



INTERNATIONAL CONFERENCE ON

Advances in Foundry and Forming Technology

18 – 19th December | 2024

Tentative Technical Session Schedule



Day 1: Wednesday, 18th December 2024

10:00 AM - 11:00 AM

Inauguration Session

1. Shri Santosh Kumar Gangwar – Chief Guest
(Subject to Confirmation)
Honourable Governor of Jharkhand
2. Shri Sham Arjunwadkar – Guest of Honour
Former Chairman, Board of Governor, NIAMT Ranchi
3. Professor Brij Kumar Dhindaw – Guest of Honour
Distinguished Professor, IIT Kharagpur
4. Professor D. K. Singh – Guest of Honour
Vice Chancellor, Jharkhand University of Technology
5. Dr. Suvrokamal Dutta – Guest of Honour
Political, Economic and Foreign Policy Expert
6. Professor Partha Protim Chattopadhyay
Director NIAMT Ranchi
7. Er. Mahesh Kumar Gupta,
Chairman, IEI Jharkhand State Center
8. Professor Manoj Kumar
Head, Department of Foundry and Forge Technology
9. Professor Kamlesh Kumar Singh
Chairman ICAFFT

11:00 AM - 11:30 AM

High Tea at Auditorium Canteen

11:30 AM - 01:30 PM

Session 1: Advanced Foundry and Casting Processes

Invited Talks

1. Professor Brij Kumar Dhindaw
Distinguished Professor, IIT Kharagpur
2. Dr. Nagahanumaiah
Director, Central Manufacturing Technology Institute
(CMTI) Bangalore
3. Dr. Madav Athavale
Foundry Consultant and Ex- Foseco
4. Dr. D. S. Padan
GM and Head Foundry, Tata Motor Jamshedpur



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	Author Presentations 5. ICAFFT24-100 Higher Casting Yield for Critical pressure component of power plant component - A case study, Dr. Ved Prakasha, Dr. Himanshu Khandelwal, Dr. Sudip Kumar Samantaa, Mr. Pranabendu Sahaa, Mr. Balaji Chandrakantha*
1:30 PM - 2:30 PM	Lunch at NIFFT Niwas
02:15 PM – 02:30 PM	SMART Foundry: Art to Analytics Lab Inauguration at CIF Building
2:30 PM - 4:00 PM	Session – 2A: Forging and Forming Processes Invited Talk 1. Dr. Raj Kumar Prasad Singh Senior Director, KCTI (Bharat Forge Ltd) Author Presentations 6. ICAFFT24-49 Applications of Process CAE for Development of Hot Forging Manufacturing Process; Bikash Musib, K. Narendra Babu & V. Janardhana 7. ICAFFT24-06 Relevance of parameters influencing forming force, formability, surface roughness, profile accuracy and thickness distribution of variable wall angle conical frustums during Single Point Incremental Sheet Forming (SPIF) by Radhe Shyam Bhasker and Yogesh Kumar 8. ICAFFT24-64 Effect of Strain rate on Newly Developed Manganese Stabilized Austenitic Stainless Steel to suitable for Rolling and Forging Applications of Manufacturing Industries by Dr. K. Chandra Sekhar 9. ICAFFT24-67 Effect of processing parameters on die design and deformation of AA5083 through equal channel angular pressing technique by Nagendra Singh, Manoj Kumar Agrawal



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	<p>10. ICAFFT24-11 Effect of Notch-depth Ratio on Intermittent Electromagnetic Radiation and Magnetic Field Generation in Iron sheet specimen under Tension, Dr. Rajeev Kuma, BIT Meshra</p> <p>Session – 2B: Advances in Smart Materials and Testing Technologic</p> <p>Author Presentations</p> <ol style="list-style-type: none">1. ICAFFT24-96 Bending and vibration study of carbon nanotubes reinforced functionally graded smart composite plate, Manish Kumar2. ICAFFT24-92 Outline study on Acoustic Emission Testing (AET), Prof. Bansidhara Mallik, NIAMT Ranchi3. ICAFFT24-22 Recent trends in High Entropy Alloys using Powder Metallurgy, Sanjay Varala4. ICAFFT24-42 Enhancement of Thermal Performance with Nanofluids their cost Efficiency and Sustainability in the Industrial Heat Treatment Processes, Shivam Shukla
4:00 PM - 4:15 PM	Tea Break
4:15 PM - 5:45 PM	<p>Session 3A: Metal Solidification, Deformation, Tooling and Methoding,</p> <p>Invited Talk:</p> <ol style="list-style-type: none">1. Mr Anil Shivajirao Kulkarni Vice President, The Great Die Casting Technology Forum of India2. Dr. Sudesh Singh, Post-doctoral Researcher, Tsinghua University, Beijing <p>Author Presentations</p>



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3. ICAFFT24-44
The Influence on the type of Nucleants on the Mechanical and Metallurgical Quality of SG Iron Castings by Nandita Gupta
4. ICAFFT24-35
Hardness Control in Automobile Casting- A Case Study by Himanshu Shekhar Mishra, Rina Sahu
5. ICAFFT24-99
Optimizing Inclusion Removal and Flow Dynamics in Continuous Casting Tundishes with Multi-Hole Ceramic Filters, Latif Arifudin¹, Shahid Parvez, Md Irfanul Haque Siddiqui

Session 3B: Composite Materials, and Machining Techniques

Author Presentations

1. ICAFFT24-17
Experimental Investigation of Mechanical Properties on AA6061 Metal Matrix Composite Friction Stir Welded Joints by Supraja Reddy. B, G. Sidhu, D. Sai Prakash, N. Sashi Kumar and B. Ganesh
2. ICAFFT24-09
Reverse Cladding A Novel Approach to Produce Components with Integrated Cladding Through Casting by Tumula Tirumala, Ajay Kumar
3. ICAFFT24-97
Machinability study and optimization of EDM process parameters for AA7050-B4C-T6 Composite using Grey Taguchi Method; Arvind Kumar^{1*}, Abhishek Kumar¹, Priya Ranjan¹ Ram Naresh Rai²
4. ICAFFT24-55
Enhancing Al 6061 Alloy with In-Situ TiB₂ Reinforcement for Superior Mechanical Properties by Anshu Anand

06:30 PM – 08:00 PM

Cultural Programme

08:00 pm onward

Dinner

Day 2: Thursday, 19th December 2024



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9:30 AM - 11:00 AM

Session 4A: Advanced Casting and Joining process

Invited Talks

1. Professor P. K. Jha
IIT Roorkee
2. Professor Rajiv Asthana
University of Wisconsin, Wisconsin, USA
3. Professor Partha Protim Chattopadhyay
Director, NIAMT Ranchi
4. MAGMA Engineering India Pvt. Ltd.

Author Presentations

5. ICAFFT24-72
Effect of coalescence and strain triaxiality on tensile strength during single point incremental forming (SPIF) process for the Titanium sheets of grade 4 and grade 2 by T. Niranjana, S. Vigneshwaran and G. Yog Anjaneyulu
6. ICAFFT24-28
Effect of Cooling Conditions on Developing Ultra-High Strength Micro Alloyed Steel for Railway Applications by Anushree Dutta

Session 4B: Advancements in Precision Machining and Sustainable Material Processing

Author Presentations

1. ICAFFT24-57
Super finishing by Bio-material Cobalt-alloys by Magnetic field assisted finishing processes (MFAFP) by Sudhir Chaurasiya, Dr. Madhava Nand Pandey
2. ICAFFT24-30
Optimization of Drilling Parameters for improved machined surface quality of Advanced Fiber-Reinforced Composite Laminates Using EDAS Method by Tarakeswar Barik, Suchismita Parida, Kamal Pal, Debadutta Mishra
3. ICAFFT24-68
Mechanical and Electrical Characterization of PLA-Based Composite Filaments for Electrochemical Sensing



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	<p>Electrode by Abhishek Raj, Adarsh Singh, Bobby Tyagi, Pushpendra Yadav</p> <p>4. ICAFFT24-50 Study of the effects of mango seed and pongamia oil-based cutting fluid on surface morphology in turning of AISI 304 steel by Aneesh Mishra, Vineet Dubey, Anuj Kumar Sharma, Sunny Singhania, Kamlesh Kumar Singh, Rajat Uphadhyaya, Sujeet Kumar Gautam.</p> <p>5. ICAFFT24-20 Experimental analysis of pulsed laser micro-polishing of nitinol by Sangeeth Purushothaman, M Shanmuka Srinivas, Nasina Venkaiah, M Ravi Shankar</p>
11:00 AM - 11:30 AM	Tea Break
11:30 AM - 1:00 PM	Session 5 A: Sheet Metal Forming and Casting Invited Talk <ol style="list-style-type: none">1. Professor D. Ravi Kumar IIT Delhi2. Dr. Rahul Kumar, Chief Research & Development, Tata Steel Jamshedpur Author Presentations <ol style="list-style-type: none">3. ICAFFT24-71 Evaluating Extrusion Manufacturing Conditions for Quality and Weight of Surgical Application Part by Manish Dixit, Pushpendra Yadav, Piyush Singhal4. ICAFFT24-46 A review on grades, properties and forming of steels for standardization and quality control of ship building components by Kuntal Maji5. ICAFFT24-48 Analysis and multi-objective optimization of incremental sheet forming of aluminium alloy sheet using machine learning techniques, Pawan Kumar, Kuntal Maji, Raj Ballav6. ICAFFT24-74 Experimental investigation into the effects of heat treatment on the Microstructure and characteristics of



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	<p>high Cr alloyed cast Iron ASTM – A 532 by Sharada Prasad Shukla, K. K. Singh</p> <p>Session 5B: Advances in Materials and Process Optimization</p> <ol style="list-style-type: none">1. ICAFFT24-22 NiTiUse of NiTiInol in aerospace applications: A review, Susmita Datta5. ICAFFT24-95 Numerical and hydrodynamic study of granular material cooling in a multi-stage fluidization chamber: Experimental validation, Pavitra Singh
1:00 PM – 2:00 PM	Lunch at NIFFT Niwas
2:00 PM – 3:30 PM	<p>Session 6A: Automation and Digital Twin in Manufacturing</p> <p>Invited Talks</p> <ol style="list-style-type: none">1. Mr. Rakesh Kadiyan, General Manager, Ramkrishna Forgings Limited (RKFL) Jamshedpur2. Dr Rajesh Ransing Professor, Swansea University3. Dr Kedarnath Rane Research and Development Engineer National Manufacturing Institute Scotland4. Dr Md. Irfanul Haque Sidhiqqi Assistant Professor, King Saud University, Saudi Arabia <p>Author Presentations</p> <ol style="list-style-type: none">5. ICAFFT24-98 Robots in Supply Chain Management: Ensuring Safety and Efficiency in Healthcare, Priya Ranjan, N. Hari Babu, Arvind Kumar <p>Session 6B: Innovation in Additive Manufacturing and Bioengineering</p> <p>Author Presentations</p>



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	<ol style="list-style-type: none">1. ICAFFT24-91 Recent advancements in multifunctional smart materials for 3D/4D bio-printing and its innovative approach to biomedical applications, Sakshi Tiwari2. ICAFFT24-93 Exploring 3D Printing and Polymer Innovations for Enhanced Drug Delivery System Development, Prof. Bansidhar Mallik3. ICAFFT24-94 Current Developments in Bone Tissue Engineering Using Additive Manufacturing Methods, Ganesh Dagadu Walasange,4. ICAFFT24-70 Development and performance evaluation of polymer-based abrasive tool for porous viscoelastic abrasive finishing additively manufactured SS 316L by M. Shanmuka Srinivas, P. Sangeeth, N. Venkaiah, M. Ravi Sankar5. ICAFFT24-08 Development of a novel hybrid additive manufacturing process for low-cost metal components by Ritik Raj, Jung-Ting Tsai, Jeng-Ywan Jeng6. ICAFFT24-61 Fused Deposition Modelling (FDM) in Additive Manufacturing by Inshirah Siddiqui
3:45 PM - 4:45 PM	<p>Panel Discussion: "Future Trends and Challenges in Foundry and Forge Industry"</p> <ol style="list-style-type: none">1. Professor Brij Kumar Dhindaw Distinguished Professor, IIT Kharagpur2. Mr. Deepak Kumar Lenka, Vice President Foundry Ramakrishna Forging Limited Group3. Dr. Madav Athavale Foundry Consultant and Ex- Foseco4. Dr. Rahul Kumar Verma, Chief R&D, Tata Steel5. Professor D. Ravi Kumar



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	<p>IIT Delhi</p> <p>6. Professor Partha Protim Chattopadhyay Director NIAMT</p>
5:00 PM - 6:00 PM	<p>Valedictory Session</p> <ol style="list-style-type: none">1. Shri Sham Arjunwadkar – Chief Guest Former Chairman, Board of Governor, NIAMT Ranchi2. Mr. S. K. Verma – Guest of Honour Chairman and Managing Director (CMD), MECON Limited3. Professor Partha Protim Chattopadhyay Director, NIAMT Ranchi4. Professor Manoj Kumar, Secretary – ICAFFT 2024, Head, Department of Foundry and Forge Technology5. Mr. Harun Ansari, Co-Secretary – ICAFFT 20246. Professor N. K. Singh Dean Academics, NIAMT Ranchi <p>Vote of Thanks by Dr. Himanshu Khandelwal, Convenor – ICAFFT 2024</p>
6:00 PM - 6:30 PM	<p>High Tea at NIFFT Niwas</p>