

## DST-JSPS joint workshop on “Atomically Precise Materials for Sustainability”

Venue: **Holiday Inn**, OMR IT Expressway, Thiruvanmiyur, Chennai

Time	Day 1: Feb. 1, 2025	Day 2: Feb. 2, 2025
8:30 – 8:50	Registration	
8:50 – 9:00	Welcome addresses	
	<b>Session I</b> (Chair: Prof. Thalappil Pradeep)	<b>Session V</b> (Chair: Prof. Yuichi Negishi)
9:00 – 9:30	<b>Prof. Yuichi Negishi</b> , Tohoku University Creation of High-Performance Energy and Environmental Catalysts by Controlling the Aggregation of Metal Atoms	<b>Prof. Thalappil Pradeep</b> , IIT Madras Open Questions on Cluster Research
9:30 – 10:00	<b>Prof. Sukhendu Mandal</b> , IISER Thiruvananthapuram Atomically Precise Nanocluster Assemblies: Properties beyond their Cluster Unit	<b>Prof. Rajendra Singh Dhayal</b> , Central University of Punjab Functionality and Properties of Dichalcogenide Controlled Precise Metal Nanoclusters
10:00 – 10:30	<b>Prof. Katsuaki Konishi</b> , Hokkaido University Cluster of Clusters: Evolution of Gold Nanoclusters via Supramolecular Assembling	<b>Prof. Tatsuya Tsukuda</b> , The University of Tokyo Electronic Structures and Optical Properties of Atomically-Precise Gold Nanostructures
10:30 – 11:00	<b>Prof. Nirmal Goswami</b> , CSIR - IM&MT Depletion-Driven Assembly of Gold Nanoclusters: Insights into Luminescence and Catalysis	<b>Prof. Ananya Baksi</b> , Jadavpur University NIR II Emission Enhancement by Tuning Au Positions in Au <sub>12</sub> Ag <sub>32</sub> Clusters
11:00 – 11:20	Discussion & Tea Break	
	<b>Session II</b> (Chair: Prof. Umesh V. Waghmare)	<b>Session VI</b> (Chair: Prof. Kuruvilla Joseph)
11:20 – 11:50	<b>Prof. Jayasree R S</b> , <b>SCTIMST</b> Amino Acid, Peptide and Protein Stabilized Gold Clusters as Excellent Platforms for Biomedical Applications	<b>Prof. Seiji Yamazoe</b> , Tokyo Metropolitan University Structural Isomerization and Molecular Adsorption Properties of Ligand-Protected Metal Clusters Studied by XAFS
11:50 – 12:20	<b>Prof. Katsuhiko Isozaki</b> , Kyoto University Exploration of Catalytic Applications of Gold Nanoclusters Bearing Supramolecular Reaction Field	<b>Prof. Indranath Chakraborty</b> , IIT Kharagpur Atomic-Level Engineering on Nanoclusters: Improving Structural and Functional Properties

12:20 – 12:50	<b>Prof. Adarsh K V,</b> IISER, Bhopal Photoexcitation on low dimensional semiconductors: A playground for optical properties	<b>Prof. Tetsuya Kambe,</b> Osaka University Precise Synthesis of Atomicity-Controlled Clusters and Single-Layered Materials
12:50 – 13:05	<b>Short talk 1: Dr. Rival Jose,</b> IIT Madras Bimetallic Nanocluster-Based Light-Emitting Diodes with Saturated Red Emission	<b>Short talk 4: Ms. R Bhuvaneshwari,</b> JNCASR Competing role of strain and stacking in electronic and topological properties of $\gamma$ -Phosphorene
13:05 – 14:30	Discussion & Lunch	
	<b>Session III</b> (Chair: Prof. Tatsuya Tsukuda)	<b>Session VII</b> (Chair: Prof. Hidehiro Sakurai)
14:30 – 15:00	<b>Prof. Umesh V. Waghmare,</b> JNCASR Magnetic Transitions and domain walls in 2D FePS <sub>3</sub>	<b>Prof. Takeshi Iwasa,</b> Hokkaido University Excited State Engineering of Vertex Sharing Noble Metal Clusters by Photo-Shaping using Near-Field
15:00 – 15:30	<b>Prof. Hidehiro Sakurai,</b> Osaka University Gold Nanoparticle Synthesis Using Microchip Laser System through Pulsed Laser Ablation	<b>Prof. Venkatesh V,</b> IIT Roorkee Thiolate Protected Copper Nanoclusters: Design, Synthesis and Multifaceted Applications
15:30 – 16:00	<b>Prof. Chaitanya Sharma Yamijala,</b> IIT Madras Hot Carrier-Driven Degradation of PFAS Using Plasmonic Nanoparticles	<b>Prof. Kuruvilla Joseph,</b> Indian Institute of Space Science & Technology Surface Engineered Nanosystems for Bio-Medical and Space Applications
16:30 – 16:50	Tea Break	
	Discussion & Break	Discussion & Break
	<b>Session IV</b> (Chair: Prof. Katsuaki Konishi)	<b>Session VIII</b> (Chair: Prof. Sukhendu Mandal)
16:50 – 17:20	<b>Prof. Tapasi Sen,</b> INST Mohali Probing the fluorescence Intermittency of single metal nanoclusters	<b>Prof. Kenji Iida,</b> Hokkaido University Electronic and Optical Properties of Heterogeneous Nanomaterials Revealed by Theoretical and Computational Study
17:20 – 17:50	<b>Prof. Takane Imaoka,</b> Institute of Science Tokyo	<b>Prof. Shibu Siddarth,</b> University of Calicut

	Dynamic Coordination Structure of Supported Metal Clusters	Light-Induced Self-Assembly in Precision Noble Metal Nanoclusters: New Directions and Applications
17:50 –18:20	<p><b>Short talk 2: Ms. Glory James</b> Ligand-Free Au<sub>9</sub> Nanocluster Templated Growth of Zirconium-Based Metal-Organic Framework for Peroxidase Mimicking Catalysis</p> <p><b>Short talk 3: Ms. Harshita Nagar</b> Rapid Determination of the Structures of Atomically Precise Copper Nanoclusters using MicroED</p>	<p><b>Discussion &amp; Closing remarks</b> -</p>
<b>18:20-19:30</b>	<b>Discussion</b>	
	Dinner	
19:30 – 21:00	<b>Day 3: Feb. 3, 2025</b>	
9:00 – 12:00	Lab tour/ Research Park visit/Sightseeing	
15:00	Departure	

