

INVITED SPEAKERS

Theme: Speciality Steels	
1	R Balamuralikrishnan, DMRL-DRDO, India High Performance Steel: Lab R & D in Support of Industrial Production and Product Reliability
2	Debalay Chakrabarti, IIT Kharagpur, India Improving the Impact Toughness of High Strength Steels by Refining the Effective Grain Size
3	S Sankaran, IIT Madras, India Influence of Partitioning Temperature on the Crystallographic Orientation and Tensile Behaviour in Quench and Partitioned (Q & P) Steel
4	Rampada Manna, IIT BHU, India Bulk Nanocrystalline Steel for Defence Application
5	Ankur Shah, Krishna Allied, India Steel Bulb Bars

Theme: Ultra High Temperature Ceramics	
1	V V Bhanu Prasad, DMRL-DRDO, India Ultra High Temperature Ceramics and Composite Research at DMRL
2	Srinivasa Rao Bakshi, IIT Madras, India Reactive Spark Plasma Sintering of Ultra High Temperature Borides
3	L Rangaraj, NAL, Bangalore, India Reactive Processing of Zr-based Ultra High Temperature Ceramic Composites at Moderate Pressure and Temperature
4	S K Mishra, NML, Jamshedpur, India Innovative Processing and Sintering of High Temperature Borides and their Composite for Aerospace & Defense Applications
5	M R Ajith, VSSC, Trivandrum, India Silica Tiles as a Thermal Protection System for Re-entry Vehicles
6	B V Manoj Kumar, IIT Roorkee, India Solid Particle Erosive Wear Characteristics of ZrB ₂ -SiC Composites

Theme: NDT and Failure Analysis	
1	Jaiteerth R Joshi, DRDL-DRDO, India TBD
2	Samaresh Changdar, GE Bangalore, India Advance Digital NDT Technology for Defence Applications

Theme: Composite Materials	
1	Prakash Srirangam, University of Warwick, UK 3D X-ray Tomography Studies on in-situ Al-Cu-TiB ₂ Composites
2	Samudra Dasgupta, ADE-DRDO, Bangalore, India Composites for Military UAV Airframe: Past, Present and Future
3	Chandra Sekhar Tiwary, IIT Kharagpur, India Engineering at Atomic Scale to Build Ultra-low Density 3D Architectures for Impact Resistance Applications
4	T Mukundan, NPOL-DRDO, Kochi, India Patternable Conducting Polymers for Application in Sensing of Acoustic Signal
5	N Raghu, C-MET Thrissur, India Indigenous Piezo Actuators for Defence Applications

Theme: Armour Materials	
1	V Madhu, DMRL-DRDO, India Protection Technologies for Combat Platforms
2	Puneet Mahajan, IIT Delhi, India Analysis of Ceramic/ Composite Armor Under Ballistic Impact
3	Krishna Jonnalagadda, IIT Bombay, India On the Strain Rate Transition in Al Alloys
4	J Rajesh Kumar, VRDE-DRDO, India TBD
5	P C Rao, HEMRL, Pune, India Explosive Reactive Armour for Main Battle Tank
6	Sudipto Mukherjee, IIT Delhi, India TBD
7	Mohd Asraf Iqbal, IIT Roorkee, India Material and Structural Behaviour under High Rate of Loading
8	B Ramakrishna, DMRL-DRDO, India Mechanisms to Defeat Kinetic Energy Projectiles

Theme: Corrosion and Protection	
1	Sumantra Mandal, IIT Kharagpur, India Implication of Various Microstructural Features on High Temperature Hot Corrosion in Alloy 617
2	Srikanth Golapudi, IIT Bhubaneswar, India Effect of Grain Boundary Relaxation on Corrosion Behaviour of Nanocrystalline Ni-P Alloy

Theme: Coatings

1	Dipak Kumar Das, DMRL-DRDO, India Investment Cast Superalloy Component for Gas Turbine Engine and Their Protection by Thermal Barrier Coatings
2	Ashutosh Gandhi, IIT Bombay, India Rare Earth Silicates as Environmental Barrier Coatings for SiC Ceramics and Composites
3	Anil Kumar, ASL-DRDO, India Materials for Missile Propulsion & TPS Systems
4	K Uday Bhat, NIT Surathkal, India Effect of Composite $Al_2O_3+CoCrAlTaY$ Coating on MDN 121 Deposited by Using HVOF Process

Theme: Mechanical Behaviour of Materials and Fatigue Behaviour of Materials

1	Satyam Suwas, IISc Bangalore, India Deformation Micro-mechanisms and Texture Evolution in Microcrystalline and Nanocrystalline FCC Materials: The Role of Stacking Fault Energy
2	Markus Berchtold, RUMUL, Switzerland Fatigue Testing at 1000 Hz Testing Frequency
3	Kaushik Chattopadhyay, IIT BHU, India Enhancement of Low Cycle Fatigue Life of the Superalloy IN718 through Surface Mechanical Attrition Treatment

Theme: Materials and Microstructural Engineering, Texture of Materials

1	Supryo Bera, NIT Durgapur, India Evolution of Novel Bimodal Microstructure Consisting Vacancy Ordered and Eutectic Phases in Al-Cu-Ni Alloys
2	S Roy, IIT Kharagpur, India Processing-Microstructure-Property Relationship in Additive Manufactured (Laser Engineered Net Shaping, LENS) Ti-6Al-4V Alloy
3	Nilesh P Gurao, IIT Kanpur, India Effect of Stress Triaxiality on micro-mechanisms of Deformation: The Role of Crystallographic Texture in Titanium and Phase Morphology in Ti_6Al_4V
4	Somjeet Biswas, IIT Kharagpur, India Modeling of Deformation Twinning in Mg-Alloys using Polycrystal Plasticity

Theme: Materials for Aero Engine	
1	Gopal Babu Vishwanathan, The Ohio State University, USA On the Role of Compositional and Subsequently Structural Instabilities on Microstructural Evolution in Ni Base Superalloys: An Alloy Design Perspective
2	Benudhar Sahoo, RCMA Koraput, India Challenges during Manufacturing and Processing of Nickel Base Alloys for Aero-Engine Components
3	Swati Biswas, GTRE-DRDO, India Low Cycle Fatigue Behaviour of Su 247LC DS at 700°C: Effect of Strain Amplitude on Surface Slip Characteristics

Theme: High Entropy Alloys	
1	Krishanu Biswas, IIT Kanpur, India Microstructural Stability of High Entropy Alloys
2	Pinaki Prasad Bhattacharjee, IIT Hyderabad, India Microstructural Engineering for Tailoring Mechanical Properties of High Entropy Alloys
3	Koteswararao V Rajulapati, Univ. of Hyderabad, India Development and Mechanical Properties of Two Different High-Entropy Alloys Aimed for Structural Applications
4	Bharat Panigrahi, IIT Hyderabad, India PM Processing of High Entropy Alloys

Theme: Special Materials	
1	Ujjwal Prakash, IIT Roorkee, India Low Density Steels for Naval Applications
2	Indrani Sen, IIT Kharagpur, India Mechanical Properties of NiTi Based Shape Memory Alloys: Micro and Macro-Scale Characterizations

Theme: Powder Metallurgical Processing	
1	T K Nandy, DMRL-DRDO, India Development of W-Ni-Co Alloy at DMRL
2	Anish Upadhyay, IIT Kanpur, India New Paradigms in the Sintering of Tungsten Heavy Alloys
3	Bhaskar Majumdar, DIAT, Pune, India Futuristic W based Composites for Kinetic Energy Penetrator Applications

Theme: Functional Materials

1	R P Mathur, DMRL-DRDO, India Smart Materials Based on Magnetics
2	Rajeev Ranjan, IISc Bangalore, India Large Electromechanical Response in Ferroelectrics: Beyond the MPB Paradigm
3	Jyoti Ranjan Mohanty, IIT Hyderabad, India Anisotropy Engineering in Magnetic Thin Film for Sensing Application
4	Rajan Jha, IITB-BSR, India TBD
5	Renu Tyagi, SSPL-DRDO, India TBD
6	K Mahadeva Bhat, SSPL Delhi, India InGaAs/AlGaAs Heterostructure Design for Engineering the pHEMT Performance for Core Chip Applications
7	Chintalapalle V Ramana, The Univ. of Texas at El Paso Nanostructured Ga ₂ O ₃ Films and Thermal Contacts for Advanced Power Electronic Devices for Utilization in Defense Related Applications

Theme: Energy Storage Materials

1	Amartya Mukhopadhyay, IIT Bombay, India Understanding the Composition-Phase-Mechanical (in)stability of Li-La-Zirconate based Solid Electrolyte upon Exposure to Air and Addressing the Same via Mg-Doping
2	V V S Srikanth, Univ. of Hyderabad, India Novel Graphenaceous Materials for Energy Storage Applications

Theme: Additive Manufacturing

1	Dheepa Srinivasan, Pratt & Whitney United Techn. Corp., Bangalore, India Mechanical Properties of Additively Manufactured Materials in Gas Turbine Components
2	G D Janaki Ram, IIT Madras, India Prospects of Nickel Aluminium Bronze for Additive Manufacturing
3	Abhilash Kiran, COMTES FHT, Czech Republic Numerical Simulation of Direct Energy Deposition AM Process based on Experimental Study

Theme: Metal Joining	
1	B Basu, NMRL-DRDO, India Comparative Property Evaluation Spin Arc GMAW over Conventional GMAW based on Mechanical and Metallurgical Properties along with Productivity
2	Venkata Ramana P, MGIT Hyderabad, India Welding Aspects of Ultrahigh Strength Steel
3	K Srinivas Vadayar, JNTU Hyderabad, India TBD

Theme: Industrial Perspective on Strategic Materials	
1	Krishna Mirji, NFC Hyderabad, India Indigenisation and Technology Transfer for Strategic & Critical Materials Essential in Defence Applications

Theme: Special Processing of Materials	
1	T Raghu, DMRL-DRDO, India Deformation Processing of Advanced Materials
2	Sundar Marimuthu, MTC, UK Recent Advances in Laser Drilling of Aero-Engine Components
3	R Jagdheesh, Hilase Center, Czech Republic Lotus and Rose Petal Effect on Metals by Ultrafast Laser Processing
4	V Balasubramanian, Anna University, India High Velocity Welding Techniques for Joining Dissimilar Materials Used in Defence Applications

Theme: Structural Materials	
1	V V Satya Prasad, DMRL-DRDO, India Materials for Long Duration Hypersonic Vehicle
2	B Saha, RCMA-Materials, DRDO, India Certification Aspects of Aerospace Materials

Theme: Light Alloys

1	Amit Bhattacharjee, DMRL-DRDO, India Phase transformation of γ -Ti46.5Al _z Ni _x Cr _y Mo0.3B (z = 3.5, 5) and (x = y)
2	Pritam Chakraborty, IIT Kanpur, India Modeling Thermo-Mechanical Fatigue in Titanium Alloys using Crystal Plasticity Finite Element Method
3	Sujay Kar, IIT Kharagpur, India Deformation Mechanism and Failure Mode of Different Microstructures in Ti5Al5Mo5V3Cr alloy

Theme: Integrated Computational Materials Engineering (ICME)

1	G Phani Kumar, IIT Madras, India Vertical Integration in ICME: Role of Microstructure Evolution
2	Kishalay Mitra, IIT Hyderabad, India Transforming Surrogate Building for Computationally Expensive Models
3	Alankar Alankar, IIT Bombay, India Machine Learning for Multiscale Structure-Property Linkages
4	Abhik Chowdhury, IISc Bangalore, India Identifying Process—Structure and Structure—Property Correlations in Materials Processes
5	B P Gautham, TCS Pune, India Addressing Challenges of Integration and Engineering in Realization of ICME
6	Anirban Patra, IIT Bombay, India Crystal Plasticity Modelling of the Yield Anomalies of Ni ₃ Al Single Crystals
7	M P Gururajan, IIT Bombay, India Deformation Induced Microstructural Evolution: Coupling Atomistic and Continuum Models and Making Contact with Experiments
8	Saswata Bhattacharya, IIT Hyderabad, India Computational Studies of Microstructural Evolution and Microstructure-Property Relations of Nickel base Superalloys
9	R Sankarasubramanian, DMRL-DRDO, India Rational Design of Nickel based Superalloys using Multiphysics Modeling Tools
10	D L V K Prasad, IIT Kanpur, India First Principles MGI-ICME Approaches to Materials Discovery