

# MMMM 2024



Hall No. 1, Yashobhoomi, Dwarka, New Delhi: 27-29 September 2024

## Final Program

27 September 2024 (Day 1)
09.30 – 10.00 Hrs: Registration
<b>10.00 – 11.30 Hrs: Technical Session 1</b> <b><u>Product Development &amp; Applications</u></b> <b>Session Chairman: Dr L. Pugazhenthly, ED, ILZDA</b> <ul style="list-style-type: none"><li>• Design and Development of Products for the Advancement in Automotive Steels, <i>Monojit Dutta and Chiradeep Ghosh</i>, Tata Steel, (Invited Paper)</li><li>• Making, Shaping, Treating of Electrical Steel: An Indian Perspective, <i>Abhinandan Chatterjee, Kumar Aniket Anand and Amitava Paul</i>, RDCIS, SAIL, Ranchi</li><li>• Development of a Medium Strength Al-Mg-Si Alloy with Optimized Zr Content for Enhanced Properties, <i>Immanuel Raju Kola, Ritu Singh, VNSU Viswanath Ammu, Anil R, R N Chouhan and Anupam Agnihotri</i>, JNARDDC, Nagpur</li><li>• Development of Cr<sub>2</sub>AlC MAX Phase Incorporated Novel Tungsten Alloys for Strategic Applications, <i>Pradyut Sengupta, Deepak Adhikari, Ajit Panigrahi, Mayadhar Debata, Manoj Kumar and Ramasamy Sakthivel</i>, IMMT, Bhubaneswar</li><li>• Sustainable Steel Structure for Construction Industry via Wire Arc Additive Manufacturing (WAAM): Cost Analysis, <i>Ashwani Kumar, Krish Bansal and R L Narayan</i>, Dept. of Materials Science and Engineering, IIT Delhi</li></ul>
11.30 – 11.45 Hrs: Hi-Tea
11.45 – 13.30 Hrs: Inaugural Session
13.30 – 14.30 Hrs: Lunch
<b>14.30 – 17.00 Hrs: Technical Session 2</b> <b><u>Process Innovations in Steel &amp; Metal Sector</u></b> <b>Session Chairman: Mr P. K. Bajaj, Ex MD, Durgapur Steel Plant</b> <ul style="list-style-type: none"><li>• Tunnel Kiln: A Techno-Economic Route of Sponge Iron Making, <i>Dayanand Paswan and M Malathi</i>, CSIR-NML, Jamshedpur</li><li>• Process Optimization through Numerical Simulations and Advanced Extrusion Press Capabilities for High Strength Alloy Extrusion, <i>VNSU Viswanath Ammu, Immanuel Raju, Suman Mukherjee, R N Chouhan and Anupam Agnihotri</i>, JNARDDC, Nagpur</li><li>• Exploring Recycling Potential: Repurposing VAD/VOD Slag for Environmental Sustainability in Alloy Steel Production, <i>Kumar Abhishek, Anand Shankar, Snehangshu Roy and Somnath Kumar</i>, RDCIS, SAIL, Ranchi</li></ul>

- **Studies on Gas Metal Arc Welding and Laser Gas Metal Arc-Hybrid Welding of Maraging Steel MDN-250**, *Bibin Jose M, Nageswar Rao, N Arivazhagan, Madhusudhan Reddy GM and M Manikandan*, VIT, Vellore
- **Digitalisation of Tandem Mill -1 Stand Motors for Reducing Stand Tripping in CRM1-2**, BSL, *Chandan Kumar, Deepak Kumar, Rishi Sumeet Kumar, Rajeev Soni*, RDCIS Bokaro Centre, SAIL

**17.00 – 17.15 Hrs: Tea/Coffee Break**

## September 28 (Day 2)

### 10.00 – 11.45 Hrs: Technical Session 3

#### Decarbonisation of the Metal Sector

**Session Chairman: Mr S. S. Mohanty**

- **Technologies and Pathways to Improved Energy-Efficiency and Decarbonization of Steel Production**, *Joachim von Schéele*, Linde plc, (Invited Paper)
- **Policy and Technological Interventions for Fostering Circularity and Decarbonization in the Indian Metal Industry**, *Shilpi Kapur and Gaurao Chopade*, EMC. Ltd., New Delhi, (Invited Paper)
- **Prospects of Usage of Biochar in Steel Making in India – Challenges & Opportunities**, *Bishnu Kumar Das, P. K. Jha and Subhra Dhara*, RDCIS, SAIL, Ranchi
- **Technology Options and Challenges for SAIL in its Decarbonisation Journey and Transition to Net-Zero**, *Ajanta Sengupta and Jaydeep Balaso Jadhav*, EMD, SAIL, Kolkata
- **Scope of Carbon Capture Utilisation & Storage (CCUS) in Decarbonisation of Iron & Steel Industry**, *Gaurav Verma*, M N Dastur & Co., New Delhi
- **GHG Reduction in Iron & Steel through Process Efficiency**, *Nitesh Ranjan and Navin Prakash Srivastava*, Bokaro Steel Plant, SAIL
- **Indian Steel Industry Decarbonization: Challenges and Pathways**, *Nirmalya Deb*, BigMint, Raipur

**11.45- 12.00 Hrs Tea/Coffee Break**

### 12.00 – 13.15 Hrs: Panel Discussion

- **Innovation in Process & Product Development**
- **Decarbonisation of the Steel and Aluminium Sectors**
- **Strengthening R&D Ecosystem**

**Moderator: Prof. S. Basu, IIT Delhi**

#### Panellists

- *Dr Arun Giri*
- *Mr. Bidyut Chakraborty*
- *Mr. RK Singhal*

**13.15 – 14.15 Hrs: Lunch**

### 14.15 – 15.45 Hrs: Technical Session 4

#### New Technologies

**Session Chairman: Prof. V. Ramaswamy, PSG College of Technology**

- **Panacea for Sustainable Iron and Steel Making! Energiron, DigiMelter, MIDA and QSP are the unique technologies for lowering CO<sub>2</sub> emissions**, *Manoranjan Ram, Danieli INDIA Limited*, Chennai (Invited Paper)
- **Integration of Open Slag Bath Furnace with Direct Reduction Reactors for New-Generation Steelmaking – TENOVA iBLUE®**, *Jorge Martínez, Paolo Stagnoli, Andre Esterhuizen and Praveen Chaturvedi*, Tenova HYL, Mexico, TenovaSpA, Italy, TenovaPyromet, South Africa and Tenova India (Invited Paper)
- **Maximizing Yield Using Innovation in Automatic Gauge Control for Rolling Mills**, *Navneet Singh, Yogi Ji Digi*, Faridabad (Invited Paper)
- **Design of High Strength Steels**, *Shiv Brat Singh*, IIT Kharagpur, (Invited Paper)

- Development of Indian Advanced High Temperature Alloy (IHTA) Billets for Advanced Ultra Super Critical (AUSC) Application, Santanu Saha, S Ravi Varma, S Narahari Prasad, T Muthukumar and S K Jha, MIDHANI, Hyderabad

**15.45-16.00 Hrs: Tea/Coffee Break**

**16.00 – 17.30 Hrs: Technical Session 5**

**Recovery, Recycling & Waste Management**

**Session Chairman: Mr. KK Mehrotra, Ex CMD, MECON Limited**

- Opening- up New Vistas for Eco-friendly and Sustainable Utilization of Linz-Donawitz (LD) Slag in Agriculture as Nutrient Enriched and Soil Conditioning Supplement, Bhupinder Singh, Chandan Kumar Gupta, Shiv Prasad, Sneha Kumari and Kalidindi Usha, IARI, Pusa, New Delhi (Invited paper)
- Technological Innovations to Recovery of Metals from E-waste: The Attero Model, Mohinder K Singhania and Pradeep K Gupta' Attero Recycling Pvt. Ltd., Noida
- Short-term Performance Evaluation of Pavement Constructed with Paver Blocks Manufactured by Partial Replacement of BOF Slag, Alok Kumar Mathur and PR Ajayan, Bhilai Steel Plant, SAIL, Bhilai
- Waste Utilization during Steelmaking Process at SAIL/ Durgapur Steel Plant, Alopi Banerjee and Sattam Kumar Banerjee, Durgapur Steel Plant, SAIL, Durgapur
- Investigation of Various Processing Routes for the Recovery of Li and Mn from Spent Coin Cells, Shaila Mir and Nikhil Dhawan, IIT Roorkee

**September 29 (Day 3)**

**10.00 – 11.00 Hrs: Technical Session 6**

**Raw Material Beneficiation & Advanced Refractory Material**

**Session Chairman: Dr Raman Datta, Consultant, SRTMI**

- Innovation in Refractory Application Technique, Pitamber Adhikari, R Chokkar, Bhushan Bobde and Saumen Sinha, Calderys India Refractories Limited, Nagpur
- Preparation of Building Material from Low Grade Iron Ore Roasting Tailing, Sibangi Rath, Subhabrata Mishra, Jeetendra Nath Panda and Prabhas Chandra Beuria, IMMT, Bhubaneswar
- Investigation of Methods for Inclusion Absorption and Prevention of Mould Flux Entrapment in the Casting of Stainless Steel and Interstitial Free Steel, Rahul Kumar, Shamim Ahmed, Abhishek Banerji and Rana Kanjilal, Calderys Steel Casting India Private Limited, Nagpur

**11.00 – 11.15 Hrs.: Tea/Coffee Break**

**11.15 – 12.15 Hrs: Technical Session 7**

**Digitalisation and Smart Technologies**

**Session Chairman: Dr Sanak Mishra, Ex MD, RSP**

- Transforming Steel Manufacturing with “Plant on Cloud” through KJSS+MEGHAAI+AWS Product, Manoj Kumar Arora and Vaibhav Verma, KJSS COSMOS Private Limited, Mumbai
- Smart Steel: How Digitalization is Reinventing the Steel Sector, Sanjay K Prasad and Vikas Agnihotri, IBM, Bangalore
- Empowering India 4.0: Unified Approach for Adopting Fourth Industrial Revolution Initiatives by India, Vikas Kumar Agnihotri, TECHXPRT Consortium LLP, Surat

**12.30 – 13.30 Hrs: Valedictory Session**

**Session Chairman: Mr. P. K. Singh, Ex Chairman, SAIL**

**13.30: Lunch**