MET & HTS 2026 · Tentative Technical Programme · Day 1: Wednesday, 16 December 2026

CIDCO Exhibition & Convention Centre, Navi Mumbai · Auditorium

Time	Topic	Speaker
09:30 – 11:00	**Inauguration**	
11:00 – 12:15	**Exhibition Inauguration / Tea & Coffee**	
12:15 – 13:15	**CEOs / MDs Interaction Session**	
13:15 – 13:45	**The Future of Materials: Technology Leadership and Global Opportunities (Keynote)**	**Dr. Navin J. Manjooran** Chairman, Solve Group, USA & Former President, ASM International
13:45 – 14:15	**From Resources to Resilience: Critical Minerals and Sustainable Supply Chains for the Energy Transition (Keynote)**	**Prof. Mohan Yellishetty** Professor in Resources Engineering, Monash University, Melbourne, Australia
14:15 – 15:00	**Lunch & Networking**	
15:00 – 15:30	**AI in Heat Treatment: What Is Real Today and What to Expect in 2027 (Keynote)**	**Mr. Peter Sherwin** Director, Strategic Marketing, WATLOW, Virginia, USA
15:30 – 16:00	**Economic & Ecological Impact and Advantages of Plasma-based Surface Treatments (Keynote)**	**Mr. Thomas Muller** Managing Director, Xitiz / Rübig, Austria
16:00 – 16:30	**Critical Materials and Circularity Considerations for Electric Mobility (Keynote)**	**Dr. Venugopal Shankar** Vice President, Mahindra & Mahindra, Chennai, India
16:30 – 16:45	**Tea / Coffee Break**	
16:45 – 17:15	***Title: TBD* (Keynote)**	**Mr. Arun Mishra** CEO, Vedanta Group
17:15 – 17:45	**From Materials to Medical Devices: Building a Self-Reliant Healthcare Technology Ecosystem (Keynote)**	**Mr. Santhosh Kumar B.** CEO, AMTZ
17:45 – 18:30	**Panel Discussion on "Research-Academia-Industry Collaboration for Translation of Innovations to Products towards *Atmanirbhar Bharat*"**	Moderator: TBD
18:30 – 19:30	**Networking at the Exhibition Area**	
19:30 – 21:00	**Cultural Programme**	
21:00 – 22:00	**Conference Dinner**	

MET & HTS 2026 · Tentative Technical Programme · Day 2: Thursday, 17 December 2026

CIDCO Exhibition & Convention Centre, Navi Mumbai · Keynote 30 min · Invited 20 min · Contributory 15 min

	Hall 1 Track A: Advanced Materials & Coatings		Hall 2 Track B: Heat Treatment: Processes & Equipment		Hall 3 Track C: Critical Materials & Circular Economy, Failure Analysis		Hall 4 Co-event: Medical Materials & Devices (MMD)	
S1 09:00 – 10:30	Advanced Characterisation & Microstructure		Digitalisation, Vacuum Technology & Process Control		Critical Materials & Sustainable Processing		Advanced Strategies and Platforms for Biomedical Implants	
	09:00–09:30	**Characterising Strain Localisation in Advanced Materials** (Keynote) Prof. Mark Daymond · *Queen's University, Canada*	**09:00–09:30**	**The Future of AI in Heat Treat Operations** (Keynote) Mr. Damian Bratcher, James P. Oakes, Greg DeKors · *Super Systems Inc., USA*	**09:00–09:30**	**Critical Materials: Reimagining Industrial Policy** (Keynote) Dr. Rod Eggert · *Colorado School of Mines, USA*	**09:00–09:30**	**Advancing 3D Modular Cell Culture Platforms: Exploring Vascularization and in-vivo Electrochemical Protein Marker Detection** (Keynote) Prof. Neetu Singh · *IIT Delhi, India*
	09:30–09:50	**Surface Modification of H13 Tool Steel by Pulsed Laser Nitriding: Microstructural Evolution and Wear Behaviour** (Invited) Prof. Pikee Priya · *IISc Bengaluru, India*	**09:30–09:50**	**Advances in Controlled-Atmosphere Heat Treatment: ZeroFlow® Gas Nitriding and High-Temperature Low Pressure Carburizing** (Invited) Jędrzej Malinowski, Marcin Przygoński · *SECO/WARWICK, Poland*	**09:30–09:50**	***Title:* Critical minerals extraction opportunities and challenges from low-grade and secondary resources** (Invited) Dr. Kali Sanjay · *CSIR-IMMT, India*	**09:30–10:00**	**Use of Stable Isotopes for Biomedical Applications** (Keynote) Prof. Superb Misra, B. Malvi, S. Chakraborty · *IIT Gandhinagar, India*
	09:50–10:05	**Atom Probe Tomography for Nanoscale Materials Characterization: A Perspective** (Contributory) Dr. Deodatta Shinde, Aniruddha Biswas · *BARC, India*	**09:50–10:05**	**Trends in Industrial Heat Treatment: Process Innovation and Digital Enablement** (Contributory) Mr. Mohammad Taif Hussain · *Aichelin Unitherm, India*	**09:50–10:05**	**Sustainable Manufacturing Approach: Application of Post Consumer Recycled Aluminium in Engine Component** (Contributory) Mr. Dinesh Babu Pandi, Prathap Anbalagan, Arun Nagarkatti, Gomathy Priya Shanmugam, Manish Gopal · *TVS Motor Company, India*	**10:00–10:30**	**The Jaipur Foot** (Keynote) Dr. Anil Kumar Jain · *SDM Hospital (Jaipur Foot), India*
	10:05–10:20	**Entropy-Enthalpy Competition Drives Hierarchical Microstructures and Strength in Al 0.3 CoFeNi** (Contributory) Dr. Nachiket Keskar, Sudip Kumar Sarkar, Abhishek Sharma, Advika Chesetti, Tirthesh Ingale, R. V. Ramanujan, Sriswaroop Dasari, Rajarshi Banerjee · *BARC, India*	**10:05–10:20**	**Electrifying Reheating Furnaces: Enhancing Energy Efficiency, Process Performance, and Sustainability in Steel Production** (Contributory) Mr. Mayank Kumar Agarwal, Venkat Reddy Regatte · *Kanthal, India*	**10:05–10:20**	**Magnesium Potassium Phosphates as environment friendly alternative to Ordinary Portland Cement for nuclear applications** (Contributory) Dr. Rumu H. Banerjee, Kulwant Singh · *BARC, India*		
	10:20–10:35	**Interfacial Mechanisms of Iron-Oxide Reduction in Hydrogen: Multi-Scale Characterization and Atomistic Simulations** (Contributory) Mr. Vikram Chavan, S. Girish, S. Nag, S. Kundu, S. Basu, A. S. Panwar, I. Samajdar · *IIT Bombay, India*	**10:20–10:35**	**Component Level Heat Treatment of Zr-2.5%Nb alloy Pressure Tube Using Vertical Induction Scanner** (Contributory) Dr. Arnomitra Chatterjee, A. K. Bind, K. V. Mani Krishna, R. N. Singh · *BARC, India*	**10:20–10:35**	**Scalable Post-Synthesis Processing of Dilute Colloidal Suspensions via Tangential Flow Filtration** (Contributory) Dr. Meenu Prasher, Kulwant Singh · *BARC, India*		
10:30 – 11:00 Tea / Coffee								
S2 11:00 – 13:00	AI & Additive Manufacturing		Surface Hardening, Nitriding & Hardfacing		Strategic Materials & Component Manufacturing		Soft Materials & Implants	
	11:00–11:30	**Materials Innovation in the Age of Intelligence: From Molecules to Manufacturing** (Keynote) Dr. T. S. Sudarshan · *Materials Modification Inc., USA*	**11:00–11:30**	**New Developments in Vacuum Heat Treatment: Low-Pressure Carbonitriding and Energy-Efficient Modular Furnace Technology** (Keynote) Mr. Gerald Hiller · *ECM, Germany*	**11:00–11:30**	**Challenges in advanced materials and processing for strategic sectors** (Keynote) Dr. Rohit Kumar Gupta · *JNARDDC, India*	**11:00–11:30**	**3D Printing of Biomaterials for Tissue Regeneration** (Keynote) Prof. Kaushik Chatterjee · *IISc Bengaluru, India*
	11:30–11:50	**Engineering Advanced Titanium Aluminide Intermetallic Material Through Arc-based Additive Manufacturing Technology** (Invited) Prof. R. Jose Immanuel, Thipparthi Raja Gopala Chary, Md Saad Patel, Ilyas Hussain, Uzoma Vincent Nwankpa, Jean Yves Hascoet, Surendar K. Marya · *IIT Bhilai, India*	**11:30–11:50**	**Low Temperature Heat Treatment Processes for Surface Hardening of Stainless & High Nickel-Alloy Components** (Invited) Dr. Shankar Venkataraman · *Bodycote, Germany*	**11:30–11:50**	**Technology-Driven Foundry Productivity and Critical Materials Development** (Invited) Mr. Nithin Raj · *Peekay Steel Castings, India*	**11:30–12:00**	**Wounds and Effective Wound Dressings** (Keynote) Prof. Vivek Verma · *IIT Kanpur, India*
	11:50–12:10	**Processing and characterization of novel Zn/Ti6Al4V interpenetrating phase composites** (Invited) Prof. S. Gollapudi, D. Mohanta, R. Suman, D. Punera · *IIT Bhubaneswar, India*	**11:50–12:10**	***Title:* Advances in Controlled-Atmosphere Heat Treatment: ZeroFlow® Gas Nitriding and High-Temperature Low Pressure Carburizing** (Invited) Jędrzej Malinowski, Mr. Marcin Przygoński · *SECO/WARWICK, Poland*	**11:50–12:10**	**Microwave energy in metal casting and additive manufacturing** (Invited) Dr. Omkar Baswaraj Bembalge · *IIT Dharwad, India*	**12:00–12:20**	**Nanoscale Patterning of Functional Structures Using Two-Photon Lithography for Bio-medical Applications** (Invited) Prof. Shobha Shukla · *IIT Bombay, India*
	12:10–12:25	**Microstructure and mechanical property investigation of 3-D printed SS316L** (Contributory) Mr. Siddhant Gupta, Santosh Kumar, Harish Donthula, Chanchal Ghosh, A. Laik · *BARC, India*	**12:10–12:25**	**Low Temperature Gas Nitriding for Stainless Steel** (Contributory) Mr. Ananth Andhale · *Unitherm Engineers, India*	**12:10–12:25**	**Development of thick titanium forgings at L&T for Submersible – deep ocean mission** (Contributory) Dr. Raghuram P., Sujay Hukkeri, Manish Talaviya, Aniket Chaudhary · *L&T Special Steels & Heavy Forgings, India*	**12:20–12:50**	**Laser-Induced Graphene for Flexible Cramp Relief Patch** (Keynote) Dr. M.S.S. Bharati, Nikhil T. Sajja, A. V. A. Sri Raj, B. Santhosh Kumar · *AMTZ, India*
	12:25–12:40	**Graphene reinforced metal matrix composite via LPBF** (Contributory) Dr. Ajay Mandal, Mohd Sarim Khan, N. Sathish · *CSIR-AMPRI, India*	**12:25–12:40**	**Traditional to Modern Nitriding Technology in Surface Treatment** (Contributory) Mr. S. K. Subramanian, V. Venkatasubramanian · *Nathan & Nathan, India*	**12:25–12:40**	**Yttrium Driven Hydrogen Gettering in Zirconium Alloys** (Contributory) Ms. Pushpalatha Devi Y., K. V. Mani Krishna, Deodatta R. Shinde, N. Keskar, Alexander Ost, R. N. Singh · *BARC, India*	**12:50–13:05**	**Advanced Joining Technologies for Medical Device Manufacturing** (Contributory) Mr. Yogesh Patil · *AMTZ, India*
	12:40–12:55	**Effect of Toolpath Sequencing on Phase Evolution and Mechanical Homogeneity in Wire-DED Ti-6Al-4V Walls** (Contributory) Mr. Nirmal Madhusoodanan, Subham Panigrahi, Sushil Mishra, Asim Tewari · *IIT Bombay, India*	**12:40–12:55**	**Heat treatment-driven microstructural alterations and tribological property enhancement of Ti-6Al-4V ELI alloy fabricated via SLM technique** (Contributory) Mr. M. D. Pawar, V. D. Hiwarkar · *DIAT, India*				
13:00 – 14:00 Lunch								
S3 14:00 – 15:30	Surface Engineering, Coatings & Materials Processing		Quenching, Hardenability & Distortion Control		Corrosion, Failure Analysis & Fracture		Cardiac Surgery and Implants: Translation and Standards	
	14:00–14:30	**Surface Engineering Challenges: Emerging and Missed Opportunities** (Keynote) Prof. Christopher Berndt · *ARC SEAM, Australia*	**14:00–14:30**	**Distortion control by advanced vacuum heat treatment** (Keynote) Dr. Volker Heuer · *ALD Vacuum Technologies, Germany*	**14:00–14:30**	**Recycled Al-alloys for a Circular Economy: Microstructural Challenges for Corrosion Resistance and Surface Engineering** (Keynote) Dr. Rajan Ambat · *DTU, Denmark*	**14:00–14:30**	**Perspectives of Cardiac Surgery** (Keynote) Dr. Aditi Singhvi · *Narayana Health, India*
	14:30–14:50	**Resolving Challenges of Cold Spray Deposition of Martensitic Nickel-Aluminum-Bronze (NAB)** (Invited) Prof. Harpreet Singh, Gidla Vinay, Ravi Kant · *IIT Ropar, India*	**14:30–14:50**	**Optimization of Ni-Cr-Mo Steel Heat Treatment: Enhancing Low-Temperature Toughness while Retaining High Strength** (Invited) Mr. Devender Sharma, Prashant B. Nikalje, Pavan S. R., Vishal N. Salagare · *L&T Precision Engineering & Systems, India*	**14:30–14:50**	**Synergistic Erosion – Corrosion and Fatigue Failure of a Braided Corrugated Austenitic Stainless Steel Flexible Hose under Pulsating Particulate – Laden Gas Flow** (Invited) Mr. Aditya Gokhale, Hitesh Mehtani, Srushti Sanikoppa, Varna Kumar N., Jitendra Narayan Mohapatra, D. Satish Kumar · *JSW Steel, India*	**14:30–15:00**	**Indigenous Development of an Implantable Left Ventricular Assist Device** (Keynote) Prof. Niraj Sinha, K. Muralidhar, Nikunj Bhagat, Pranav R. Joshi, Amitabha Bandyopadhyay, Jayandharan R. Rao, Kantesh Balani · *IIT Kanpur, India*
	14:50–15:05	**Enhanced Heat Transfer in Stainless Steel through SMAT- Assisted DLC/Cu Composite Coatings.** (Contributory) Dr. Ajay Mandal, N. Sathish · *CSIR-AMPRI, India*	**14:50–15:05**	**A Heat Transfer Driven Framework for Predictive and Sustainable Quench Hardening** (Contributory) Dr. K. Narayan Prabhu, Augustine Samuel · *NITK Surathkal, India*	**14:50–15:05**	**Failure Analysis of Eroded BOF Water-Cooled Pipe Stack Tubes** (Contributory) Ms. R. K. Ragasree, Vineet Patel, Mukund Manish, Amarjeet Singh, J. N. Mohapatra, Sathish Kumar Dabbiru · *JSW Steel, India*	**15:00–15:30**	**Standards as Enablers for Quality, Safety and Innovation in Medical Devices** (Keynote) Dr. Sumit Sengar, Pawan Kumar · *BIS, India*
	15:05–15:20	**Spectroscopic ellipsometry of pulsed-laser-deposited ZrO 2 films on Zr-2.5%Nb alloy** (Contributory) Mr. Joy Mittra · *BARC, India*	**15:05–15:20**	**Understanding hardness variation in thick section low alloy steel component using end quench heat treatment studies** (Contributory) Mr. Vaibhav Patel, Chiradeep Gupta · *HBNI, India*	**15:05–15:20**	**Failure Analysis of a Pinch Roll Shaft in a Hot Strip Mill** (Contributory) Mr. J. N. Mohapatra, Dhanraj Patil, Aditya Gokhale, Satish Kumar Dabbiru · *JSW Steel, India*		
	15:20–15:35	**Effect of High Energy Ball Milling Duration of the Structural Evolution and Crystallite Characteristics of Ti-19Mo Alloy Powder** (Contributory) Mr. Jeetendra Mishra, Manwendra K. Tripathi · *NIT Raipur, India*	**15:20–15:35**	**Role of Heat Treatment Process on Torsional Fatigue Strength of Automotive Transmission Shafts** (Contributory) Mr. V. Varun, V. Sivakumar, G. Vijay Sankar, V. Senthilkumaran · *Mahindra & Mahindra, India*	**15:20–15:35**	**Revisiting the Ernst Equation for Growing Crack J-Integral Evaluation Using SENT Specimens** (Contributory) Dr. A. K. Bind, A. Chatterjee, K. V. Mani Krishna · *BARC, India*		
15:30 – 16:00 Tea / Coffee								
S4 16:00 – 17:30 (Hall 4: 17:40)	Materials for Nuclear & Strategic Applications		Heat Treatment for Aerospace, Defence & Light Alloys		Corrosion & High-Temperature Degradation		Translation of Medical Devices: From Lab to Hospital	
	16:00–16:30	**Progress in mastering challenges facing structural materials of in-vessel components in fusion power plants** (Keynote) Prof. Jarir Aktaa · *KIT, Germany*	**16:00–16:30**	**Aerospace, Energy and Defence Heat Treatment Solutions** (Keynote) Mayur Rao · *SECO/WARWICK, India*	**16:00–16:30**	**The Delhi Iron Pillar and Self-Reliant India** (Keynote) Prof. C. (Ravi) Ravindran, R. Roy, S. Ranganathan · *Toronto Metropolitan University, Canada*	**16:00–16:30**	**Multifunctional and Smart Biomaterials for Next Generation Implants and Biomedical Devices** (Keynote) Prof. Kantesh Balani, Indrajeet Singh, Raj Kumar, Antrakrate Gupta, Shikhar K. Jha, Ing Kong, J. Ramkumar · *IIT Kanpur, India*
	16:30–16:50	**Development of Advanced Coatings for Nuclear and Non-Nuclear Applications** (Invited) Dr. Subir K. Ghosh · *BARC, India*	**16:30–16:50**	**Effect of Mn and Zr content on the precipitation behavior of Al-Cu alloy** (Invited) Prof. Shibayan Roy, Samarendra Roy · *IIT Kharagpur, India*	**16:30–16:50**	**Pressure-Driven Densification and Microstructural Evolution of TiCN–Co-Based Cermets: Correlation with Mechanical and Thermal Properties** (Invited) Prof. Balasivanandha Prabu Shanmugavel, Vetri Vel Veerapandian · *Anna University, India*	**16:30–17:00**	**Innovations in Medical Polymers & Composites: Transforming Medical Technology** (Keynote) Mr. D. L. Pandya · *Medical Plastics Data Service, India*
	16:50–17:05	**Fe-Cr-Ni-Al based Precipitation Strengthened Accident Tolerant Fuel (ATF) Clad Alloys Designed through Thermodynamic Computation** (Contributory) Mr. Laxya Gupta, Bikas C. Maji, Apu Sarkar · *BARC, India*	**16:50–17:05**	**Optimization of Multiple-Step Thermal Aging Parameters of Aluminum Alloy 2014** (Contributory) Mr. A. K. Padap, A. Chaudhary, N. Kumar · *BIET Jhansi, India*	**16:50–17:05**	**Effect of Secondary Phases on Alloy 693 Corrosion in Borosilicate Glass** (Contributory) Ms. Malvika Karri, Amit Verma, J. B. Singh · *BARC, India*	**17:00–17:40**	**Panel Discussion:** From Lab to Hospital: What Will It Take to Translate the Next Generation of Medical Materials and Devices ? 1. Prof. Renu Vyas (Professor, MIT-ADT) 2. Mr. Amit Vaghasiya (Audit) 3. Mr. Anevvar (Industry)
	17:05–17:20	**Development of La 2 O 3 -modified W-Cu composite and W- Ni-Fe heavy alloy with fine-grained microstructures** (Contributory) Mr. Shubham Kumar, Bhaskar Paul, Jugal Kishor, Sanjib Majumdar · *BARC, India*	**17:05–17:20**	**Optimization of Thermo-Mechanical Processing Route for Co-free Maraging Steel** (Contributory) Mr. Mohammad Yunus, Bikas C. Maji · *HBNI, India*	**17:05–17:20**	**Isothermal steam oxidation studies of Crofer 22APU in the temperature range 800 –1000 °C** (Contributory) Mr. V. S. V. Anantha Krishna, Ullas Vijaykumar, Harish Donthula, Vishal Singh, Vivekanand Dubey, Vishwanadh Bathula, Supratik Roychowdhury · *BARC, India*		
	17:20–17:35	**Effect of starting Carbon precursor on density and properties of Reaction Bonded Silicon Carbide** (Contributory) Mrs. Rohini Garg, Chaitanya Palli, Abhijit Ghosh · *BARC, India*	**17:20–17:35**	**Optimizing Heat Treatment cycles of Superalloys and Steels Using Metallographic Techniques** (Contributory) Mr. Rathiram Naik, P. V. Durga, M. Sangeetha, G. Praveen Kumar, Ravi Varma, S. Saha · *MIDHANI, India*	**17:20–17:35**	**Preliminary Studies on the FLiNaK Exposure Behaviour on Indigenous and Imported Nuclear Graphite** (Contributory) Mr. Satish C. Mishra, G. J. Abraham, Poulami S. Chakraborty, D. Rathore, R. Kapoor, A. Awasthi · *BARC, India*		

MET & HTS 2026 · Tentative Technical Programme · Day 3: Friday, 18 December 2026

CIDCO Exhibition & Convention Centre, Navi Mumbai · Keynote 30 min · Invited 20 min · Contributory 15 min

	Hall 1 Track A: Advanced Materials & Coatings		Hall 2 Track B: Heat Treatment: Processes & Equipment		Hall 3 Track C: Critical Materials & Circular Economy, Failure Analysis		Hall 4 Co-event: Medical Materials & Devices (MMD)	
S1 09:00 – 10:30	**Deformation & Processing of Structural Alloys**		**Strategic Steels & Alloys for Defence & Nuclear**		**E-waste, Solar PV & Electronic Materials Recycling**		**Dental and Orthopedic Materials**	
	09:00–09:30	**Effect of microstructure on the low to high temperature deformation behaviour of a medium Mn austenitic stainless steel** (Keynote) Dr. Rajeev Kapoor · *BARC, India*	**09:00–09:30**	**Processing and Qualification of Aerospace Aluminium Alloys** (Keynote) Dr. M. Arumugam · *BrahMos Aerospace, India*	**09:00–09:30**	**Recycling of Electronic and Electrical Equipment Waste by Soft Chemistry** (Keynote) Prof. Veronique Vitry · *University of Mons, Belgium*	**09:00–09:30**	**Drug Eluting Dental Implants: A Paradigm Shift** (Keynote) Prof. Naresh Bhatnagar · *IIT Delhi, India*
	09:30–10:00	**Lightweight Aluminium Alloy and Composites** (Keynote) Dr. T.P.D. Rajan · *CSIR-NIIST, India*	**09:30–10:00**	***Title:* Materials Development for Fast Breeder Reactor Program** (Keynote) Dr. Anish Kumar · *IGCAR, India*	**09:30–10:00**	**Critical Minerals Recycling** (Keynote) Prof. Bineesha Payatatti · IIWM, Bengaluru	**09:30–10:00**	**Ceramics in Contemporary Dental Practice: Present and Future Trends** (Keynote) Dr. Mohit Kheur · *M. A. Rangoonwala Dental College, India*
	10:00–10:15	**Development of gradient microstructure in Al-Mg-Sc-Zr alloy (AA5024) by friction stir processing and effect of thermal annealing on its mechanical properties** (Contributory) Mr. Praveen Kumar, M. J. N. V. Prasad, A. Gourav Rao, Suresh Kumar Masa · *IIT Bombay, India*	**10:00–10:15**	**Technology development for Manufacturing Large 30CrMoNiV5-11 Industrial Steam Turbine Rotor Forgings at LTSSHF** (Contributory) Ms. Teesha Mittal, Sara N., Aniket Chaudhary, Anil Kumar, Amol Dange · *L&T Special Steels & Heavy Forgings, India*	**10:00–10:30**	**Igniting Innovation in Critical Electronic Materials towards Atmanirbhar Bharat** (Keynote) Dr. R. Ratheesh · *C-MET, India*	**10:00–10:30**	**Materials for Additive Manufacturing in Dentistry: Current Status and Future Outlook** (Keynote) Dr. Franziska Schmidt · *Charité – Universitätsmedizin Berlin, Germany*
	10:15–10:30	**Hot Deformation and Dynamic Restoration Mechanisms in Wrought XH43 Superalloy** (Contributory) Mr. Sagar Patil, S. V. S. Narayana Murty, M. J. N. V. Prasad · *IIT Bombay, India*	**10:15–10:30**	**Effect of thermo-mechanical processing on microstructure and SPPs in Alloy 690 TT: Industrial perspective** (Contributory) Mr. Rupesh Kumar, Sumita Santra, I. Kalpana Nayak, S. Acharya, S. V. Ramana Rao, R. K. Chaube, Komal Kapoor · *NFC, India*				
10:30 – 11:00 Tea / Coffee								
S2 11:00 – 13:00 (Hall 3: 13:05)	**Advanced Manufacturing, Repair & Joining**		**Processing of Strategic Alloys & Sustainable Heat Treatment**		**Resource Recovery, Corrosion & Durability**		**Dental, Maxillofacial and Surface-engineered Implants**	
	11:00–11:30	**AI/ML in Material Science: Additive Manufacturing** (Keynote) Prof. Asim Tewari · *IIT Bombay, India*	**11:00–11:30**	**Advanced Materials and Strategic Alloys: A Vision for Viksit Bharat 2047** (Keynote) Dr. S. V. S. Narayana Murty · *MIDHANI, India*	**11:00–11:30**	**From Waste to Strategic Resources: Critical Mineral Recovery and Recycling for the Clean Energy Transition** (Keynote) Prof. Dhruva Kumar Singh · *IIT (ISM) Dhanbad, India*	**11:00–11:30**	**Recent Advances in Maxillofacial Surgery due to 3D Printing and Research in Biomaterials** (Keynote) Dr. Vivek P. Soni · *Fortis Hospital & IIT Bombay, India*
	11:30–12:00	**Cold Spray Technology for Repair Applications** (Keynote) Prof. Srinivasa Rao Bakshi · *IIT Madras, India*	**11:30–12:00**	**Powering the Future of Heat Treatment: From Control to Sustainable Performance** (Keynote) Paolo Buzzi · *Gefran, Italy*	**11:30–12:00**	**Recycling of Various E-waste to Recover Rare, Rare Earth and Critical Metals: A Business Opportunity** (Keynote) Dr. Manis Kumar Jha · *CSIR-NML, India*	**11:30–12:00**	**Piezoelectric Approaches in Modern Prostheses** (Keynote) Prof. Ashutosh Dubey · *IIT (BHU) Varanasi, India*
	12:00–12:15	**Process-Structure Relationship in TIG Welding: A Computational and Statistical Approach** (Contributory) Mr. M. Arul Kumar, Narala Manikanta, Syed Moinuddin Ameenullah, Gunturu Akash · *IIITDM Kancheepuram, India*	**12:00–12:15**	**Effect of Multiaxial Deformation on Microstructure and Precipitate Evolution in IN718 Alloy** (Contributory) Mr. Saurabh Suman, Sushil Mishra · *IIT Bombay, India*	**12:00–12:20**	**Critical Materials and Recycling Technologies in Semiconductor Supply Chain** (Invited) Dr. Romil Bhandavat · *Tata Semiconductor Manufacturing, India*	**12:00–12:30**	**Surface Engineering of Modern Biomaterials: The Emerging Role of PVD Coatings in Medical Implants and Surgical Instruments** (Keynote) Dr. Umesh Mhatre · *Surface Modification Technologies, India*
	12:15–12:30	**Development of a 3D Printing method for Hydroxyapatite- based Bone Scaffold fabrication** (Contributory) Ms. Reshma Sarangi, P. V. Satyam, Bishnu Prasad Patro, Kuldeep Sharma, Kodanda Ram Mangipudi · *IIT Bhubaneswar, India*	**12:15–12:30**	**Improving the Magnetic Properties of 1.65 wt% Si Non-Oriented Electrical Steel without Hot Band Annealing** (Contributory) Mr. Pownsamy V., Raviteja U., Manjunath Vastrad, Pranav Tripathi, D. Satish Kumar · *JSW Steel, India*	**12:20–12:35**	**AI-Assisted Automated Grid-Based Corrosion Quantification for Enhanced Coating Performance Assessment in Automotive Applications** (Contributory) Mr. Venugopal A., Balaji V. P., Shanmugham Subramaniam · *ZF CV Systems, India*	**12:30–12:50**	**Material Processing to Clinical Application: Translational Lessons in Biomaterial Systems** (Invited) Dr. Francis Fernandez, Dr. Manoj Komath, Dr. H. K. Varma · *SCTIMST, India*
	12:30–12:45	**Infrared sensing characteristics in PZT-based ceramic for fire sensor application** (Contributory) Mr. A. K. Shukla, M. Kandari, O. P. Thakur, S. Chandra · *Amity University, India*	**12:30–12:45**	**Effect of Thermomechanical Processing on Lean Medium Manganese-based Advanced High Strength Steels** (Contributory) Ms. Sayeri Chatterjee, K. Nandini, A. Durga, Sanjay Chandra, Hitesh Kumar Mehtani, Satishkumar Dabbiru, M. J. N. V. Prasad · *IIT Bombay, India*	**12:35–12:50**	**Role of Hydrogen-Microstructure Interaction on Performance of Steel Alloys: A Computational Approach** (Contributory) Mr. M. K. Rahgul Poopathi, M. Arul Kumar · *IIITDM Kancheepuram, India*		
	12:45–13:00	**Mechanical and Microstructure Characterization of Copper-Alloy by Laser Wire-Directed Energy Deposition** (Contributory) Mr. Suraj Kumar, Gurminder Singh, Sushil Mishra · *IIT Bombay, India*	**12:45–13:00**	**Effect of prior thermo-mechanical processing on the mechanical properties of medium Mn steel** (Contributory) Mr. Dhanendra Kumar Sahu, Nitesh Kumar Gouda, Sanjay Chandra, M. J. N. V. Prasad · *IIT Bombay, India*	**12:50–13:05**	**Microstructure-Sensitive Mechanochemical Modeling of Stress-Assisted Corrosion in P91 Ferritic–Martensitic Steel** (Contributory) Mr. Pradeepraj Kannadhasan, Mariyappan Arul Kumar · *IIITDM Kancheepuram, India*		
13:00 – 14:00 Lunch								
S3 14:00 – 15:30	**Functional & Nano Materials**		**Vacuum Technology, Brazing & PVD Coatings**		**Critical Materials, Recycling & Failure Analysis**		**Translation Lessons and Innovations**	
	14:00–14:30	**The Influence of Ternary and Quaternary NiTi Shape Memory Alloy optical Fiber Coated sensors for Condition Monitoring Applications** (Keynote) Prof. I. A. Palani, Navneet Chouhan, Nandini Patra, Vipul Singh · *IIT Indore, India*	**14:00–14:20**	**Redefining Throughput, Sustainability, and Affordability in Vacuum Heat Treatment and Low Pressure Carburizing** (Invited) Mr. Jaydev Patel · *Xitiz / Rübig, India*	**14:00–14:30**	***Title: TBD*** (Keynote) Dr. Anuttam Mishra · *IREL (India) Limited, India*	**14:00–14:20**	**Evaluating Efficacy of Nanotubular Surface on Crestal Bone Remodeling in Non-submerged Dental Implants** (Invited) Smiti Bhardwaj, Mahesh Verma, Farrukh Faraz · *MAIDS, India*
	14:30–15:00	**Surface-Covalent Functionalization of $Ti_3C_2T_x$ MXene with La, Ce, and Ag for Tailored Electronic Property Modulation** (Keynote) Tapan Kumar Rout, Sukanta Badaik, Suryakanta Nayak, Balram Ambade · *Tata Steel, India*	**14:20–14:40**	**Development of Co-Cr-W-C Hardface Coating on the Stainless Steel Foot of the Nuclear Reactor Control Rod** (Invited) Dr. Hemant Kumar, Shobhit Verma, G. Ramesh, D. N. Sivayya · *IGCAR, India*	**14:30–14:45**	**Microstructural and Mechanical Characterization of SS316L Deposited on M250 Maraging Steel by Laser Wire-Directed Energy Deposition.** (Contributory) Ms. Anshu Priya, Amber Shrivastava, Sushil Mishra · *IIT Bombay, India*	**14:20–14:50**	***Title: The Next Horizon in Biomaterials: Metal-Organic Frameworks for Advanced Implants*** (Keynote) P.V. Benisha and T.M. Sridhar – University of Madras, India
	15:00–15:20	**Electrical, Hardness and EMI Shielding Properties of PEK/MWCNT Nanocomposites** (Invited) Prof. M. G. Kulthe, R. K. Goyal · *COEP Technological University, India*	**14:40–14:55**	**Designing Vacuum Brazing Process Parameters** (Contributory) Mr. Vikas Shingade, Kailas Kadam, Hanmant Gawade · *Indo German Vacu Treat, India*	**14:45–15:00**	**ANN-Based Predictive Modelling for Optimizing Rhodamine B Removal from Aqueous Matrices Using Ball-Milled Sewage Sludge Biochar** (Contributory) Dr. Neelaambhigai Mayilswamy, Balasubramanian Kandasubramanian, Anish Gore · *DIAT, India*	**14:50–15:10**	***Title: TBD*** (Invited) Bhanupratap Gaur
			14:55–15:15	**Plasma assisted PVD Coatings** (Invited) H. R. Prabhakara · *Bangalore Plasmatek, India*	**15:00–15:15**	**Corrosion inhibition of LPBF Inconel 718 by nitrogen-doped carbon dots: Role of heat- treatment-induced microstructural changes.** (Contributory) Ms. Deeksha, Vijay Hiwarkar · *DIAT, India*	**15:10–15:30**	***Title: TBD*** (Invited) Dr. Renu John · *IIT Hyderabad, India*
			15:15–15:30	**Pressure-Dependent Fracture Behaviour of X70M SAWL Pipeline Steel in High-Pressure Hydrogen** (Contributory) Mr. Atul Srivastava, Shivansh Mehrotra, Jyoti Kumari, Vijayakumar Narasaiah · *Welspun Corp, India*	**15:15–15:30**	**TBD** (Contributory)		
15:30 – 16.30 Valedictory Ceremony								
16.30 High Tea and Close								