



METCENT-2023

26-28 OCTOBER, 2023

Programme at a Glance

Organized by

Department of Metallurgical Engineering

Indian Institute of Technology (BHU), Varanasi, India

METCENT-2023

26.10.2023, Thursday

Time	Program
8.00-9.00 AM	Breakfast and Registration kit distribution
9.00-10.20 AM	Inaugural function, Chief Guest - Shri Ramesh Srinivasan, CEO - Agilysys Inc. USA
10.20-10.30 AM	Message from Shri Kedar Nath Gupta (1957 Metallurgy) Canada
Session Chair : Surya Kumar Singh	
10.30-11.10 AM	Plenary Talk-1, Rajiv Mishra, (University of North Texas, USA), Convergence of Computationally Designed Alloys and Processes at the Onset of Space Inhabitation Era
11.10-11.50 AM	Plenary Talk-2, Paulo Santos Assis (OURO PRETO-MINAS GERAIS, Brazil), Technical and Economical Feasibility by using Biogas in the Iron and Steel Making
11.50-12.30 PM	Plenary Talk-3, R.C. Gupta (IIT (BHU)), Challenges in Ironmaking Technology Without Using Fossil Fuels
12.30-1.30 PM	Lunch
	Note: Inaugural function, Plenary lectures and Velidectory program will be held in the main auditorium of Swatantrata Bhawan (SB)

TECHNICAL SESSION - 1

(Venue: Conference Hall, SB)

Day 1 (26.10.2023, Thursday)

Parallel Session 1 (Nanomaterials/ Biomaterials/ Magnetic Materials)

Session Chair : N K Mukhopadhyay

Time	Category	Speaker	Affiliation	Topic
1:30 PM - 1.50 PM	Keynote	Ranjee Vaidyanathan	Oklahoma State University USA	Nanosized hybrid polymer modifiers (HPM) for improved mechanical and thermal behavior of carbon fiber reinforced composites
1.50 PM - 2:05 PM	Invited	Raju Ramanujan	NTU Singapore	Accelerated Discovery of Novel Magnetic Materials by AI and Machine Learning Techniques
2:05 PM - 2.20 PM	Invited	Venkata Satya Siva Srikanth Vadali	University of Hyderabad	Processing of novel few-layered graphene and its composites for energy applications
2.20 PM - 2.35 PM	Invited	Yashveer Singh	IIT Ropar	Polymeric hydrogels, self-assembled peptide gels, and nanomaterials for biomedical applications
2.35 PM - 2.50 PM	Invited	Ajeet K Srivastava	VNIT Nagpur	Nanostructured WO ₃ .1/3H ₂ O for CO ₂ Uptake

2.50 PM - 3.05 PM	Invited	R. Kannan	Sakthi Polytechnic College, Tamil Nadu	The effect of bath temperature on structural and magnetic properties of nano structured NiMo thin films for MEMS applications
3.05 PM - 3.15 PM	Contributory	Krishna Murti Chaturvedi	Amrita Vishwa Vidyapeetham	Theoretical Comparison and Machine Learning based Predictions on Li-Ion Battery's Health using NASA Battery Dataset
3.15 PM - 3.25 PM	Contributory	Akshay	University of Hyderabad	Synthesis and characterization of chemically activated biomass and phase change composites for enhanced thermal conductivity
3.30 PM - 3.45 PM				
Tea				
Session Chair : Ranjee Vaidyanathan				
3.45 PM - 4.05 PM	Invited	Amit Misra (online)	University of Michigan	There is Plenty of Room at Metallic Interfaces
4.05 PM - 4:20 PM	Invited	Nil Ratan Bandyopadhyay	IEST Shibpur	Luminescence from Silicon Nanostructures
4.20 PM - 4.35 PM	Invited	Kantesh Balani	IIT Kanpur	Nanovisualization of Bacterial Adhesion on Nanocomposite Biosurfaces
4.35 PM - 4.50 PM	Invited	Arul Haribabu	Kumaraguru College of Technology, Coimbatore	Influence of Fuel on Phase formation of Ni ²⁺ ions on CoFe ₂ O ₄ (CoFe _{2-x} Ni _x O ₄) Nanoparticles by Mild Solution Combustion Technique for Photocatalytic Applications
4.50 PM - 5.05 PM	Invited	Santhosh Kumar Alla	Aditya Institute of Technology and Management, Tekkali	Prevalence of Clusters in Dilute Magnetic Oxides
5.05 PM - 5.15 PM	Contributory	Shivi Tripathi	IIIT Jabalpur	Comparative release profiles of azithromycin from hydroxyapatite and Polylactic acid/hydroxyapatite composite microspheres
5:15 PM - 5:25 PM	Contributory	S. Sai Harsha	Mahindra University, Hyderabad	Study of Geometry Modulated Magnetoelectric Composite Structure
5.25 PM - 5.35 PM	Contributory	Silambarasan M	NITK Surathkal	Heat Transfer Modelling for a Thermomagnetic Energy Generator Design.
5.30 PM - 5:45 PM				
Tea				
6.30 PM - 8.30 PM				
Cultural Program and Centenary Celebrations				
8.30 PM - 10.30 PM				
Conference Dinner at Swatantrata Bhawan				

TECHNICAL SESSION - 2

(Venue: Senate Hall, SB)

Day 1 (26.10.2023, Thursday)

Parallel Session 1 (Mechanical Behaviour of Materials, Non-destructive testing and Case Studies)

Session Chair : Jatin Bhatt

Time	Category	Speaker	Affiliation	Topic
1.30 - 1.50 PM	Keynote	Vikram Jayaram	IISc Bangalore	High-throughput mechanical property evaluation by bend testing of cantilevers
1.50 - 2.05 PM	Invited	V Subramanya Sarma	IIT Madras	Role of Mn content on processing maps, deformation kinetics, microstructure and texture of as-cast medium Mn steels
2.05 - 2.20 PM	Invited	K. Narasimhan	IIT Bombay	Failure Analysis During Hot Stamping of Steel Sheets
2.20 - 2.35 PM	Invited	NC Santhi Srinivas	IITBHU	Ratcheting fatigue behaviour of advanced structural materials
2.35 - 2.50 PM	Invited	Praveen Kumar	IISc Bangalore	On “Threshold” Creep Deformation Behavior of Ni-Based Superalloys
2.50 - 3.05 PM	Invited	Sanjeev Rana	Nalwa Steel & Power Ltd.	Surface nanostructure induced by ultrasonic shot peening and its effect on low cycle fatigue behavior of the alloy Ti-6Al-4V
3.05 - 3.15 PM	Contributory	Sudipta Mohapatra	IITKGP	Effect of intercritical annealing temperature on the microstructure and tensile behavior of Fe-0.18C-2.35Al-6.7Mn steel
3.15 - 3.25 PM	Contributory	Vinit Kumar Singh	IITKGP	Effect of cold/warm/hot rolling on tensile properties in three high Al low density steels
3.30 - 3.45 PM				

Day 1 (26.10.2023, Thursday)
Parallel Session 1 (Ferrous Process Metallurgy)
Session Chair : R C Gupta

TECHNICAL SESSION - 3
(Venue: Main Auditorium, SB)

Time	Category	Speaker	Affiliation	Topic
1.30-1.45 PM	Keynote	S K Jha	MIDHANI, Hyderabad	Advances in Processing of Defence and Aerospace Materials
1:45-2.00 PM	Keynote	Badri Prasad	Pacific Refractories	Success and Failure of Refractory Lining
2.00-2.15 PM	Keynote	P K Jha	IIT Roorkee	Investigation on the effect of melt pool height on the porosity in semi solid processing of Al-Mg ₂ Si composite
2.15-2.30 PM	Invited	Rameshwar Sah	JSW Steel Ltd	Raw materials cum Energy efficiency improvement measures for sustainable iron making through blast furnace
2.30-2.45 PM	Invited	Jagannath Pal	NML, Jamshedpur	Use of alternative binders for iron ore pelletizing
2.45-3.00 PM	Invited	Deepoo Kumar	IITB	A computational tool to calculate inclusion paths during secondary steelmaking
3.00-3.15 PM	Invited	Ganesh Chalavadi	CSIR-NML	Fine Size Dry Iron Ore Beneficiation Using Thin Bed Air Fluidized Dry Separator
3.15 - 3.25 PM	Contributory	Aman Nigam	IIT Kanpur	Development of a Low Silica Calcium Aluminate Based Mould Flux for Casting High Al/Mn Steels
3.30 - 3.45 PM				
Tea				
Session Chair : Rameshwar Shah				
3.45 - 4.05 PM	Invited	Seshadri Seetharaman (online)	Royal Institute of Technology Sweden	Some Aspects of the Chemistry of Slags containing Cr and V
4.05 - 4.20 PM	Invited	Mrigendra Singhai	JSW Steel Ltd	Overview of pellet induration studies in laboratory scale to simulate industrial scale process
4.20 - 4.35 PM	Invited	A K Jouhari	Ex CSIR IMMT	Basics of Iron Ore Sintering
4.35 - 4.50 PM	Invited	Maneesh Srivastava	Amity University	Smelting Reduction Technology – Current Status and Future Outlook
4.50 - 5.05 PM	Invited	Sardar Singh Rath	Nalwa steel and power Limited	Productivity Improvement of the Rolling Mill by the Implementation of Lean Manufacturing Tools
5.05 - 5.20 PM	Invited	Ashish K. Agarwal	JSL	Process Technology of Clad Plates at JSL
5.20-5.30 PM	Invited	Maneesh Srivastava	Amity University	Enhancing technologies to improve Metallurgical Processes
5.30-5.45 PM				
Tea				
Cultural Program and Centenary Celebrations				
8.30-10.30 PM				
Conference Dinner at Swatantrata Bhawan				

METCENT-2023

Day 2 (27.10.2023, Friday)

Time	Program
8.00-9.00 AM	Breakfast

Session Chair : S.Lele

9.00-09.45 AM	Plenary Talk-4, Deep Jariwala (University of Pennsylvania, USA), Novel Nitride and Chalcogenide Materials for Low-Power Nanoelectronics
09.45-10.30 AM	Plenary Talk-5, Pulickel M Ajayan (Rice University, USA), NanoEngineered Materials
10.30-10.45 AM	Tea

TECHNICAL SESSION - 1

(Venue: Conference Hall,SB)

Day 2 (27.10.2023, Friday)

Parallel Session 2 (Integrated Computational and Materials Engineering)

Session Chair : B N Sarma

Time	Category	Speaker	Affiliation	Topic
10.45 -11.05 AM	Keynote	Rajesh Ransing	Swansea University	Creating a Virtual Process Model (Digital Twin) from a Small In-Process Dataset with Mixed Variables and Missing Values: An Illustrative Example
11.05 - 11.20 AM	Invited	TA Abinandanan	IISc Bangalore	Computational studies on the role of ternary alloying additions in microstructure formation during phase transformations
11.20 - 11.35 AM	Invited	Somnath Bhowmick	IIT Kanpur	Deformation in metals: insights from ab-initio calculations
11.35 - 11.50 AM	Invited	Rajdip Mukherjee	IIT Kanpur	Concurrent grain boundary grooving and migration in a non-magnetic material unde an external magnetic field: A phase-field study
11.50 AM - 12.05 PM	Invited	Pratik K. Ray	IIT Ropar	Physical insights from Materials Informatics: a generalized analysis framework
12.05 - 12.20 PM	Invited	Arijit Maitra	BML Munjal University, Gurgaon	Theory, Modelling and Interpretation of a Mechanically Induced Crystallographic Phase Transition
12.20 - 12.35 PM	Invited	Appala Naidu Gandhi	IIT Jodhpur	Simulation of Martensitic Transformations in Ti and Zr alloys

12.35 - 12.50 PM	Invited	Ushasi Roy	IIT Kanpur	Microstructure-sensitive computational model for predicting mechanical response of solid propellants under extreme loading conditions
12.50 PM - 1 PM	Contributory	Albert Linda	IIT Kanpur	Investigating Segregation behaviour of transition elements in Fe (FCC and BCC) Using DFT: A Comprehensive Analysis
1 PM - 1.10 PM	Contributory	Md Faiz Akhtar	IIT Kanpur	Computational and in-situ Experimental Study on Critical Role of Oxygen in the Mechanical Properties of Titanium and its Alloys
1.15PM - 2 PM				
Lunch				
Parallel Session 3 (Microstructure and Texture, Electron microscopy and other advanced characterization techniques)				
Session Chair : R K Mandal and K Chattopadhyay				
2 PM - 2.20 PM	Keynote	Satyam Suwas	IISc Bangalore	Microstructural Aspects of Dwell Fatigue in Titanium alloys
2.20 PM - 2.35 PM	Invited	Rajesh Prasad	IIT Delhi	Elasticity, anisotropy and nanoindentation: history, mystery and a caution
2.35 PM - 2.50 PM	Invited	K Muraleedharan	CSIR Emeritus Scientist	Fluorite structure with an extended dopant concentration in $\text{Ce}_{1-x}(\text{Sm}_{0.62}\text{La}_{0.38})\text{O}_{2-d}$ ($x = 0-0.6$) solid solutions
2.50 PM - 3.05 PM	Invited	Nilesh P. Gurao	IIT Kanpur	Combinatorial in situ EBSD and crystal plasticity simulations study on the deformation and damage micro-mechanisms in titanium
3.05 PM - 3.20 PM	Invited	Sanjay Srivastava	MANIT Bhopal	Effect of A-site Pr-doping on Dielectric and Thermoelectric Properties of Lanthanum Based $\text{Ba}_2\text{FeNbO}_6$ Double Perovskite Oxide Materials
3.20 PM - 3.35 PM	Invited	Srinivasan N	IIT Jammu	Synthesis and characterization of cerium and neodymium incorporated lanthanum zirconate for thermal barrier coating applications
3.35 PM - 3.45 PM	Contributory	Rajan Kushwaha	IIT Bhubaneswar	Understanding the micromechanics of precipitation distribution in W_{43} alloy using Nye tensor
3.45 PM- 3.55 PM	Contributory	Devarakonda S Surya Bindu	University of Hyderabad	A novel conversion of chitosan to carbon quantum dots
4 PM- 4.15 PM				
Tea				

Parallel Session 4 (Emerging and Functional Materials)

Session Chair : Deep Jariwala and N Ravishankar

4.15PM - 4.35 PM	Keynote	Srinivasan G. Srivilliputhur	University of North Texas	A thermodynamic framework to tune local chemical order for achieving exceptional mechanical properties in high entropy alloys
4.35PM - 4.45 PM	Invited	Indrani Sen	IIT Kharagpur	Microstructural effect on high temperature performance of TiAl alloys
4.45PM - 5 PM	Invited	Abha Mishra	IISc Bangalore	Coupling of two dimensional transition metal dichalcogenides with plasmonic nanostructure for refractive index sensor
5 PM - 5.15 PM	Invited	Rik Rani Koner	IIT Mandi	Engineering Hierarchical Functional Materials for Energy storage and Conversion Application
5.15 - 5.30 PM	Invited	Mayur Vaidya	IIT Hyderabad	Interdiffusion driven phase transformations in multicomponent systems
5.30-8:00 PM Ganga Aarti Darshan by Boat				
8.00-10.00 PM Conference Dinner at Swatantrata Bhawan				

TECHNICAL SESSION - 2

(Venue: Senate Hall,SB)

Day 2 (27.10.2023, Friday)

Parallel Session 2 (Additive Manufacturing and Advanced Manufacturing Techniques)

Session Chair : N C Santhi Srinivas

Time	Speaker	Category	Affiliation	Topic
10.45-11.05 AM	Keynote	Tata Narasinga Rao	ARCI Hyderabad	Translational Materials Research
11.05-11.25 AM	Keynote	RVS Prasad	South Africa	Additive Manufacturing- Current trends, challenges and future directions
11.25-11.40 AM	Invited	Dinesh Singh Thakur	DIAT Pune	Investigation on Ballistic Impact of Different Projectile Nose Shapes on Additively Manufactured AISi10Mg Alloy
11.40-11.55 AM	Invited	Amal John	Amace Solutions Pvt. Ltd.	Effect of different heat treatment cycles & laser process parameters on the Mechanical properties of the Ti6Al4V produced by laser powder bed fusion additive Manufacturing.
11.55-12.10 PM	Invited	Bharat Panigrahi	IIT Hyderabad	Microstructure engineering of additive manufactured Inconel 718 superalloy
12.10-12.25 PM	Invited	Hira Fotedar	Fotedar Associates LLC, Ohio USA	Development and Delivery of Digital Material Education
12.25-12.40 PM	Invited	R Bheekya Naik	NIT Raipur	Study on microstructure and mechanical properties of 304L stainless fabricated using wire arc additive manufacturing
12.40-12.55 PM	Invited	R. Jose Immanuel	IIT Bhilai	Metallurgical investigation on Inconel powders developed from machining chips through high energy ball milling
12.55-1.10 PM	Invited	Neha Gupta	NIT Raipur	Fluid Flow in Additively Manufactured Lattice Structures
13.10-1.20 PM	Contributory	Subhendu Naskar	IIT Hyderabad	Microstructure and mechanical behaviour of Inconel 718: Laser based Direct energy Deposition vs Powder Bed Fusion
1.15 PM- 2 PM				
Lunch				
Parallel Session 3 (Structure Property Correlation)				
Session Chair : Vakil Singh				
2.00-2.20 PM	Keynote	Debalay Chakrabarti	IITKGP	An effort to break the strength-ductility-toughness trade-off in ferritic steels through composition and microstructure control

2.20-2.35 PM	Invited	Santosh Kumar	RDCIS	Correlation of Microstructure, Tensile Properties and Stretch Flangeability Of Low Carbon Micro-Alloyed Steel
2.35-2.50 PM	Invited	Jatin Bhatt	VNIT Nagpur	Investigation on deformation behavior in Zirconium based Amorphous alloy processed by High Pressure Torsion route
2.50-3.05 PM	Invited	Sumeet Mishra,	IIT Roorkee	Effect of dynamic strain ageing on strain hardening behavior of Al-Mg alloys
3.05-3.20 PM	Invited	Uma Maheswara Rao Seelam	NIT Warangal	Machine Learning on Hume-Rothery Solid Solubility Rules in Ni-based Binary Alloys
3.20-3.35 PM	Invited	Sudipta Patra	IIT(BHU)	Development of high strength Vanadium micro-alloyed steel in heavy gauge plate
3.35-3.45 PM	Contributory	Saumya Gupta	IITKGP	Discrepancy in orientation dependent spherodization in thermo-mechanically processed Ti-6Al-4V alloys
3.45-3.55 PM	Contributory	Hemant Kumar	IITBHU	Improving mechanical properties of Fe-20Mn-10Al-1C low-density steel by multiaxial forging
3.55-4.05 PM	Contributory	Ravi Kumar Singh	IITBHU	Analyzing the Effect of Initial Metallurgical Factors on Dynamic Impact Response using MATLAB and Adiabatic Shear Band Formation in 6061 Al Alloy
4 PM - 4.15 PM				
Tea				
Parallel Session 4 (Surface Engineering, Tribology and Composite Materials)				
Session Chair : A K Choubey				
4.15-4.30 PM	Keynote	Sanjay Sampath	Stony Brook USA	Structurally Integrated, Damage Tolerant Coatings
4.30-4.45 PM	Keynote	M. Balasubramanian	IIT Madras	Characterization of in-situ graphene nanostructures observed in the carbon fiber-reinforced silicon nitride composites
4.45-4.55 PM	Invited	Nitya Nand Gosvami	IIT Delhi	Nanotribology of 2D materials using in situ Atomic Force Microscopy
4.55-5.05 PM	Invited	Ravitej Y P	Dayananda Sagar University	Experimental Analysis of Abrasive Wear and Corrosion Behavior Of LM13/ZrSiO ₄ /C Hybrid Metal Matrix Composites
5.05-5.15 PM	Invited	Gayatri Paul	BIT Mesra	Tribological Properties of Tungsten Disulphide Nanoparticle Dispersed Vegetable Oil Based Nanofluids
5.15-5.25 PM	Contributory	I. Sai Sonali Anantha	GITAM University	Efficient degradation of pendimethalin via photo-catalytic ozonation over Ni/Mg @ TiO ₂ nanocomposites
5.25-5.35 PM	Contributory	Alok K. Srivastava	IIT Bombay	Flexural strength enhancement in carbon-fiber epoxy composites through graphene nano-platelets coating on fibers
5.30-8:00 PM	Ganga Aarti Darshan by Boat			
8.00-10.00 PM	Conference Dinner at Swatantrata Bhawan			

Day 2 (27.10.2023, Friday)
 Parallel Session 2 (Design and development of advanced steel)
Session Chair : Dhiren Panda

TECHNICAL SESSION - 3
 (Venue: Main Auditorium, SB)

10.45-11.05 AM	Keynote	T Bhaskar	Tata steel long products	Development of Steels for the Automotive Sector - what the Future beholds ?
11.05 - 11.25 AM	Keynote	S B Singh	IIT Kharagpur	Evolution of microstructure during quenching and partitioning of low alloy steels
11.25-11.40 AM	Invited	Ujjwal Prakash	IIT Roorkee	Ferritic low density steels
11.40-11.55 AM	Invited	Santosh Kumar	JSL	Development of high performance steels
11.55-12.10 PM	Invited	Viswanathan N	JSPL	Development of High Quality SWRH82A Grade Tyre Cord Steel Wire Rods
12.10-12.25 PM	Invited	JN Mohapatra	JSW steel Ltd	Development of Third Generation Advanced High Strength Steel
12.25-12.40 PM	Invited	R Manna	IIT(BHU)	Development of Ultra Strong and Tough Nanostructured Bainitic Steels
12.40-12.55 PM	Invited	Sk.Md hasan	IIT Jodhpur	Design and Development of Advanced High-strength Bainitic Steels
12.55-1.10 PM	Invited	Sanjukta	Tata steel long products	Optimization of process parameter in Manufacturing of the high carbon spring steels
1.10-1.20 PM	Contributory	Pavan Kumar	IIT(BHU)	Design and Development of Lightweight Steel for Armour Applications

Lunch

Parallel Session 3 (Green steel Technologies)

Session Chair : T Bhaskar

2.00-2.20 PM	Keynote	Lokendra Raj Singh	JSW steel Ltd.	Green Steel Technologies
2.20-2.15 PM	Invited	G.G.Roy	IIT KGP	Green steelmaking for coal based developing economy
2.15-3.00 PM	Invited	D. Satish Kumar	JSW steel Ltd.	Pathway to Net Zero in Steel Sector – Challenges and Opportunities
3.00-3.15 PM	Invited	Rahul Sarkar	IIT Kanpur	Solid state reduction of Hematite iron ore using hydrogen at moderate temperatures

3.15-3.30 PM	Invited	Ammasi A	NML Jamshedpur	Interaction and Dissolution Behaviour of Carbon Free DRI in Liquid Iron during Steel Making in Induction Furnace
3.30-3.45 PM	Invited	Arghya Majumder	Kazi Nazrul University	Green Steel Technology: A viable approach for a sustainable world
3.45-3.55 PM	Invited	Deepak SAU	NML Jamshedpur	Green Steel: Production of DRI fines from Low Grade Iron Ore fines in Fluidized Bed Reactor using Hydrogen Gas
3:55-4:05 PM	Invited	Shaik Mahaboob Basha	Tata Steel	Recent developments in Iron making technology and journey towards net zero CO2 Emissions
4.05-4.15 PM	Contributory	R. Choudhari	NML Jamshedpur	Thermodynamic and kinetic investigation on the gas-solid reduction of premixed lean grade Mn/Fe ores
4 PM - 4.15 PM		Tea		
Parallel Session 4 (Non ferrous extractive Metallurgy) Session Chair : Ujjawal Prakash				
4.15-4.30 PM	Keynote	Víctor Quezada	Chile	Determination of optimal parameters that benefit the copper dissolution from a concentrate with high arsenic content
4.30-4.45 PM	Keynote	S.N.Ojha	IIT(BHU)	Emerging Trends in Solidification Processing
4.45-5.00 PM	Keynote	T.R.Mankhand	IIT(BHU)	Development in the Extraction of Nonferrous Metals during the past Century
5.00-5.10 PM	Invited	Ramesh Kumar Nayak	MANIT, Bhopal	Industraial Waste and its use in Indian Foundry Industries
5.10-5.20 PM	Invited	Saurabh Shekhar	NML Jamshedpur	A clean process for the recovery of manganese from low grade pyrolusite via salt roasting-water leaching process
5.20-5.30 PM	Invited	M. R. Kumar	NIT Raipur	Thermodynamic assessment of Tin based Molten Binary Indium-Tin Solder Alloys
5.30-8.00 PM		Ganga Aarti Darshan by Boat		
8.00-10.00 PM		Conference Dinner at Swatantrata Bhawan		

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Day 3 (28.10.2023, Saturday)

8.00-9.00 AM Breakfast

9.00-10.00 AM Poster Session

Day 3 (28.10.2023, Saturday)

Parallel Session 5 (Defense aerospace & nuclear materials / Heat Treatment & Phase Transformation / Corrosion & its protection)

Session Chair : Tapash Nandy and Partha Ghosal

TECHNICAL SESSION - 1

(Venue: Conference Hall, SB)

10.00 - 10.20 AM	Keynote	Vikas Kumar Saxena	Ex Director, DMRL	Structure Integrity and NextGen Life Cycle Management of Aerospace & Defence Platforms - An Integrated Materials-Design-Performance Perspective
10.20 - 10.35 AM	Invited	A Nagesha	IGCAR Kalpakkam	Elevated Temperature High Cycle Fatigue Behaviour of Structural Materials for Advanced Ultra Supercritical Application
10.35 - 10.50 AM	Invited	Ashish Jain	IGCAR	High temperature oxidation of T91 alloy
10.50 - 11.05 AM	Invited	Akash Singh	IGCAR	Influence of Sodium on the Microstructure of Laser Rapid Manufactured NiCrSiBC Hardface Alloy Coatings
11.05 - 11.20 AM	Invited	A. P. Srivastava	BARC	The effect of irradiation temperature on microstructural evolution of 20MnMoNi55 Steel
11.20 - 11.35 AM	Invited	K Chattopadhyay	IIT (BHU)	Effect of surface nanostructure and thermal treatment in air and argon on corrosion behaviour of commercially pure titanium
11.35 - 11.45 AM	Contributory	Ratnakar Singh	IIT Roorkee	Development of ODS steels for advanced nuclear reactors through hot powder forging route
11.45 - 11.55 AM	Contributory	Priyanka Ninawe	IIT Hyderabad	Fabrication of oxide dispersion strengthened Inconel 718 superalloy through hot press
12.00 - 12.15 PM Tea				
12.30 - 01.30 PM Valedictory function				
01.30 - 02.30 PM Lunch				
02.30 - 04:30 PM Alumni Meet at Swatantrata Bhawan				
High Tea				
End of conference				

8.00-9.00 AM	Breakfast			
9.00-10.00 AM	Poster Session			
<div><div>TECHNICAL SESSION - 2</div><div>(Venue: Senate Hall,SB)</div></div> <div><div>Day 3 (28.10.2023, Saturday)</div><div>Parallel Session 5 (Metal Joining Technologies)</div><div>Session Chair : A K Ghose</div></div>				
10.00-10.20 AM	Keynote	Ritesh Patel	L&T Surat	Advances in Welding Technology
10.20-10.35 AM	Invited	Koteswararao V. Rajulapati	Univ. of Hyderabad	Comprehensive Investigations on Friction Stir Welding of Ferritic-Martensitic Steel for Energy Applications
10.35-10.50 AM	Invited	Manwendra Tripathi	NIT Raipur	Similar and dissimilar Friction Stir Welding of Al 7075 and Mg AZ31 alloys with Zn interlayer
10.50-11.05 AM	Invited	N. Srirangarajalu	Anna Univ.	Optimization of Process Parameters on Ultrasonic Welding of Mg AZ31B Alloy Based on Mechanical Properties
11.05-11.20 AM	Invited	P. Sasianand	Fronius India Pvt. Ltd., Pune	Welding & Sustainability: Embracing a Future-forward Approach
11.20-11.35 AM	Invited	Nitin Kumar Sharma	IIT Jodhpur	Aspects of Microstructural Transformations in Steels for Structural Applications
11.35-11.45 AM	Contributory	Abhijeet Bhowmik	NIT Raipur	Mechanical and Corrosion Study of Dissimilar Friction Stir Welding of AZ31Mg alloy and Cu-8Zn alloy
12.00 - 12.15 PM				

METCENT-2023

Day 3 (28.10.2023, Saturday)

8.00-9.00 AM Breakfast

9.00-10.00 AM Poster Session

Day 3 (28.10.2023, Saturday)
 Parallel Session 5 (Recycling of Metallurgical Wastes)
Session Chair : K K Singh

TECHNICAL SESSION - 3
 (Venue: Main Auditorium, SB)

10.00-10.20 AM	Keynote	Dhiren Panda	JSW Steel Ltd	Sustainable Recycling Strategies for Iron and Steel Plant Wastes
10.20-10.35 AM	Invited	Dhanraj Patil	JSW Steel Ltd	Utilization of Biomass Pellets in the Iron Ore Sintering
10.35-10.50 AM	Invited	Mudila Dhanunjaya Rao	CSIR, NML	Effect of size and milling time of zinc dust on purification of zinc sulphate electrolyte using response surface methodology
10.50-11.05 AM	Invited	N S Anas	JNARDDC	Effect of Pilot Scale Compaction of Machined AA2024 Swarf on densification, microstructure and mechanical properties
11.05-11.20 AM	Invited	Arunabh Meshram	IIT Kanpur	Material recovery from end-of-life photovoltaic modules by chemical processes
11.20-11.30 AM	Contributory	Madhusmita Dash	IIT Bhubaneswar	Studies on recycling of spent lithium-ion battery cathode using deep eutectic solvents towards energy circularity
11.30-11.40 AM	Contributory	Ankur Srivastava	IIT Kanpur	Recycling Aluminium Dross: emerging advances for recovery
11.40-11.50 AM	Contributory	Charwak Ambade	IIT Ropar	Kinetics study of solid-state reduction of EAF slag pellets by coke.
11.50-12.00 PM	Contributory	S.S.Chandel	IIT Ropar	Thermogravimetric study on Electric Arc furnace slag reduction using coke
12.00-12.15 PM Tea				
12.30-1.30 PM Valedictory function				
1.30-2.30 PM Lunch				
2.30-4.30 PM Alumni Meet at Swatantrata Bhawan				
High Tea				
End of conference				



VISHWANATH TEMPLE
Banaras Hindu University

