

## 69<sup>th</sup> DAE Solid State Physics Symposium: Programme

<b>Registration: 18<sup>th</sup> December, 2025 17:00-20:00 hrs.</b>		
<b>Dinner: 20:00 hrs.</b>		
<b>Day 1: Friday, December 19, 2025</b>		
<b>08:00-09.30</b>	<b>Registration</b> (Venue: Reception area Convocation Hall)	
<b>09.30-10:30</b>	<b>Inaugural Function (Venue: Convocation Hall)</b>	
<b>10:30-11.15</b>	<b>Technical Session-1</b> (Venue: Convocation Hall)  <b>Plenary Talk-01</b> Olof Karis (MAX IV, Sweden) MAX IV Laboratory – Prospects For Advancing Synchrotron Science Into The 2030s	
<b>11:15-12:15</b>	<b>High Tea &amp; Group Photo</b>	
<b>12:15-13:00</b>	<b>Technical Session-1 (Contd...)</b>  <b>Plenary Talk-02</b> Sakura Pascarelli (European XFEL, Germany) New scientific opportunities at the European X-ray Free Electron Laser	
<b>13:00-14:00</b>	<b>Lunch Break</b>	
<b>14:00-15:30</b>	<b>(Venue: APJ-AKB Lecture Hall 1)</b>	<b>(Venue: APJ-AKB Lecture Hall 2)</b>
	<b>Technical Session-2</b> ( <i>Infra-red/Terahertz Spectroscopy in Probing Condensed Matter</i> )	<b>Technical Session-3</b> ( <i>Theoretical Condensed Matter Physics</i> )
	<b>Invited talk –1</b> Ewald Janssens, KU Leuven, Belgium Tunable mid-infrared plasmonic metasurfaces	<b>Invited talk–4</b> G. P. Das, RISE, TCG-CREST, Kolkata The emerging world of topological semimetals
	<b>Invited talk –2</b> S. S. Prabhu, TIFR, Mumbai Far-Field, Near-Field and Time Resolved Terahertz (THz) Spectroscopy of Materials	<b>Invited talk –5</b> S. Balasubramanian JNCASR, Bangalore Boroxol Ring Fraction in B <sub>2</sub> O <sub>3</sub> Glass
	<b>Invited talk-3</b> M.K. Chattopadhyay, RRCAT, Indore A facility for studying condensed matter using the intense MIR radiation from an FEL	<b>Invited talk-6</b> Narayan Mohanta, IIT Roorkee Quantum phenomena in planar Josephson junctions
<b>15:30-16:00</b>	<b>Contributory Oral presentations</b> <b>e0025, k0006</b>	<b>Contributory Oral presentations</b> <b>f0014, d0001</b>
<b>16:00 - 18:00</b>	<b>Tea with Poster Presentation</b>	
	<b>Poster Presentation: Contributory paper + YAA (20)</b> (Venue: Gargi Block Foyer) a0001 to a0006, b0001 to b0005, c0001 to c0021, d0001 to d0010, e0001 to e0015, f0001 to f0011, g0001 to g0014, h0001 to h0006, i0001 to i0016, j0001 to j0021, k0001 to k0012 + YAA	

18:30 - 19:00	Evening talk –1 (Venue: Convocation Hall)  Sanjay K Rai, <i>RRCAT, Indore</i> Research using Indus and possibilities with 4th generation High brightness Synchrotron Radiation source	
20:00	Dinner	
Day 2: Saturday, December 20, 2025		
09:30-11:00	Technical Session-4 (Venue: Convocation Hall)  Plenary talk –03 Kalobaran Maity, IACS, Kolkata Dirac Fermions in The Presence of Electron Correlation	
	Plenary talk –04 Cristian Bernhard, University of Fribourg, Switzerland Magnetic, orbital, ferroelectric, and superconducting orders in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> /Nd <sub>1-x</sub> (Sr,Ca) <sub>x</sub> MnO <sub>3</sub> multilayers	
11.00-11.30	Tea Break	
11:30-12:30	(Venue: APJ-AKB Lecture Hall 1)	(Venue: APJ-AKB Lecture Hall 2)
	Technical Session-5 (Physics of materials for energy and environmental applications)	Technical Session-6 (Physics under High Pressure)
	Invited talk-7 Amartya Mukhopadhyay, IIT Bombay, Mumbai Layered’ transition metal oxides as electrode materials for Na-ion batteries	Invited talk-10 Kamil Dziubek, Universität Wien, Austria Pressure-Induced Synthesis Of Heavy Pnictogen Nitrides
	Invited talk-8 Kaustava Bhattacharyya, BARC, Mumbai Heterogeneous Catalysis Perspective towards Energy and Environment: Structural and Mechanistic Understanding	Invited talk-11 Rekha Rao, BARC, Mumbai Experimental Observation of Giant Negative Linear Compressibility-A Rare Counter-intuitive Property
12:30-13:00	Invited talk-9 Saurabh Lodha, IIT Bombay, Mumbai b-Ga <sub>2</sub> O <sub>3</sub> Devices for High Power Electronics	Contributory Oral presentations a0026, b0019 (2 nos.)
13:00-14:00	Lunch	
14:00-15:30	Technical Session-7 (Soft matter and Bio-physics)	Technical Session-8 (Translational research)

	<b>Invited talk-12</b> V.K. Aswal, BARC, Mumbai Structure and Interactions in Reentrant Soft Matter	<b>Invited talk-15</b> Harish Barshilia, NAL, Bangalore Ultrathin Multilayered Coatings for Gas Turbine Compressor Blades: Solid Particle Erosion and Corrosion Behaviour at High Temperatures
	<b>Invited talk-13</b> Prateek Kumar Jha, IIT Roorkee Computational modelling and experimental design of Drug-Eluting Intraocular Lens for Glaucoma treatment	<b>Invited talk –16</b> Sangeeta Kale, DIAT, Pune Engineered tactile sensor arrays for robotic gripper applications
	<b>Invited talk-14</b> Jitendra Bahadur, BARC, Mumbai Decoding the Nanoscale Middle World “The Heart of Matter and Life”: Insights from Synchrotron SAXS	<b>Invited talk-17</b> Ravindra Pandey, IIT Roorkee From Lipid Membranes to Covalent Organic Frameworks: SFG Insights into Interfacial Organization
<b>15:30 - 16:00</b>	<b>Contributory Oral presentations h0024, k0050</b>	<b>Contributory Oral presentations e0025, c0103</b>
<b>16:00-18:00</b>	<b>Tea with Poster Presentation</b>	
	<b>Poster Presentation: Contributory paper (Venue: Gargi Block Foyer)</b> a0007 to a0012, b0006 to b0011, c0022 to c0040, d0011 to d0018, e0016 to e0030, f0012 to f0019, g0015 to g0025, h0007 to h0011, i0017 to i0033, j0022 to j0043, k0013 to k0024 + Thesis presentation	
<b>19:00-20:00</b>	<b>Evening talk –2 (Venue: Convocation Hall)</b> D. D. Sarma, IISc, Bangalore Phase transitions in VO2 and related compounds: surprises and resolutions	
<b>20:00</b>	<b>Dinner</b>	
<b>Day 3: Sunday, December 21, 2025</b>		
<b>09:30-11:15</b>	<b>Technical Session-9 Presentations by Young achievers Venue: (Convocation Hall)</b>	
<b>11.00-11.30</b>	<b>Tea Break</b>	
<b>11:30-13:00</b>	<b>Technical Session-9 (contd.) Presentations by Young achievers</b>	
<b>13:00-14:00</b>	<b>Lunch Break</b>	
	<b>(Venue: APJ-AKB Lecture Hall 1)</b>	<b>(Venue: APJ-AKB Lecture Hall 2)</b>
<b>14:00-15:30</b>	<b>Technical Session-10 (Physics of Halide Perovskites)</b>	<b>Technical Session-11 (Emerging magnetic and spintronic material-I)</b>
	<b>Invited talk-18</b> K. V. Adarsh, IISER, Bhopal	<b>Invited talk – 22</b> S Bedanta, NISER, Bhubaneswar

	Excitonic Correlations and Cooperative Emission in Metal-Halide Perovskites	Advancing Organic Spintronics: Interface Engineering and Emerging Effects
	<b>Invited talk-19</b> Ranjani Viswanatha, JNCASR, Bangalore Spin Physics in Metal Halide Perovskites	<b>Invited talk – 23</b> Aftab Alam, IIT Bombay, Mumbai Altermagnetism and its Variants: A New Paradigm in the Field of Magnetism
	<b>Invited talk –20</b> Manojit Bag, IIT Roorkee Halide Perovskites for Next-Generation Optoelectronics: An Approach Towards Neuromorphic Computing	<b>Invited talk - 24</b> Soumya Jyoti Ray, IIT Patna Spin Transport across two-dimensional Spinterfaces
<b>15:30-16:00</b>	<b>Invited talk – 21</b> G D Mukherjee, IISER, Kolkata Is Structural Distortion good for Pb-free Halide Perovskites?	<b>Contributory Oral presentations j0105, g0018</b>
<b>16:00-18:00</b>	<b>Tea with Poster Presentation</b>	
	<b>Poster Presentation: Contributory paper (Venue: Gargi Block Foyer)</b> a0013 to a0018, b0012 to b0019, c0041to c0061, d0019 to d0030, d0047, e0037 to e0056, f0020 to f0035, g0026 to g0038, h0012 to h0020, i0034 to i0056, j0044 to j0070, k0025 to k0036	
<b>19:00-20:00</b>	<b>Cultural Function by Devasthali (Venue: Convocation Hall)</b>	
<b>20:00</b>	<b>Dinner</b>	
<b>Day 4: Monday, December 22, 2025</b>		
<b>09:30-11:00</b>	<b>Technical Session-12 Thesis presentation (Venue: Convocation Hall)</b>	
<b>11:00-11:30</b>	<b>Tea Break</b>	
<b>11:30-13:00</b>	<b>Technical Session-12 (contd.) Thesis presentation (Venue: Convocation Hall)</b>	
<b>13:00-14:00</b>	<b>Lunch Break</b>	
	<b>(Venue: APJ-AKB Lecture Hall 1)</b>	<b>(Venue: APJ-AKB Lecture Hall 2)</b>
<b>14:00-15:30</b>	<b>Technical Session-13 (Physics of Semiconductor Devices)</b>	<b>Technical Session-14 (Emerging magnetic and spintronic material-II)</b>
	<b>Invited talk-25</b> Abir De Sarkar, INST, Mohali Insights into Inversion Symmetry Breaking in 2D Materials: Piezoelectricity and Spin-Orbitronics	<b>Invited talk-28</b> Subham Majumdar, IACS, Kolkata Spontaneous Anomalous Hall Effect in Some Layered Transition Metal Compounds
	<b>Invited talk-26</b> Govind Gupta, CSIR-NPL, New Delhi Design and Development of Energy-Efficient Semiconductor Optoelectronic Devices	<b>Invited talk-29</b> P D Babu, UGC-DAE-CSR, Mumbai Incommensurate Magnetic Structures and Complex magnetism of Certain Rare Earth Intermetallics

	<b>Invited talk- 27</b> S Pitale, BARC, Mumbai High Purity Germanium: Key Advances in Single Crystal Growth and Detector Fabrication	<b>Invited talk-30</b> A Thamizhavel, TIFR, Mumbai Crystal Electric Field effect in Ce-Based intermetallic compounds
<b>15.30-16.00</b>	<b>Contributory Oral presentations e0026, d0036</b>	<b>Invited talk-31</b> Surendra Singh, BARC, Mumbai Realization of magnetic helical structure and interface modified exchange interaction in RE-TM multilayers: A polarized neutron reflectivity study
<b>16:00-18:00</b>	<b>Tea with Poster Presentation</b>	
	<b>Poster Presentation contributory paper (Venue: Gargi Block Foyer)</b> a0019 to a0025, b0020 to b0027, c0062 to c0082, d0031 to d0040, e0057 to e0077, f0037 to f0047, g0039to g0052, h0021 to h0028, i0057 to i0078, j0071 to j0094, k0037 to k0048	
<b>19:00-20:00</b>	<b>Evening talk –3 (Convocation Hall)</b> R. Vijayaraghvan, TIFR, Mumbai Observing Quantum Effects In A “Macroscopic” Electrical Circuit: Nobel Prize in Physics 2025	
<b>20:00</b>	<b>Dinner</b>	
<b>Day 5: Tuesday, December 23, 2025</b>		
<b>09:30-11:00</b>	<b>Technical Session-15 (Venue: Convocation Hall) (Surface and Interface Physics)</b>	
	<b>Invited talk – 32</b> Bivas Saha, JNCASR, Bangalore Metal/Semiconductor Superlattices: Building Matter Layer-by-Layer	
	<b>Invited talk –33</b> R. B. Tokas, BARC, Mumbai Precision optical multilayer coatings for lasers and photo physical systems: Design and Development	
	<b>Invited talk – 34</b> Pritam Deb, Tezpur University Out-of-plane heterostructure array as robust electrode for energy storage application	
<b>11:00-13:00</b>	<b>Tea with poster Presentation</b>	
	<b>Poster Presentation: Contributory paper (Venue: Gargi Block Foyer)</b> a0026 to a0032, b0028 to b0034, c0083 to c0104, d0041 to d0049, e0079 to e0094, f0049 to f0063, g0053 to g0065, h0029 to h0037, i0079 to i0097, j0095 to j0121, k0050 to k0059	
<b>13:00-14:00</b>	<b>Lunch Break</b>	
<b>14:15-15:30</b>	<b>Award Presentations and Concluding Session (Venue: Convocation Hall)</b>	