:** Anil Raghav	
11:30 – 12:00 Invited Talk	**Wageesh Mishra, IIA Bangalore** Role of Thermal States and Interactions of CMEs in Modulating Their Geoeffectiveness
12:00 – 12:20 Invited Talk	**Prithish Halder, University of Nebraska, Lincoln** Physics-based Flare Forecasting: Role of Winding Flux and Persistent PILS Evolution During Precursor Phase of the Intense Solar Flares
12:20 – 13:20 Contributory Talks (12 minutes each)	**Aakash Gupta, PRL** Multi-directional Investigations on Quiet-time Suprathermal Ions in the Interplanetary Medium Measured by ASPEX-STEPS on-board Aditya-l1 **Saket Kumar, APS University** Characterizing Severe Geomagnetic Storms and Their Magnetospheric Drivers in Solar Cycle 23 & 24 **Aswin Amirtha Raj, Arul Anandar College, Madurai** Geo-effective CME from Weak Magnetic Patches: A Case Study **Yimnasangla, IIT Mandi** Comparative Analyses of Soliton Signatures in Geomagnetic Storm Phases During Solar Cycles 24–25 Using Cluster II Data

	Shivam Parashar, PRL Insights Into Solar Transients and Ambient Solar Wind from One Year of ASPEX/SWIS Operations
13:30 – 14:30 | Lunch	
Technical Session 6 **Contemporary Observing Programs and New Insights** **Chair:** Satheesh Thampi	
14:30 – 15:00 Invited Talk	**Shibu K. Mathew, USO-PRL** Multi-Application Solar Telescope – Instruments and Capabilities
15:00 – 15:20 Invited Talk	**V. MuthuPriyal, IIA** Diagnostic Study of Solar Coronal Dynamics Using VELC 5303 Å Spectroscopic Observations
15:20 – 16:00 Contributory Talks (12 minutes each)	**Prakhar Singh, ARIES** Confined vs. Eruptive Solar Flares: A Thermal and Compositional Diagnostic Study with Aditya-L1/SoLEXS **Hasil Dixit, USO-PRL** Characterizing Small-scale Transient Chromospheric Brightenings Using Data from MAST and SDO **Rohan Bose, ARIES** Multiwavelength Study of Solar Polar Coronal Hole Jets
16:00 – 16:30 |Tea	
Technical Session 7 **Interplanetary Medium and Sun-Earth Interactions** **Chair:** Vipin Yadav	
16:30 – 17:00 Invited Talk	**Geeta Vichare, IIG** Low-latitude Aurora Observations from the Indian Region
17:00 – 17:30 Invited Talk (Online)	**P K Manoharan, NASA/GSFC** Real-time Identification of Space Weather Important Events
17:30 – 18:00 | Concluding Session	