

**International Conference On Laser & other  
Deposition techniques**

***i*COLD 25**



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్  
भारतीय प्रौद्योगिकी संस्थान हैदराबाद  
Indian Institute of Technology Hyderabad

*in association with*



**Poster presentation Schedule**

**Date: 7<sup>th</sup> March 2025 and Time: 14.00 – 15.00**

**Date: 8<sup>th</sup> March 2025 and Time: 14.00 – 15.00**

**Venue: CCE, IIT Hyderabad**

Poster Presentations (07.03.2025) Time: 14.00 – 15.00			
Sl. No	Name	Institute	Title of the Talk
PI - 01	Lavanya Polimera	IIT Madras	Nanoarchitecture on Wrinkled PDMS Thin Films for Hue-Specific Mechanochromism
PI - 02	Anurag Gartia	NIT Rourkela	Effect of Mo Growth Duration on Rapid Thermally Processed Metal Chalcogenide Thin Films for IR Detection
PI - 03	Sachin Shishodia	BITS Pilani	Modelling of Hydrogen-Based Plasma in a Quartz Bell-Jar Type Microwave Plasma CVD Process
PI - 04	Akhil R Warriar	IGCAR	Effect of Short-Term Aging on Optical Properties of Monolayer MoS <sub>2</sub>
PI - 05	Sameer Ranjan Biswal	NIT Rourkela	Synthesis of Zn Doped Copper Iodide Film Characteristics by Thermal Evaporation System
PI - 06	Thameemul Ansari M	HBNI	Temperature Dependant NO <sub>2</sub> Sensing Properties of Vertically Aligned WS <sub>2</sub> Nanosheets
PI - 07	Shailendra Kumar	IIT Delhi	Eco-Friendly High-Performance Hybrid Triboelectric Nanogenerator for Sensing Applications
PI - 08	Somesh Sabat	NIT Rourkela	Effect of Annealing Temperature on Chemical Bath Deposited Copper Sulfide (Cu <sub>x</sub> S) Thin Film for Photodetector Applications
PI - 09	Jaspreet Singh	IIT Ropar	Engineered Ferrell-Berremann Modes in Nanoporous Gold Films
PI - 10	Pandiri Sirish	IIT Madras	Influence of Adhesion Layer on the Stability of Pt Ultra-Thin Films in Acidic Media
PI - 11	Ranjana	M G University Kottayam Kerala	Bombyx Mori Silk Fibroin as Natural Biotic Polymer for Synthesis of Gold Nanoparticles: Optical Characterization and Calorimetric Detection of Ammonia
PI - 12	Sumithra K	IGCAR	Role of Microstructure, Morphology and Stoichiometry on Charge Storage Performance of Electrodeposited FeCo <sub>2</sub> O <sub>4</sub> and Vertical Graphene Nanosheets Hybrid Supercapacitor Electrodes
PI - 13	Shivani Soni	IGCAR, HBNI	Charge Compensation by Phase Segregated Sb <sub>2</sub> Se <sub>3</sub> Phase in Bi <sub>1.95</sub> Sb <sub>0.05</sub> Se <sub>3</sub> Topological Insulator by Laser Energy
PI - 14	Rashed Hussain Lone	BITS-Pilani, Goa and RMIT University Australia	Tunable Excitonic Emission in Monolayer p-MoS <sub>2</sub> Enabled by Charge Transfer
PI - 15	Tarra Maharshi	IIT Madras	Room-Temperature Gas Detection with Flexible V <sub>2</sub> O <sub>5</sub> Sensors
PI - 16	Reshma P R	IGCAR	A Study on the Thickness Dependent Luminescence Property of 2D VS <sub>2</sub>
PI - 17	Ishwarya S	HBNI	Studies on Surface Conductivity of H- / D-Functionalized Diamond Films
PI - 18	Prashant Singh Lohiya	IIT (ISM) Dhanbad	Tailoring the Optoelectronics Properties of Non-Toxic, Inorganic, Cesium-Copper Based Layered-Double Perovskite for Enhanced Performance and Stability
PI - 19	Akki Jaiswal	IIT Madras	Sub-25 nm Fabless Lithography for Transparent and Flexible Electronic Devices
PI - 20	Rakshit Singh Patwal	NIT Hamirpur	Room-Temperature Nitrogen Dioxide (NO <sub>2</sub> ) Sensor Using MoTe <sub>2</sub> /MWCNTs Based Composite
PI - 21	Ashish Kumar	NIT Hamirpur	Detection of Nitric Oxide (NO) using MoSe <sub>2</sub> /WO <sub>3</sub> Based Sensing Platform at Room-Temperature
PI - 22	Dr. S. Pethuraj	Thiagarajar College of Engineering	Modelling of Radiation Induced Performance Degradation of Perovskite Solar cells for Space Applications
PI - 23	Mohamed Rafi K	Central University of Tamilnadu	Tetrabenzofluorene Based Smarts Materials for Energy Applications
PI - 24	Dr. P. Sivakumar	Thiagarajar College of Engineering	Optimization of ZnO, TiO <sub>2</sub> , and Al <sub>2</sub> O <sub>3</sub> – Based Anti-Reflection Coatings for Silicon Solar Cells: A Combined Computational and Experimental Approach
PI - 25	Smrithi Chandran	SRM IST	Development of Novel Phases of ZnZr Alloy for Multifunctional Applications
PI - 26	Subodh Khamari	IIT Bhubaneswar	Exchange Bias and Memory Effect of Spinel Fe <sub>3</sub> O <sub>4</sub> /Mn <sub>3</sub> O <sub>4</sub> Core-shell Heterostructure
PI - 27	Megha S N	SRM IST	Exploring Ion-Implanted Silicon Using Nanoindentation for Advanced Optoelectronic Applications
PI - 28	S. Reema Sagitha	Thiagarajar College of Engineering	Computational Simulations on Double Perovskite-based Tandem Solar Cell: Combined DFT and SCAPS-1D

PI - 29	Arshad A	SRM University AP	Synthesis of SnSe Thin Film via Co-Evaporation Technique and Study of its Electrical Properties
PI - 30	Arunaprabha A	SRMIST KTR	Exploring the Potential of Strontium Substituted High-Entropy Oxides for Supercapacitors and Photocatalysts
PI - 31	Pankaj Kumar	Teerthanker Mahaveer University	Investigation of Decay Mechanism of Eu-Doped ZnO Nanorods for Possible Optoelectronics Application
PI - 32	Laxmipriya Sahoo	IIT Bhubaneswar	Magnetic Properties of Spindle Shaped $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> Coated with RuO <sub>2</sub> Nanoparticle: A Core-Shell Study
PI - 33	Priya Rani	IIT Ropar Rupnagar	High Responsivity and Ultrafast Response in Broadband Photodetector Based on 2D MoSe <sub>2</sub>
PI - 34	Aiswarya K U	Sree Kerala Varma College Thrissur Kerala	Investigations on the Electrical Conduction Mechanisms in MPS Structured Cu-(PVA-CdWO <sub>4</sub> )-p Si Schottky Barrier Diode
PI - 35	Karuna Chauhan	Teerthanker Mahaveer University	Graphitic Carbon Nitride Nanostructures: An Efficient Dye Remover Through Adsorption
PI - 36	Supriya Pradhan	University of Hyderabad	Germanium Nanoparticles and Surface Nanostructures Achieved Using Ultrafast Laser Processing for Sensing and Photonic Applications
PI - 37	Niharika Pradhan	University of Hyderabad	SERS Signal Optimization Using Femtosecond Laser Ablated Gold Nanoparticles on PMMA Nanofibers for Nitro-Explosives Detection
PI - 38	Jothika B	SSN College of Engineering	Revolutionizing Alpha Phase Stability in Hybrid Perovskite Solar Cells with Methylammonium Chloride through Additive Engineering
PI - 39	Uma Bharathy R	SSN College of Engineering	Cost-Effective Hydrothermal Synthesis of Nickel Oxide/Reduced Graphene Oxide Nanocomposite for Improved Energy Storage Applications
PI - 40	Anirban Mullick	NIT Trichy	Confirmatory Detection and Evaluation of Acid Rain Stress in Neem (Azadirachta indica) Using Spectroscopic Techniques
PI - 41	Manchu Mohan Krishna Sai	IIT Dhanbad	A Novel Approach to Energy Density-Controlled Laser Polishing of Complex Bio-Implant Surface Fabricated using Laser Powder-Bed Fusion Process
PI - 42	T Senthil Siva Subramanian	Hindustan College of Science & Technology Mathura	Palladium-Gold Nanoshell Cylinder Based Nanoplasmonic Hydrogen Sensor
PI - 43	Ravi Kumar Bharati	NIT Calicut	Light Confinement in An Ordered and Disordered Superlattice Structure
PI - 44	Preethi. D	SRM IST	Amino Functionalized Metal Organic Framework Loaded Sulfonated Poly Styrene-Block-Poly(ethylene-ran-butylene)-Block Polystyrene Composite for Fuel Cell Applications
PI - 45	Ragasudha. S	SRM IST	Functionalized Metal-Organic Framework Loaded Six-Membered Sulfonated Polyimide as a Hybrid Proton Exchange Membrane for Fuel Cell Applications
PI - 46	Meenakshi	CSIR-NPL Delhi	Interface Engineering of ALD-Deposited ZnO Films on Silicon Surface: The Role of Aluminum Doping
PI - 47	Kawya J	Bharathidasan University	Broadband Absorption Activated by CeO <sub>2</sub> : Yb, Er Nanophosphors for Dye-Sensitized Solar Cells
PI - 48	Nabeela K V	University of Calicut	Defect Induced Modification on Thermoelectric Properties of Size Tuned Gd Doped CuO
PI - 49	T H V D Sahithi	IIT Hyderabad	Flexible Piezoelectric Substrates with ZnO Nanostructures for Acoustophoretic Application: Design, Development and Testing
PI - 50	M. Bhakyalatha	IIIT Tiruchirapalli	Influence of Ag Doping on Structural, Optical and Photocatalytic Properties of Green Synthesized ZnO Nanostructured Thin Films
PI - 51	Abir Mukherjee	IIT Delhi	Characteristics of Randomly Doped Tri-Gated Junction-Less FET: Exploring Low Drain Bias Physics
PI - 52	Ayele ossa Leka	DIAT	Degradation of Rose Bengal Dye Using A Pulse Laser- Assisted Solid State Annealing Method Synthesized Au@S,O-GCN Photocatalyst
PI - 53	K Sutharsan	SRM IST	Niosome-Loaded Agarose and Chitosan Composite Film with the Incorporation of ZnO@HNTs Nanocomposites for the Dual Mod of Drug Delivery System for Anti-Cancer Treatment
PI - 54	Shivanshu	CSIR_NPL	Tuning the Physical Properties of ALD Grown AZO Films for Photovoltaic Applications
PI - 55	Kona Maha Devi Durga Pravalli	Woxsen University	Simulation Study of Ge-based Perovskite Solar Cells Using SCAPS-1D
PI - 56	Saurabh Soni	IIT Bombay	Inkjet Printed Flexible Temperature Sensor for Real-Time Monitoring of Subzero Temperature for Cold Storage Application
PI - 57	Gokul Krishna	IISc	Ageing of Amorphous Thin films of Germanium Telluride on Glass

PI - 58	Kartick Biswas	IISc	Characterization of Phase Separation Epitaxial Neodymium Nickelate Thin Films
PI - 59	Mohammad Arshad	IIT Bombay,	Growth and Characterization of Doped BaTiO <sub>3</sub> Thin Films Using Pulse Laser Deposition Technique
PI - 60	Amit Kumar	IIT Jodhpur	Machine Learning-Integrated Impedance Measurement System for Room Temperature NH <sub>3</sub> Gas Sensing
PI - 61	Jishnu NK	IISc	Heterogeneous Integration of Complex Epitaxial Oxides on to Silicon
PI - 62	Abhishek Kumar	CSIR- NPL	Thermal ALD Deposited Al <sub>2</sub> O <sub>3</sub> : ZnO Stacking for High Quality Silicon Surface Passivation
PI - 63	Kuri Manjunatha	NIT Andhra Pradesh	Heterostructure Engineering of SnSe <sub>2</sub> /TiO <sub>2</sub> for Enhanced Photodetector Performance
PI - 64	Phani Shankar Borra	IISc	Epitaxial Growth of TiN (111) on Si (111) & Further Integration of AlN (0002) by Pulsed Laser Deposition
PI - 65	Samim Hossain	IIT Madras	Homo-Epitaxial Deposition of Anatase TiO <sub>2</sub> Thin Films on TiO <sub>2</sub> Nanosheets Using Pulsed Laser Deposition
PI - 66	Laveena Pursharthi	IIT Madras	Type II Heterojunction Based TiSe <sub>2</sub> /TiO <sub>2</sub> Heterostructures for Hydrogen Evolution Reactions (HER) and Sensors
PI - 67	Arpita Biswas	IIT Jodhpur	CVD-Grown SnS <sub>2</sub> Flakes Functionalized with Bimetallic Nanoparticles for Ascorbic Acid
PI - 68	Narayan Prasad	IIT Bhilai	Probing the Interface of Graphene/ ZnO (10-10) Hybrid
PI - 69	Deepali Srivastava	IIT Dharwad	Hydrogen Diffusion and Mechanical Stability of PLA/GO Composites: A Multi-Scale Modelling Approach
PI - 70	Karthik Krishnan	University of Delhi	Exchange Bias in FeNi films for Spintronic Applications

Poster Presentations (08.03.2025) Time: 14.00 – 15.00			
Sl. No	Name	Institute	Title
PII - 01	Debashree Das	IISST	Laser-Induced Functionalization of C <sub>60</sub> in Liquid Phase: A Study on Structural Modification and Derivative Formation
PII - 02	Ragulkrishnan	IIT Madras	Surface-Modified Reduced Graphene Oxide Wrapped TiO <sub>2</sub> Nanotube Arrays Photocatalyst for Enhanced Selectivity to Methane in Photoreduction of CO <sub>2</sub>
PII - 03	Akshara Dadhich	IIT Madras	Dual Doping Strategy for Enhancing Thermoelectric Performance of Yb <sub>0.4</sub> Co <sub>4</sub> Sb <sub>12</sub>
PII - 04	J Akhil Teja	IIT Jammu	Effect of Cobalt Volume Fraction on Indentation Response of Thermally Sprayed WC Composites
PII - 05	Thipparapu Bhavani	NIT Warangal	Tailoring Ferroelectric Phases in Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> Thin Films: The Interplay of Annealing Time and Structural Evolution
PII - 06	Rovins	IIT Jodhpur	MoSe <sub>2</sub> -MoO <sub>3</sub> Hybrid Nanostructures Decorated with Gallium Nanoparticles for High-Performance Hydrogen Sensor
PII - 07	Subha Laxmi	Academy of Scientific and Innovative research	Investigation of DC Sputtered AZO Thin Films for Silicon Solar Cell Applications
PII - 08	Lisa John	HBNI-IGCAR Campus	Pulsed Laser Deposition of c-axis Oriented PtCoO <sub>2</sub> Thin Films
PII - 09	Soumyaranjan Sahoo	IIT Madras	Free-Standing Oxide Membranes Designed by Epitaxy for Advanced Device Application
PII - 10	Pundlik Ghate	Mukesh Patel School of Technology Management and Engineering	Electronic and Optical Properties of Lead Free All-Pervoskite AGeBr <sub>3</sub> (A=Cs, K, Rb) to use as Solar Cell
PII - 11	Swagatika Nayak	IISc	Chemical Vapor Deposited Copper Oxide Thin Films for Back End of Line Compatible p-Type Thin Film Transistors
PII - 12	Kanakala Rajesh	IIT Madras	Thermal Evaporation-Grown Transition Metal Oxide: A Promising Carrier Selective Passivating Contact for Silicon Heterojunction Solar Cells
PII - 13	Rajesh Maurya	IIT Madras	Plasma-Enhanced ALD-Deposited AlF <sub>x</sub> Thin Films: Development of Window Electron Transport Layer of a c-Si-Based Carrier Selective Contact Solar Cell
PII - 14	Suresh Kumar	IIT Jodhpur	The Strategic Combination of UV and Thermal Activation on Vertically Aligned Nb-MoS <sub>2</sub> for Enhancing Selective NO <sub>2</sub> Detection
PII - 15	Chennoju Raghu	IIT Hyderabad	Effect of Deposition Temperature on Structural and Magnetic Properties of Co <sub>2</sub> MnSi Films
PII - 16	Kota Anusha Raj	Andhra University	Assessment of Microstructure and Corrosion Behaviour of ZA-27 Alloy Modified with Nickel
PII - 17	Ravindra Kumar Nitharwal	IIT Madras	Ultrafast Carrier Dynamics of ZnO Quantum Dots Studied by the Femtosecond Transient Absorption Spectroscopy
PII - 18	Shubham Kumar	IIT Madras	Harnessing Ferroelectricity in BaTiO <sub>3</sub> -Based Polycrystalline Thin Films for Photovoltaic Application
PII - 19	Pretika Pa	Thiagarajar College of Engineering	Optimization of ZnO, TiO <sub>2</sub> , and Al <sub>2</sub> O <sub>3</sub> -Based Anti-Reflection Coatings for Silicon Solar Cells: A Combined Computational and Experimental Approach
PII - 20	Kaushalya Kumari	IIT Madras	Growth and Characterization of Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> MXene via Intercalation and Surface Functionalization for Optoelectronic Applications
PII - 21	Mohit Singh	IIT Madras	Near-Infrared Lasing from Cr Substituted LaGaO <sub>3</sub> Ceramic System
PII - 22	Manab Mandal	IIT Madras	Low Thermal Conductivity in 2H-Polytype SnSe <sub>2</sub> Using Optothermal Raman Technique
PII - 23	Sourav Mondal	IIT Madras	Optical Phase Change Materials (O-PCMs) for Hyperspectral Sensing
PII - 24	Nilesh	IIT Madras	Towards Homoepitaxial Growth of Titanium Dioxide (TiO <sub>2</sub> ) Using Atomic Layer Deposition (ALD)
PII - 25	Jaiswal Rohan Subhashlal	GITAM, Hyderabad	Voltage-Dependent Negative Differential Resistive Switching of Polyaniline - WO <sub>3</sub> Hybrid Nanocomposites
PII - 26	Ananya Mohanty	IIT Madras	Fabrication of α-Fe <sub>2</sub> O <sub>3</sub> /TiO <sub>2</sub> Heterostructure and its Gas Sensing Properties
PII - 27	Aswathi P K	IIT Madras	Photocatalytic Reduction of CO <sub>2</sub> Using TiO <sub>2</sub> Thin Films Grown by Atomic Layer Deposition (ALD)
PII - 28	Jaydeep Lohia	IIT Madras	RuO <sub>2</sub> Nanoparticles Decorated TiO <sub>2</sub> Nanostructures for Toxic Gas Sensing

PII - 29	Namitha Dsouza	IIT Madras	Probing Sub-Gap Density of States in Atomic Layer Deposited Molybdenum Oxide for the Application in Silicon Solar Cells
PII - 30	Subhashree Mishra	IIT Madras	Real Time Monitoring of Blood Coagulation Dynamics on a Thin Film Surface
PII - 31	Govinda Chandra Behera	IIT Madras	Tailoring Fe <sub>2</sub> O <sub>3</sub> -WS <sub>2</sub> Heterostructures for Efficient Photoelectrochemical Water Splitting: Experimental and Theoretical Insights
PII - 32	Garima Gupta	IIT Madras	Modification of Dual Functional ZnCo <sub>2</sub> O <sub>4</sub> for Supercapacitor and OER Applications
PII - 33	Aman Kumar Behera	IIT Madras	Synthesis, Characterization and Application of Iron Oxide-Based Vertically Aligned Nanostructures
PII - 34	Rahul Raj	IIT Madras	Atom Probe Tomography Confirmed Tuneable SiV Center Formation in Diamond for Quantum Devices
PII - 35	Anil	CSIR-NPL	Interface Design Strategies for High-Efficiency Carrier Selective Silicon Solar Cells: A Numerical Study
PII - 36	Paras	CSIR-NPL	Numerical Investigation and Optimization of NiO <sub>x</sub> as Hole-Selective Layer for Silicon Heterojunction Solar Cell Using AFORS-HET
PII - 37	Nickita Acharya	IIT Madras	Bio-Inspired Laser Microstructuring of Polypropylene for Scale-Dependent Wettability Modulation and Enhanced Cell Adhesion
PII - 38	Subhajit Chatterjee	IIT Madras	MoO <sub>3</sub> Thin Films Deposited by Pulsed Laser Deposition (PLD) on Hydrogen-Terminated Diamond for Advanced High-Power Electronic Applications
PII - 39	Subhashis Saha	IIT Madras	SnS Quantum Dots/P <sub>3</sub> HT Bulk Heterojunction Solar Cell for Low Voltage Application
PII - 40	Manoj Singh	IISc	Below-Bandgap Optical Response of SnTe Thin Film: Bandpass Filtering
PII - 41	Saroj Kumar Mishra	IIT Hyderabad	Controlled Modification of Perpendicular Magnetic Anisotropy in Gd-Fe Thin Films using Electron Beam Irradiation
PII - 42	Rajasekaramoorthy M	Sathyabama Institute of Science and Technology	Investigation of Hot Corrosion and Isothermal Oxidation Behaviour of Bilayer Yb <sub>2</sub> O <sub>3</sub> doped Gd <sub>2</sub> Zr <sub>2</sub> O <sub>7</sub> /YSZ Plasma Sprayed Thermal Barrier Coatings
PII - 43	Ankit Kumar Yadav	IIT Jodhpur	A Low Temperature Synthesis Approach of Cu <sub>2</sub> SrSnS <sub>4</sub> Film for Spike Neural Network (SNN) Application
PII - 44	Vikas Yadav	IIT Madras	Probing Dielectric Constant of Water and Ionic Conductivity Under Nanoconfinement in Graphene Oxide
PII - 45	MD Shabeeb A P	IIT Hyderabad	Laser Spectroscopic and Computational Investigation of Adsorption and Activation of CO <sub>2</sub> on Molecular Complexes
PII - 46	Sukka Siddhardha	IIT Hyderabad	A Review on MXenes for Biomedical Applications
PII - 47	Jitendra Singh Bisht	IIT Hyderabad	Evolution of Orthorhombic Phase in Pure HfO <sub>2</sub> and Gd Doped HfO <sub>2</sub> Thin Films Grown Using PLD
PII - 48	Manan Singhai	IIT Hyderabad	Bacterial Cellulose-Based Flexible Gas Sensors: Advancing Healthcare with Precision Deposition Techniques
PII - 49	Arun Kumar R M	IIT Hyderabad	High-energetic Proton acceleration and Alpha Particle Production Through Proton-Boron Reactions by Intense Laser Plasma Interaction
PII - 50	Amruta Desai	IIT Hyderabad	Nanoscale Engineering of Pt and Si Structures: Understanding Material-Driven Variations in Conductive Filament Formation for Memory Applications
PII - 51	Keerthana P	IIT Hyderabad	Voltage Control of Magnetism in RE-TM/Piezoelectric Heterostructures
PII - 52	Jisna Rahman	Farook College, IIT Hyderabad	Strain Induced Multiferroicity in Co <sub>3-x</sub> Sb <sub>x</sub> O <sub>4</sub> Thin Films
PII - 53	Syed Jalaluddeen A.	IIT Hyderabad	Effect of Different Top Electrodes on the Performance of Solution Processed Indium Oxide-Based RRAM Devices

**Four best posters will be announced and rewarded in the closing ceremony**