

List of Contributory Talks

All Contributory Speakers will get 15 Minutes for their Presentation

..... – Online
 – Registered
 – Poster
 – Metallograph

1. Processing and Characterization of Materials

Sl. No.	Title of the Paper (ICPCM-2025-PCM-SINo)	Presenting Author
1.	Synergistic Effect of MoS ₂ /MWCNTs Reinforcements on the Tribo-mechanical properties of Aluminum-based Nanocomposites Developed by Powder Metallurgy Route (ICPCM-2025-PCM-1)	Nityananda Sahoo, NIT Rourkela
2.	MWCNT-GnP-hBN Reinforced Aluminium-based Composites with Improved Tribological Behaviour (ICPCM-2025-PCM-2)	Manas Ranjan Behera, C.V.Raman Global University
3.	Effect of chemical treatment on the thermo-mechanical properties of the natural fiber-reinforced composites (ICPCM-2025-PCM-3)	Alok Patel, NIT Warangal Registered
4.	Investigation of the Microstructure and Mechanical Properties of Cold Metal Transfer Welded SS304L (ICPCM-2025-PCM-4)	Patel Parth Prakashbhai, NIT Rourkela
5.	Strain Rate Dependent Analytical Model for Shot Peening Process to Predict Almen Intensity and Residual Stresses in Copper Strip (ICPCM-2025-PCM-5)	Aditya Bharambe, NIT Rourkela
6.	Development of corrosion resistive electrodeposited graphene coatings enhanced through heat treatment and surfactant incorporation (ICPCM-2025-PCM-7)	Amlan Das, G. H. Patel College of Engineering and Technology Registered
7.	Strain Induced Electronic and Magnetic Properties of V ₂ O ₅ Thin Films (ICPCM-2025-PCM-8)	R. S. Gupta United Institute of Technology, Nani Prayagraj

2. Physical Metallurgy and Crystal Structure of Materials

Sl. No.	Title of the Paper (ICPCM-2025-PM-SINo)	Presenting Author
1.	Understanding the Structural Phase transition in Mn ₂ Sn _{1-x} Si _x S ₄ : From Defect Rock Salt to Olivine Structure (ICPCM-2025-PM-1)	Prasanjit Agasti, NIT Rourkela
2.	Point defect-engineered Bismuth MOF-derived photocatalyst for the reduction of atmospheric molecules and bacterial disinfection (ICPCM-2025-PM-2)	Swagat Kumar Nayak, NIT Rourkela
4.	Heterogeneous development of twinning characteristics in titanium subjected to directional bending (ICPCM-2025-PM-4)	Sujit Kumar Nayak, IIT Kharagpur Registered

5.	Microstructural Control and Cation Redistribution Mediated Magnetic Anisotropy in NiFe ₂ O ₄ Thin Films (ICPCM-2025-PM-5)	Jayashree Patra, VIT-AP University, Registered
6.	Oxidation Resistance of Nano-Y ₂ O ₃ Dispersed Mo-Ni-Si-Co Alloys at 800-1000 °C: Phase Stability and Protective Scale Formation (ICPCM-2025-PM-6)	Sambit Swain, NIT Rourkela
7.	Reduction Behaviour Study of Mill Scale Waste Using Low-Grade Thermal Coal (ICPCM-2025-PM-7)	Jayram Barik. NIT Rourkela

3. Mechanical Metallurgy

Sl. No.	Title of the Paper (ICPCM-2025-MEMT-SINo)	Presenting Author
1.	Tuning the Mechanical properties of Composite material (ICPCM-2025-MEMT-1)	Sudipta Kishore Pradhan, BIT Mesra
2.	A Comprehensive Study on the Influence of Severe Plastic Deformation and Heat Treatment on the Microstructural Evolution and Hardness Characteristics of Cold-Rolled and Annealed Squeeze-Cast Al-Cu-Li Alloys (ICPCM-2025-MEMT-2)	Manojkumar S, NIT Rourkela
3.	Mechanical Performance and Wear Behaviour of WAAM-Deposited Nickel–Aluminium Bronze (ICPCM-2025-MEMT-3)	Bappa Acherjee, Birla Institute of Technology, Mesra
4.	Development of Manganese Boron Hot Rolled Steel Coils/Sheets for Agricultural Components (ICPCM-2025-MEMT-4)	Smeeta Kujur, Research & Development Centre for Iron & Steel, Ranchi
5.	Development of high strength structural with excellent low temperature toughness properties (ICPCM-2025-MEMT-5)	Bhawna Khalkho, SAIL-RDCIS (Ranchi)
6.	On the high cycle fatigue behavior of a deep drawable dual phase steel for car body (ICPCM-2025-MEMT-6)	Gaurav Pandey IIT Kharagpur

4. Advanced Materials and Advanced Metallurgical Processes

Sl. No.	Title of the Paper (ICPCM-2025-AM-SINo)	Presenting Author
1.	Enhancement of ferromagnetic properties by double doping of transition metals in CdTe by using an element-specific method for spintronics applications (ICPCM-2025-AM-1)	Pujarani Parida, VIT-AP University, Registered
2.	Advances in Mechanical Alloying of Hypereutectic Al–Si Alloys for Electronic Packaging Applications: A Review (ICPCM-2025-AM-2)	Ankita Mohanty, VSSUT Burla
3.	Exploration of the Brochosome-mediated self-cleaning and bactericidal properties of the Rice Green Leafhopper (<i>Nephotettix nigropictus</i> , Stall, 1870, Insecta, Hemiptera, Cicadellidae) wing (ICPCM-2025-AM-3)	Deepak Kumar Panda, NIT Rourkela
4.	From Forest waste to Functional Adsorbent: NaOH-Activated Pine needle Biochar for Rhodamine B Remediation (ICPCM-2025-AM-4)	Bhavana V P Defence Institute of Advanced Technology, Maharashtra, Pune

		(Online)
5.	Structural, morphological and energy storage Effect of Strontium in Barium Strontium Titanate for Energy Applications (ICPCM-2025-AM-5)	Nibedan Nanda, NIT Rourkela
6.	Comparative Analysis of High Energy Ball Milling and Normal Ball Milling of Calcium Doped Barium Titanate Ceramics (ICPCM-2025-AM-6)	Susmita Garnayak, NIT Rourkela
7.	Unveiling Room Temperature Magnetoelectricity in LiFe ₅ O ₈ (ICPCM-2025-AM-7)	Subhankar Mishra, NIT Rourkela
8.	Signature of Spin-Driven Magnetodielectric Coupling Y- type Hexaferrite Ba ₂ Mg ₂ Fe ₁₂ O ₂₂ (ICPCM-2025-AM-8)	Gitanjali Palai NIT Rourkela

5. Mathematical Modelling

Sl. No.	Title of the Paper (ICPCM-2025-MM-SINo)	Presenting Author
1.	Bending Creep Characteristics of BaPd ₂ Crystal Using Parameterized Embedded-Atom Method (EAM) Potential: A Molecular Dynamics Study (ICPCM-2025-MM-1)	Sankhasubhra Mukhopadhyay, NITRourkela
2.	Influence of volume and surface defects on the cyclic deformation behavior of nickel nanowires (ICPCM-2025-MM-2)	Natraj Yedla, NIT Rourkela
3.	Application of Artificial Neural Network to Predict the Crystallite Size and Lattice Strain of NiMnCrMoW _x High Entropy Alloys Prepared by Powder Metallurgy (ICPCM-2025-MM-3)	Bibhuti Jaipuria, NIT Rourkela (Online)
4.	Application of Agent AI in composition-property-performance triad for refractories (ICPCM-2025-MM-4)	B Sai Prakash, Tata Steel Registered
5.	Enhanced flushing intimation at caster to prevent nozzle clogging using anomaly detection through two algorithms coupled together causing composite signal processing (ICPCM-2025-MM-5)	B Sai Prakash, Tata Steel Registered
6.	EffiSVM: Synergy Network for Advanced Vehicle Classification via Transfer Learning (ICPCM-2025-MM-6)	T. Selvamuthukumar, Annamalai University
7.	Grain-Scale Physics to Array Performance: HZO-Driven FeFET Modelling for Neuromorphic Computing (ICPCM-2025-MM-7)	Aditya Ram Abbaraju, NIT Karnataka Registered
8.	Study of self-assembling properties of graphene-polymer nanocomposites using molecular dynamics simulations (ICPCM-2025-MM-8)	Roopkatha Dey, NIT Rourkela

6. Composites

Sl. No.	Title of the Paper (ICPCM-2025-CP-SINo)	Presenting Author
1.	Assessing the Hydrothermal Stability of Laser-Fusion Bonded Steel-Polymer-Steel Sandwich Composites (ICPCM-2025-CP-1)	Purushottam Kumar, Birla Institute of Engineering, Mesra
2.	Surface Modification of Hemp for Thermo-Mechanical Improvement in Sustainable Bio-Material Composites (ICPCM-2025-CP-2)	Devalingam Santhoshkumar, NIT Rourkela
3.	Investigation of the Structural, Magnetic, and Dielectric Behaviour of Bi ₂ Fe ₄ O ₉ /CoFe ₂ O ₄ Composite (ICPCM-2025-CP-3)	Ankita Mohanty, NIT Rourkela

7. Nanostructured Materials and Additive Manufacturing

Sl. No.	Title of the Paper (ICPCM-2025-NMAM-SINo)	Presenting Author
1.	Fe-Mof Based Binary Nanohybrids for Synergistic Photocatalytic Oxidation of Toluene to Value Added Benzaldehyde (ICPCM-2025-NMAM-1)	Saumyaranjan Panda, NIT Rourkela
2.	Single source organometallic precursor-based synthesis of Iron chalcogenide nanoparticles for water splitting reaction (ICPCM-2025-NMAM-2)	Baishakhi Dasgupta, NIT Rourkela
3.	Bone Mimicking Functional Properties of Pressureless Sintered alumina-CaTiO ₃ Nanocomposites (ICPCM-2025-NMAM-3)	Prafulla Kumar Mallik, IGIT, Sarang
4.	Response Surface Methodology For Optimising Heat Transfer Rate In Nanofluid (ICPCM-2025-NMAM-4)	Subham Mohanty NIT Rourkela

8. Steel Technology

Sl. No.	Title of the Paper (ICPCM-2025-ST-SINo)	Presenting Author
2.	Waste gas utilization from sinter cooler for enhancing energy efficiency and reduction in carbon emissions (ICPCM-2025-ST-2)	Kevin Karren Bhengra, SAIL, Jharkhand, India
3.	Review on The Study of Assimilation of Ore particles During Iron Ore Sintering Process (ICPCM-2025-ST-3)	B Sai Prakash, TATA Steel Registered
4.	Improving Roll Life and product quality through Superior Cooling System in a Structural Mill (ICPCM-2025-ST-4)	Praveen Kumar, SAIL, Ranchi, Jharkhand,
5.	Fickian Diffusion and Flory-Rehner Analysis of Hydrocarbon Swelling in Stainless Steel-Integrated EPDM-UHMWPE Hoses for AAR Operations (ICPCM-2025-ST-5)	Anjitha P S Defense Institute of Advanced Technology (DU), Pune MIT-World Peace University, Pune Online Registered
6.	Development and Corrosion Performance Assessment of ASTM A588 Grade A Weather Resistant Steel Plates (ICPCM-2025-ST-6)	Kartik Nageswaran, RDCIS, SAIL, Ranchi, Jharkhand
7.	Austenite Grain Structure Evolution During Reheating of As-Cast Microalloyed Steels (ICPCM-2025-ST-7)	Kumar Aniket Anand, RDCIS, SAIL, Ranchi, Jharkhand,

Poster and Metallography Sessions

13th December 2025, Time – 2:45 pm -3:45 pm

Venue- TIIR Corridor near auditorium

Judges: Dr.Lailesh Kumar and Dr.Arnab Sarkar

Sl. No.	Title of the Paper	Presenting Author
1.	Effect of cooling rate on microstructure evolution of aluminium alloys during solidification: A phase field modelling using Microsim (ICPCM-2025-NFM-P1) Non-Ferrous Metallurgy	Arpita Priyadarshani Samal, IIT Madras (Poster) Registered
2.	Synergistic Effect of Composition Refinement and TMCP on Mechanical Properties of low-carbon Nb–Ti–V Microalloyed Steels (ICPCM-2025-ST-P2) Steel Technology	Manish Kumar Singh, RDCIS (SAIL) (Poster) Registered
3.	Metallurgical Optimization of structural grade HR coils through Leaner Chemistry for Improved Process Efficiency (ICPCM-2025-PM-P3) Physical Metallurgy	Arhita Bhattacharyya, RDCIS(SAIL) (Poster) Registered
4.	Morphologically modified Cu-BDC-NH ₂ /Cu ₅₈ S ₃₂ Heterostructure for Photocatalytic H ₂ Evolution (ICPCM-2025-AM-P4) Advanced Materials and Advanced Metallurgical Processes	Bidyutprava Nayak, NIT Rourkela (Poster)
5.	Morphology-enhanced metal oxide based binary semiconductor for enhanced photocatalytic application. (ICPCM-2025-AM-P5) Advanced Materials and Advanced Metallurgical Processes	Nutan Prabharani Gouda, NIT Rourkela (Poster)
6.	Understanding the Relationship Among the Structure and Luminescence Properties in Sb/Bi-based 0D Hybrid Metal Halides Containing S-Based Organic Cation (ICPCM-2025-PCM-P6) Processing and Characterization of Materials	Suman Saptaparna Das, NIT Rourkela (Poster)
7.	Understanding the Effect of Sb Substitution on the Structural Distortion and Luminescence Properties in a Series of 0D Hybrid Metal Halides: (2-ABI) ₃ Bi _{1-x} Sb _x Cl ₆ .H ₂ O Processing and Characterization of Materials (ICPCM-2025-PCM-P7)	Subhasish Sahoo, NIT Rourkela (Poster)
8.	Harnessing room temperature magnetocaloric effect in La _{0.75} Sr _{0.25} Mn _{0.9} Cu _{0.1} O ₃ : Paving the way for next generation applications (ICPCM-2025-AM-9)	Pujarani Dehuri, NIT Rourkela (Poster)
9.	Metallograph (ICPCM-2025-MG-1)	Arpita Priyadarshani Samal, IIT Madras (Metallograph) Registered