5th Symposium on

Meteoroid, Meteor, Meteorites: Messengers from Space (5th MetMeSS)

Indian Institute of Space Science and Technology

January 27th- 28th 2026

Day-wise plan

Day 1: 27th January, Tuesday

Venue: Council Hall, Admin Block, IIST

8:45 to 9:15 - Registration

9:15 to 10:45 - Inauguration

10:45-11:15 - Group photograph & High tea

T1: Early Solar System Events, Accretionary Processes, Meteorites and Planetary Evolution		
Venue: Council Hall, Admin Block, IIST		
Session Chair: Gopalan Srinivasan Co-Chair: Nachiketa Rai		
Time	**Presentations**	**Delegates**
11:15-11:45	Keynote: Elemental abundances and oxygen isotope composition of mukundpura cm meteorite: constraints on its origin	Gopalan Srinivasan (CSSEH, Bhopal)
11:45 -12:15	Keynote: End Member Models in Planetesimal Formation	Nachiketa Rai (IIT Roorkee)
12:15-12:25	Noble gas abundances and cosmic-ray exposure age of the recently fallen indian meteorite khalwat–limgaon	Satvika Jaiswal (PRL)

Lunch 12:45-13:30

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Venue: Room 110, D1(Interdisciplinary Block) IIST		
13:30-13:40	Noble gas isotopes in carbonaceous chondrites	Ramakant R. Mahajan (PRL)
13:40-13:50	Mineralogy and isotopic (H, N, & C) study of the volatile-rich clasts in brecciated meteorites	Surya Snata Rout
13:50- 14:00	Phosphorus rich phases in cm type meteorite	Dipak Kumar Panda (PRL)
14:00-14:30	Keynote: 26al-26mg isotope systematics of rare ca-al-rich inclusions and al-rich chondrules in unequilibrated ordinary chondrites	Ritesh Kumar Mishra (Ametek Instrument India Pvt. Ltd.)
14:30-14:40	Petrographic and geochemical insights into winona and nwa 14344: implications for winonaite petrogenesis	Nishant Pandey (IITR)
14:40-15:10	Keynote: The search for extra-terrestrial life - what should we be looking for?	Saibal Gupta (IITKGP)

15:10-15:40	Flash poster presentation (2min)	*Venue: Room 110, D1, (Interdisciplinary Block) IIST*

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T2: Meteors, Impact Processes, And Shock Metamorphism		
Venue: Room 110, D1, (Interdisciplinary Block) IIST		
Session Chair: Arindam Dutta Co-Chair: Dwijesh Ray		
Time	**Presentations**	**Delegates**
15:40-16:10	Keynote: Shock metamorphism and its significance in comparative planetology	Dwijesh Ray (PRL)

Tea break 16:10-16:45 (poster), Council Hall, Admin Block, IIST

Venue: Council Hall, Admin Block, IIST		
16:45-17:15	Keynote: Insights Into the Geological Importance of Impact Cratering	Sajin Kumar K S (KU)
17:15- 17:45	Keynote: Impact Structures in India: Status Review and Future Perspective	Arindam Dutta (GSI)
17:45-17:55	Shock-induced quartz veining and carbon structural disorder in a meteorite: multimodal spectroscopic and microstructural evidence	Boreddy Suresh Kumar Reddy (SPL, VSSC)
17:55-18:05	High-pressure and high-temperature silica polymorphs in the lunar mare basalt meteorite lap02224: constraints on shock metamorphism and impact conditions	Garima Arora (PRL)
18:05-18:15	Exploratory analysis of global fireball events using nasa's open bolide database	Shreyas Khobragade (Vidyalankar Inst. of Tech.)
18:15-18:25	Through shiva's eyes: the preservation bias in marine mega-impact structures	Sangeeth Sundaresan (KU)

Dinner: 19:30

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Day 2: 28th January, Wednesday

Venue: Council Hall, Admin Block, IIST

9:30-10:00	Lead Talk: High-Pressure Phases in Ordinary Chondrites: Windows into Extreme Planetary Processes	Sujoy Ghosh (IIT Kharagpur)

T3: Meteoroid-Atmosphere Interactions, Space Weathering, And Dust Dynamics		
Session Chair: Tarun Kumar Pant Co-Chair: Surya Santa Rout		
Time	**Presentations**	**Delegates**
10:00-10:30	Keynote: Space Weathering and Dust Processing in Planetary Environments	Tarun Kumar Pant (SPL, VSSC)
10:30-10:40	Experimental simulation of space weathering on CM chondrites through nanosecond pulse laser irradiation	Swarna Prava Das (NISER, Bhubhaneswar)
10:40-10:50	Inter-hemispheric comparison of meteor decay time and its derived parameters at 68 degree latitudes	Borukote Sangadeep (Osmania University)
10:50-11:00	Origin and circulation pathways of martian dust storms: a comparative study of my25 and my28	Salam Revaldo Singh (IIST)

Tea break 11:00-11:30 (Poster)

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T4: Planetary Surface and Subsurface Investigations: Moon, Mars, Venus, And Small Bodies		
Session Chair: Satadru Bhattacharya		
Time	**Presentations**	**Delegates**
11:30-12:00	Keynote: Story of a hydrous Moon - from grain to orbit and back	Satadru Bhattacharya (SAC)
12:00-12:10	Electromagnetic wave propagation in martian and lunar regolith-simulation-based analysis	Varnana M Kumar (Cambridge Inst. of Tech., Bengalore)
12:10-12:20	From data to designation: geomorphological analysis and official naming of a complex impact crater in xanthe terra, mars	Asif Iqbal Kakkassery (Govt. College, Kasaragod)
12:20-12:30	Hpc-enabled crater detection framework for chandrayaan 2 ohrc imagery over the chandrayaan 3 landing region	Narendraprasath. S (C-DAC,Chennai)
12:30-12:40	Analysis of latitude-dependant mantle and bedrock hosted gullies in liu hsin peak ring basin, mars	Shabana Ebrahim (Univ. of Calicut)
12:40-12:50	Late amazonian volcanic and tectonic processes in tharsis region, mars	Vivek Krishnan (NCESS)

Lunch 12:50:14:00

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T7: Planetary Sample Return Missions: Science, Instrumentation, And Curation		
Session Chair: Sujoy Ghosh Co-Chair: Shyama Narendranath		
Time	**Presentations**	**Delegates**
14:00-14:30	Invited: The composition of the Moon: A window into the past and a resource for the future	Shyama Narendranath (URSC)
14:30-15:00	(To be Updated)	Umesh R. Kadhane (IIST)
15:00-15:20	Airborne Instrumentation for Planetary Research	P.R. Sinha (IIST

T6: Astrochemistry, Astrobiology, And Prebiotic Matter		
Session Chair: Bhalamurugan Sivaraman Co-Chair: Umesh R. Kadhane		
Time	**Presentations**	**Delegates**
15:20-15:50	Keynote: Quantum Dot on the Moon	Bhalamurugan Sivaraman (PRL)
15:50-16:00	The stellar origins of zr-96 excesses in presolar meteoritic materials	Manavi Jadhav (International Health Research Institute)

Tea break 16:00-16:30 (Poster)

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16:30-16:40	Raman spectroscopic investigation of macromolecular carbon in the martian meteorites alh 84001, shergotty, and nakhla	Harshina Ayisha M V (Farook College, Kozhikode)
16:40-16:50	Ai-driven molecular fingerprinting of prebiotic organics in meteorites and idps using spectral machine learning	Sharon Melhi (Amity Univ., Bengaluru)
16:50-17:00	Irradiation of condensed co reveals a new pathway for the formation of aromatic molecules in astrochemical ices	Wafikul Khan (PRL)

T5: Analogue Studies for Understanding Planetary Processes		
Session Chair: Rajesh V. J.		
Time	**Presentations**	**Delegates**
17:00-17:10	CRAYEX: an automated framework for delineating lunar crater ejecta spallation	Arya Nandakumar (Univ. of Kerala)
17:10-17:20	Gypsum formation in the atacama desert, chile and the tiruchirapalli badlands, india: a comparative study and implications for martian paleoenvironmental conditions	Gowri Giri (Univ. of Kerala)
17:20-17:30	Experimental Loopholes In Bell's Inequality Tests: A Review Of Challenges And Resolutions In Quantum Foundations	ANURAG AWASTHI (Indira Gandhi Planetarium, Lucknow)

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17:30-17:40	A Quantitative MIR Comparison of CV Chondrites and Asteroids	SANJU S PILLAI (Univ. of Kerala)

Conclusion session

Award

Discussion

Feedback

Vote of thanks

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POSTER PRESENTATIONS LIST

S. No.	Name	Abstract Title	Theme	Board
1	RAGHVI GUPTA	A Conceptual Framework Linking Microphysical Energy Structure to Large Scale Cosmic Structure, Planetary and Cosmic Process	T1	T1-1
2	AVADH KUMAR	Collisional History of Lakangaon and Malotas using Cosmic-Ray Exposure (CRE) Ages	T1	T1-2
3	SOUMILEE SARDAR	Mineralogy, Petrography and Textural Evolution of the Bath Furnace L6 Ordinary Chondrite	T2	T2-1
4	SHEFANA MAHIN	Enhanced petrographical and geochemical data for Monturaqui Crater (Chile) with new geochronological inputs	T2	T2-2
5	NEETHA THOMAS	Solar- and Cosmic Ray Tracks in Regolith Breccia Meteorites	T3	T3-1
6	ARITRA BARUA	A Comparative Chemical Alteration Study of Jezero and Gale Craters Using Perseverance and Curiosity Rover Data	T4	T4-1
7	AADITHYA S	Distribution of Lunar Spinels Across Major Geochemical Terranes on the Moon: Correlation with Elevation and Crustal Thickness	T4	T4-2
8	ISHAYU BASU	Comparative Photochemical Modeling of Organic Haze Formation on Early Earth and Titan	T6	T6-1
9	GURSEWAK SINGH	Destruction Mechanisms of Silicate Grains in ISM	T6	T6-2
10	SOWMYA BHOWMICK	Raman Spectroscopy of Presolar Graphite Grains in Chondritic Meteorites	T6	T6-3
11	TRUPTIMAYEE RATH	Organic Nanoglobules in Aubrites and Enstatite Chondrites: Implications for the Preservation of Insoluble Organic Matter under High-Temperature Conditions	T6	T6-4