SCHEDULE

International Conference on Frontier Research in Materials Science and Technology (FRMST-2025) (March 4-5, 2025)

Organized by

Department of Physics,
Chaudhary Charan Singh University Meerut-250004
Uttar Pradesh (INDIA)

Day 1 (Tuesday, March 4, 2025):

Registration: (8:00-10:00)

Opening Ceremony (9:00-10:00)

Venue: Atal Sabhagar, Chaudhary Charan Singh University Meerut	
Welcome Address (9:00-9:10):	**Prof. Anil Kumar Malik** Convener FRMST-2025 Head, Department of Physics, Chaudhary Charan Singh University Meerut Uttar Pradesh (INDIA)
Inaugural Speech ((9:10-9:20):	**Prof. Sangeeta Shukla** Hon'ble Vice Chancellor, Chaudhary Charan Singh University Meerut, Uttar Pradesh (INDIA)
Chief Guest Speech (9:20-9:40):	**Prof. Ashok Kumar Nagawat** Hon'ble Vice Chancellor, Delhi Skill and Entrepreneurship University Delhi (INDIA)
Vote of Thanks (9:40-9:45):	**Dr. Neeraj Panwar** Organizing Secretary FRMST-2025
High Tea (9:45-10:00)	

Day 1 (Tuesday, March 4, 2025)

Technical Session-1		
Conference Hall 1 (Materials for CO_2 conversion and H_2 production)	**Conference Hall 2 (Photonics and Biomaterials/ Terahertz/Metamaterials)**	**Conference Hall 3 (Sensors and Detectors/Devices)**
Session Chair: Prof. Prashant Kumar Chauhan (JIIT Noida)	**Session Chair Dr. Anuraj Panwar (JIIT Noida)**	**Session Chair: Prof. Vivek Kumar Malik (IIT Roorkee)**
(10:00-10:30) K.T.-01 Keynote Talk **Prof. Tokeer Ahmad** (JMI New Delhi) **Title:** Development of Advanced Materials for Clean and Green Energy	**(10:00-10:30) K.T.-02** Keynote Talk **Prof. Rajan Jha** (IIT Bhubaneswar) **Title:** Nano-rod integrated optical Nanowire for Single Photons waveguidance	**(10:00-10:30) K.T.-03** Keynote Talk **Prof. Satish Kumar Dubey** (IIT Delhi) **Title:** Raman based sensing modalities for analyte detection
(10:30-10:55) I.T.-01 **Dr. Sunil Singh Kushvaha** (CSIR-NPL New Delhi) **Title:** Growth and characterization of 2D materials and their heterostructures for energy applications	**(10:30-10:55) I.T.-04** **Prof. Gagan Kumar** (IIT Guwahati) Quasi-Bound State in Continuum Modes in Terahertz Metamaterials	**(10:30 AM- 10:55) I.T.-07** **Dr. Mohit Tyagi** (BARC Mumbai) **Title:** Single crystal scintillators for nuclear radiation detection; basics to novel devices
(10:55-11:20) I.T.-02 **Dr. Bharti Singh** (DTU Delhi) **Title:** Next-Generation IoT Powered by Polymer-2D Material Based Triboelectric and Hybridized Systems	**(10:55-11:20) I.T.-05** **Dr. Mukesh Jewariya** (CSIR-NPL New Delhi) **Title:** Terahertz frequency comb: A bridging gap for frequency metrology in THz region	**(10:55-11:20) I.T.-08** **Prof. Vinod Singh** (DTU New Delhi) **Title:** Gas Phase Synthesis of Size Selected Pd and Pd-C Nanoparticles for Hydrogen Gas Sensing
Tea break (11:20-11:35)		
(11:35-12:00) I.T.-03 **Prof. Sushil Kumar** (CDLU Haryana) **Title:** rGO supported metal oxide nanocomposites: Increased photocatalytic activity employable in environmental remediation	**(11:35-12:00) I.T.-06** **Prof. Akhilesh Meena** (SSPL New Delhi) **Title:** Terahetrz in Defence Applications	**(11:35-12:00) I.T.-09** **Prof. Lokendra Kumar** (University of Allahabad) **Title:** Photo-physics of emerging hybrid perovskite materials for solar cells
(12:00-12:15) O.P.-01 **Dr. Parmod Kumar** (Gurugram University) **Title:** Engineered α-Fe_2O_3/MgO Nanocomposites for Superior Photocatalytic Efficiency	**(12:00-12:15) O.P.-05** **Dr. Meenakshi Tanwar** (CSIR-NPL Delhi) **Title:** Carboxymethylated Xanthan gum based hydrogels: Standardized through Terahertz Spectroscopy	**(12:00-12:25) I.T.-10** **Prof. Navendu Goswami** (JIIT Noida) **Title:** Novel Electro-explosion of Wire based Synthesis of CuO Nanoparticles: Multifunctional

		Properties for Advanced Device Applications
(12:15-12:30) O.P.-02 **Ms. Shivani Dangwal** (Doon University) **Title:** Exploring the interfacial properties of 2D-based TMDC heterostructure for efficient hydrogen evolution and device fabrication	**(12:15-12:30) O.P.-06** **Mr. Raj Kumar** (CCSU Meerut) **Title:** High-precision three-dimensional subwavelength atom localization via spatially dependent probe absorption spectra in a five-level atomic system	**(12:25- 12:40) O.P.-09** **Dr. Monu Mishra** (Dayal Singh College, DU) **Title:** Surface states induced catalyst-free CO sensing at GaN and AlGaN/GaN
(12:30-12:45) O.P.-03 **Ms. Shilpa Rana** (DTU Delhi) **Title:** PVDF/BN-rGO Electrospun Nanofiber Mat based Flexible Triboelectric Nanogenerator for Waste Water Purification System	**(12:30-12:45) O.P.-07** **Dr. Ruchi Bhati** (CCSU Meerut) **Title:** Spoof Surface Plasmons based Terahertz Meta-Sensor	**(12:40-12:55) O.P.-10** **Dr. Updesh Verma** (Manyavar Kanshiram Govt. Degree College Ghaziabad, U.P.) **Title:** Generation of High power Laser Pulses by Stimulated Brillouin Scattering
(12:45-13:00) O.P.-04 **Km. Sakshi** (Bennett University) **Title:** Spacer Cation Engineering for Enhanced Stability in Mixed-Dimensional Organic- Inorganic Perovskite Solar Cells	**(12:45- 13:00) O.P.-08** **Dr. Manendra** (CCSU Meerut) **Title:** Polarization-Controlled Terahertz Radiation Generation for Communications	**(12:55-13:10) O.P.-11** **Dr. Prashant Yadav** (JV College Baraut) **Title:** Electrical Properties of N+ ion-implanted TiO2 Thin Films
Lunch break (13:00-14:00)		
Technical Session-2		
Conference Hall 1 (Magnetic & Multiferroic Materials)	**Conference Hall 2 (Energy Harvesting and Storage Materials)**	**Conference Hall 3 (Sensors and Detectors/Devices & Others)**
Session Chair: **Dr. Mukesh Jewariya** **(CSIR-NPL Delhi)**	**Session Chair** **Dr. Pradip Kumar** **(CSIR-AMPRI Bhopal)**	**Session Chair:** **Dr. Sunil Singh Kushvaha** **(CSIR-NPL Delhi)**
(14:00-14:30) K.T.-04 Keynote Talk **Dr. Amit Kumar** (BARC Mumbai) **Title:** Neutron diffraction study of emerging magnetic materials for future sustainable technology	**(14:00-14:30) K.T.-06** Keynote Talk **Prof. Akhilesh Kumar Singh** (IIT-BHU Varanasi) **Title:** Structure-Property Correlations in Multifunctional Materials for Sensors and Energy	**(14:00-14:30) K.T.-07** Keynote Talk **Prof. Kedar Singh** (JNU Delhi) Low Dimensional Materials: Synthesis, Characterizations and Applications
(14:30- 15:00) K.T.-05 Keynote Talk **Prof. Rajendra S. Dhaka** (IIT Delhi) **Title:** Magnetic properties of Cobalt based complex oxides	**(14:30-14:55) I.T.-13** **Dr. Rajendra C. Pawar** (CU Rajasthan) **Title:** Development of efficient photoelectrodes for the green energy technology	**(14:30-14:55) I.T.-16** **Dr. Preetam Singh** (CSIR-NPL Delhi) **Title:** Magnetron sputtered metal oxide thin films for high performing CO gas sensors

(15:00-15:25) I.T.-11 **Prof. Vivek Kumar Malik** (IIT Roorkee) **Title:** Magnetism in complex oxide systems	**(14:55-15:20) I.T.-14** **Prof. Varij Panwar** (Graphic Era University Dehradun) **Title:** Ionic polymer sensor for wearable energy harvesting, sensing and water purification applications	**(14:55-15:20) I.T.-17** **Prof. Pawan Kumar Kulriya** (JNU Delhi) **Title:** Investigation of irradiation induced chemical disordering in nuclear ceramics
Tea break (15:25-15:35)		
(15:35-16:00) I.T.-12 **Dr. Yugandhar Bitla** (CU Rajasthan) **Title:** Unveiling the magnetic nature of $La_{0.5}Sr_{0.5}Co_{1-x}V_xO_{3-\delta}$ (x = 0-0.1)	**(15:35-16:00) I.T.-15** **Dr. Anurag Gaur** (NSUT Delhi) **Title:** Fundamentals and Fabrication of Energy Conversion and Storage Devices	**(15:35-16:00) I.T.-18** **Prof. Sandeep Chhoker** (JIIT Noida) **Title:** Next Generation 2D materials for optical, catalysis and energy applications
(16:00-16:15) O.P.-12 **Mr. Rajeev Dwivedi** (Bennett University) **Title:** A comprehensive investigation of sintering temperature effects on the structural, electrical, magnetic, and magneto- electric properties of 70_BaTiO3 - 30_Co1.2Ti0.2Fe1.6O4 multiferroic composites	**(16:00-16:15) O.P.-14** **Dr. Y. Premkumar Singh** (Motilal Nehru College) **Title:** Plasmonic light trapping in ultrathin film silicon solar cells using copper nanostructures	**(16:00-16:15) O.P.-16** **Mr. Neeraj Dhariwal** (NSUT Delhi) **Title:** Ultra-Flexible Thermoelectric Devices: Ti-Layer Encapsulation for Enhanced Interface Engineering in Layer-by-Layer and Composite Structures
(16:15-16:30) O.P.-13 **Mr. Mukesh Verma** (CU Rajasthan) **Title:** Magnetic and Transport Properties of a Quasi Two Dimensional La1.4Sr1.6Mn2O7 Manganite	**(16:15-16:30) O.P.-15** **Dr. Gagan Dixit** (G.B.P.U.A.&T. Pantnagar) Achieving Optimal Electromagnetic Shielding Performance in Composites by tuning Carbon Black and Nickel Ferrite Ratio	**(16:15-16:30) O.P.-17** **Dr. Sanjay Kumar** (CSSS PG College Machhra) **Title:** Surface Morphological Properties of MoS2 doped poly(3-hexyle-thiophene) Semiconducting Thin Films for Optoelectronics
(16:30-17:00) K.T.O.-01 Keynote Talk **Prof. Yogendra K. Mishra** (University of Southern Denmark) **Title:** Tetrapods based Smart Materials for Advanced Technologies	**(16:30-17:00) K.T.O.-02** Keynote Talk **Dr. Ajeet Kaushik** (Florida Polytechnic Uni., USA) **Title:** Sustainable sensing for health and environmental management	**(16:30-17:00) K.T.O.-03** Keynote Talk **Dr. Anton Gradišek** (JSI, Ljubljana, Slovenia) **Title:** Detection of small concentrations of molecules in the air with an artificial nose
Panel Discussion (Venue: Atal Sabhagar, Chaudhary Charan Singh University Meerut)		
(17:00-17:30): Materials for Sustainable Eenergy Production		
(17:30-18:00): Photonics and Quantum Technology		
Culture Program (18:00-20:00)		
Dinner (20:00 onwards)		

Day 2 (Wednesday, March 5, 2025)

Technical Session-1

Conference Hall 1 (Computational Materials/ 2D Materials)	Conference Hall 2 (Topological Materials/Energy Materials)	Conference Hall 3 (Optoelectronic Materials/ Optical/UV detection/ Conducting oxides)
Session Chair: Prof. R. K. Soni (CCSU Meerut)	**Session Chair: Dr. Yugandhar Bitla (CU Rajasthan)**	**Session Chair: Dr. Rajendra C. Pawar (CU Rajasthan)**
(10:00-10:30) K.T.-08 Keynote Talk **Prof. Abir De Sarkar** (INST Mohali) **Title:** DFT perspectives on piezoelectricity and spin-orbitronics in selected functional 2D materials	**(10:00-10:30) I.T.-22** **Dr. Pradip Das** (GGV Bilaspur) **Title:** Topological Nodal Line Features in NiSe Semimetal	**(10:00-10:30) K.T.-09** Keynote Talk **Prof. Sai Santosh Kumar Raavi** (IIT Hyderabad) **Title:** Engineered Halide Perovskites nanocrystals for optoelectronic applications
(10:30- 10:55) I.T.-19 **Prof. Abhishek Kumar Mishra** (UUPES, Dehradun) **Title:** Transition Metal Oxides and 2D Materials for Integrated Carbon Capture and Conversion: Computational Insights	**(10:30-10:55) I.T.-23** **Dr. Braj Bhusan Singh** (HBTU Kanpur) **Title:** Inverse Hall Effect in Polycrystalline Topological Insulator	**(10:30-10:55) I.T.-26** **Prof. Mukesh Kumar** (IIT Ropar) **Title:** Gallium Oxide Thin Film based Solar-Blind Photodetectors: Heterojunctions and interface engineering
(10:55-11:20) I.T.-20 **Dr. Pradip Kumar** (CSIR-AMPRI Bhopal) **Title:** 2D Graphene and MXenes: Emerging Applications	**(10:55-11:20) I.T.-24** **Dr. Rajesh Kumar** (PU Chandigarh) **Title:** Synthesis of metal oxide nanostructures for dye Removal from contaminated water	**(10:55-11:20) I.T.-27** **Prof. Rajesh Punia** (MDU Rohtak) **Title:** Electronic and ionic transport in ion conducting oxide glasses
(11:20-11:45) I.T.-21 **Dr. Rajagopala Reddy Seelam** (CU Rajasthan) **Title:** Triplet state generation in BODIPY dimers: An application to solar energy	**(11:20-11:45) I.T.-25** **Prof. Satish Khasa** (DCRUST Haryana) **Title:** Study of NBT-MFO Nanocomposites: A Self-Reliant Hydroelectric Cell	**(11:20-11:45) I.T.-28** **Dr. Sajjan Dahiya** (MDU Rohtak) **Title:** Metal oxide thin films for UV sensing applications
Tea break (11:45-12:00)		
(12:00- 12:15) O.P.-18 **Mr. Kamal Kumar** (ENERGY ACRES, UPES) **Title:** DFT study of CO2 activation and conversion at TiVC MXene	**(12:00- 12:15) O.P.-23** **Dr. Sudhanshu Gautam** (CSIR-NPL Delhi) **Title:** Magnetotransport properties of pristine and Chromium-doped Bi2Se3 thin films	**(12:00- 12:15) O.P.-28** **Ms. Pooja** (CCSHAU Hisar) **Title:** Investigation of structural, optical and electrical properties of ZnO thin film deposited using DC Sputtering
(12:15-12:30) O.P.-19 **Ms. Anjali Kumari** (UPES Dehradun)	**(12:15-12:30) O.P.-24** **Mr. Shubham Mural** (NSUT Delhi)	**(12:15-12:30) O.P.-29** **Mr. Vivek Gupta**

Title: Precise prediction of stability and bandgap for 2d materials using machine learning	**Title:** Study of Cobalt Nickel Telluride as Electrode for Supercapacitor Applications	(Dronacharya Group of Institutions, Greater Noida) **Title:** Structural study of magnesium phosphate glasses for optical and biomedical fields
(12:30-12:45) O.P.-20 **Mr. Praveen Kumar** (SSV College Hapur) **Title:** First principle study of ternary rare earth selenides for opto-electronic applications	**(12:30-12:45) O.P.-25** **Ms. Sarita Sindhu** (CCSHAU Hisar) **Title:** Fabrication of MOF derived α-Fe2O3 Electrode for Supercapacitor Application	**(12:30-12:45) O.P.-30** **Mr. Kuldeep Kumar** (CSIR-NPL Delhi) **Title:** Cross-Correlation Technique for Refractive Index Measurement in Transparent Liquids
(12:45-13:00) O.P.-21 **Ms. Sukhmani Rastogi** (CCSU Meerut) Computational studies on structural, electronic, and Nonlinear optical properties of 3-methoxy-N, N-diphenylbenzamide (3MNNDPB)	**(12:45-13:00) O.P.-26** **Ms. Neetu Yadav** (University of Lucknow) **Title:** Ag Doping-Induced Structural and Optical Modifications in V2O5 Nanoparticles	**(12:45-13:00) O.P.-31** **Dr. Nikhil Kumar** (CCSU Meerut) **Title:** In globalization: -a comparative analysis of renewable solar energy (photovoltaic cell) and other resources of energy
(13:00-13:15) O. P.-22 **Ms. Vartika Khandelwal** (CU Haryana) **Title:** Exploring the correlation between Photoluminescence and Ferroelectric Properties in Barium Titanate-Based Ceramics	**(13:00-13:15) O.P.-27** **Dr. Ajay Kumar** (Mewar University, Rajasthan) **Title:** Advanced Nanocomposites for cooperative remediation of toxic dyes	**(13:00-13:15) O.P.-32** **Km. Preeti** (CCSU Meerut) **Title:** Influence of Urbach energy in enhanced Photocatalytic activity of Nanostructured ZnO:Au
Lunch break (13:15 -14:00)		
Technical Session-2		
Poster Session (14:00-16:00), **Venue: Atal Sabhagar, Chaudhary Charan Singh University Meerut**		
Valedictory (16:00-17:00) **Venue: Atal Sabhagar, Chaudhary Charan Singh University Meerut**		
High Tea (17:00-17:30)		

i. **K.T.: Keynote Talk**
ii. **K.T.O.: Keynote Talk Online**
iii. **I.T.: Invited Talk**
iv. **O.P.: Oral Presentation**
v. **Conference Hall 1: Atal Sabhagar**
vi. **Conference Hall 2: Sir C. V. Raman Seminar Hall, Department of Physics**
vii. **Conference Hall 3: Seminar Hall 2, First Floor, Department of Physics**