

# The Institution of Engineers (India), Rourkela Local Centre

38<sup>th</sup> National Convention of Metallurgical and Materials Engineering & National Conference on “Capacity Building in Process Metallurgy”

26-27<sup>th</sup> July, 2025

## Programme

Saturday 26<sup>th</sup> July, 2025

Saturday 26 <sup>th</sup> July, 2025											
08:00-9:00 AM	Registration										
09:00-10:00 AM	Inauguration Session										
10:00-10:30 AM	HIGH TEA (IN FRONT OF INAGURATION VENUE)										
Technical Session-I											
10:30-11:30 AM	V. Subramony Memorial Lecture										
11:30-12:30 PM	State-of-the-art Lecture										
Technical Session-II											
12:30-01:00 PM	Eminent Engineers Award Lecture-I										
01:00-01:30 PM	Eminent Engineers Award Lecture-II										
WORKING LUNCH (AT IEI BUILDING)											
Technical Session-III											
03:00-03:30 PM	Eminent Engineers Award Lecture-III										
03:30-03:45 PM	Young Engineers Award Lecturer-I										
03:45-04:00 PM	Young Engineers Award Lecturer-II										
Technical Session-IV											
	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9	Room 10	Room 11
04:30-06:00 PM	Contributory talk Gr1 (1-10)	Contributory talk Gr2 (1-10)	Contributory talk Gr3 (1-10)	Contributory talk Gr1 (11-20)	Contributory talk Gr5 (1-10)	Contributory talk Gr2 (11-17)	Contributory talk Gr7 (1-10)	--	--	Contributory talk Gr10 (1-10)	--
BANQUET DINNER (AT ROURKELA CLUB)											
Sunday 27 <sup>th</sup> July, 2025											
Technical Session-V											
10:00-10:45 AM	KY01:	KY 02:	KY 03:	KY 04:	KY 05:	KY 06:	KY 07:	KY 08:	KY 09:	KY 10:	KY 11:
10:45-11:15 AM	IN01:	IN02:	IN03:	IN04:	IN05:	IN06:	IN07:	IN08:	IN09:	IN10:	IN11:
Technical Session-VI											
11:15-01:15 PM	Contributory talk Gr1 (20-31)	Contributory talk Gr2 (18-24)	Contributory talk Gr3 (11-19)	Contributory talk Gr4 (1-11)	Contributory talk Gr5 (11-19)	Contributory talk Gr6 (1-8)	Contributory talk Gr7 (11-24)	Contributory talk Gr8 (1-11)	Contributory talk Gr9 (1-11)	Contributory talk Gr10 (11-19)	Contributory talk Gr11 (1-13)
WORKING LUNCH (AT IEI BUILDING)											
04:00-04:45 PM	Announcement of each session Awards, Certificate distribution and Valedictory session										

**Gr1:** Processing of Materials, **Gr2:** Advanced Materials & Alloy Development, **Gr3:** Degradation of Materials & Fracture, **Gr4:** Energy Materials, **Gr5:** Additive Manufacturing, **Gr6:** Furnace technology& Extractive Technology, **Gr7:** Green Technology & Sustainable Materials, **Gr8:** Aerospace and Defence Materials, **Gr9:** Biocompatible Materials, **Gr10:** Waste Utilization, **Gr11:** Ferrous Metallurgy: Challenges & Opportunities

**Room 1:** MM-UG Class room, **Room 2:** MC224, **Room 3:** MC217, **Room 4:** MC126, **Room 5:** MM Seminar Room, **Room 6:** MM-PG Class room, **Room 7:** Civil seminar Room, **Room 8:** 239, **Room 9:** 239A, **Room 10:** 243, **Room 11:** MC319

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## Plenary/Keynote/Invited talk

	Speaker Name	Topic Title
<b>V. Subramony Memorial Lecture</b>	<b>Prof. (Dr.) V. Sampath, Former Prof, Dept of MM, IIT Madras</b>	Principles and Mechanisms of Shape Memory Alloys and their Medical and Structural Engineering Applications
<b>State of the art</b>	<b>Prof. (Dr.) Animesh Mandal, HOD, Dept of MMME, IIT Bhubaneswar</b>	The present and future of aluminium alloys
<b>Eminent Engineers Award Lecture-I</b>	<b>Er. Jagdish Arora, Director (Project &amp; Technical), NALCO, India</b>	Furure of aluminium and advancement
<b>Eminent Engineers Award Lecture-II</b>	<b>Dr. Vakil Singh, Ex-Professor, Department of Metallurgical Engineering, IIT (BHU) Varanasi, India</b>	Some aspects of fatigue of structural materials
<b>Eminent Engineers Award Lecture-III</b>	<b>Dr. K. L. Sahoo, Chief Scientist, Materials Engineering Division &amp; Professor AcSIR</b>	Development and Processing of Light Metallic Alloys for Specialty Applications
<b>Young engineers Award-I</b>	<b>Dr. Avanish Ku. Chandan, Senior Scientist, Materials Engineering Division, CSIR-NML, Jamshedpur</b>	Warm rolling-based microstructural engineering to overcome the strength-ductility trade-off in a medium manganese steel
<b>Young engineers Award-II</b>	<b>Ms. Smita Toppo, Senior Manager (E4), Steelmaking &amp; Casting Group, R&amp;D Centre for Iron &amp; Steel, SAIL, Bokaro</b>	Utilization of Sludge Bricks as Primary Coolant in BOF Converters for Sustainable Steelmaking
<b>KY01</b>	<b>Prof. (Dr.) Dillip Kumar Panda, Dept of MSE, Clemson University, USA</b>	Applications of Advanced Materials in Various Energy Technologies
<b>KY02</b>	<b>Sct. (Dr.) Dipen Kumar Rajak, CSIR</b>	Insights into Development and Characterizations of METALLIC FOAM: The Liquid Metallurgy
<b>KY03</b>	<b>Prof. (Dr.) Lakshmi Narayan Ramasubramanian, IIT Delhi</b>	Effect of long-term ageing on the fatigue behavior of Haynes 282, a Ni-based superalloy
<b>KY04</b>	<b>Prof. (Dr.) Bhuvanesh Srinivasan, IIT Madras</b>	Harnessing Heat: Emerging Strategies in Thermoelectric Material Design for Sustainable Energy Conversion
<b>KY05</b>	<b>Prof. (Dr.) Hemant Borkar, IIT Indore</b>	Exploring the Microstructure, Texture, Mechanical Properties and Creep Behaviour of Ca and Sr added AZ91 Magnesium Alloy
<b>KY06</b>	<b>Prof. Atanu Bhowmick, Professor-in-Practice &amp; Former DIC, SAIL RSP</b>	Process Metallurgy Advances
<b>KY07</b>	<b>Prof. (Dr.) Ram Snjeevan Murya, IIT Indore</b>	Design and development of eutectic multicomponent alloys: Light weight theme
<b>KY08</b>	<b>Er. Priyabrata Mallick, HAL</b>	Advances in Aerospace Materials and aero-structural materials
<b>KY09</b>	<b>Prof. (Dr.) Shampa Aich, IIT Kharagpur</b>	Ti-based Biomaterials and its Applications
<b>KY10</b>	<b>Prof. Dr.) Srinibas Mishra, NIT Srinagar</b>	Characteristics and Applications of Basic Oxygen Furnace Slag as a Sustainable Construction Material
<b>KY11</b>	<b>Prof. (Dr.) Anshuman Patra, NIT Rourkela</b>	Perspective of challenges and future prospects in the Ferrous Metallurgy sector.
<b>IN01</b>	<b>Prof. (Dr.) Kuldeep Ku Saxena, LPU</b>	A Significant Role of Physical Simulation in High Temperature Deformation
<b>IN02</b>	<b>Prof. (Dr.) Deepankar Panda, MNIT, Jaipur</b>	Evolution of microstructure, texture, and mechanical properties of pure Mg and its alloys during grain growth
<b>IN03</b>	<b>Prof. (Dr.) Tapabrata Maity, NIFFT Ranchi</b>	Influence of substrate surface finish metallurgy on lead-Free solder joint microstructure with implications for board-level reliability
<b>IN04</b>	<b>Prof. (Dr.) Arpan Kumar Nayak, NCERT</b>	Waste Derived Materials for Energy Storage Devices
<b>IN05</b>	<b>Prof. (Dr.) Rudranarayan Kandi, NIT Rourkela</b>	Fundamentals to 3D printing and recent advances in diverse fields
<b>IN06</b>	<b>Sct. (Dr.) Saralasrita Mohanty, NISER</b>	Advanced Ceramics: Enabling Furnace Technologies, Extraction, and Biomaterials
<b>IN07</b>	<b>Prof. (Dr.) Viswanath H M, Manipal University</b>	Fundamentals and Advancements in Additive Manufacturing
<b>IN08</b>	<b>Prof. (Dr.) Asit Behera, KIIT Bhubaneswar</b>	Ni based superalloys used in Aerospace applications and their characteristics
<b>IN09</b>	<b>Prof. (Dr.) Renu Kumari, NIT Jamshedpur</b>	Development of bioactive coating on Ti-alloy by plasma spraying
<b>IN10</b>	<b>Sct. (Dr.) Pallishree Prusti, CSIR-IMMT</b>	Reimagining Industrial & Mining Wastes: Utilization, Metal Recovery, and Carbon Capture
<b>IN11</b>	<b>Er. Aurobinda Dash, JSW Steel</b>	Ferrous Metallurgy: Challenges and Opportunities

# The Institution of Engineers (India), Rourkela Local Centre

Date	Time	Technical Sessions	Room	Chair of the session
DAY-1 (26/07/2025)	10:30-11:30 AM	<b>Technical Session-I (Memorial Lecture+ State-of-the-art)</b>	BBA	Er Kishore Kumar Mehrotra (FIE) Chairman, Metallurgical & Materials Division Board, IEI Er. Santosh Kumar Polaki, FIE, Chairman, Rourkela Local Center
	11:30-12:30 PM			
	12:30-01:00 PM	<b>Technical Session-II (Eminent Engineers Award Lecture-I + Eminent Engineers Award Lecture-II )</b>	BBA	Prof. Atanu Bhowmick, Professor-in-Practice & Former DIC, SAIL RSP Prof (Dr) Krishnamoorthi J., FIE, Member; Dr Golaph Mohammad Chowdhury, FIE, Member
	01:00-01:30 PM			
	03:00-03:30 PM	<b>Technical Session-III (Eminent Engineers Award Lecture-III + Young Engineers Award Lecturer I-II)</b>	BBA	Prof (Dr) Kamalesh Kumar Singh, FIE, Member; Er. Santosh Kumar Polaki, FIE, Chairman, Rourkela Local Center
	03:30-04:00 PM			
	04:30-06:00 PM	<b>Technical Session-IV (Contributory talk)</b>	Room 1	Prof. (Dr.) Ankush Arun Kashiwar, NIT Rourkela; Prof. (Dr.) Lakshmi Narayan Ramasubramanian, IIT Delhi; Prof. (Dr.) Deepankar Panda, MNIT
			Room 2	Prof. (Dr.) Bankim Chandra Ray, NIT Rourkela; Sct. (Dr.) Saralasrita Mohanty, NISER; Prof. (Dr.) Dillip Ku. Panda, Clemson University, USA
			Room 3	Prof. (Dr.) Kumud Kant Mehta, NIT Rourkela; Prof. Sudipto Sen, Former Professor, NIT Rkl; Prof. (Dr.) Prekshya Nath, NIT Rourkela
			Room 4	Prof. (Dr.) Arnab Sarkar, NIT Rourkela; Prof. (Dr.) Arpan Kumar Nayak, NCERT; Er. Santosh Kumar Polaki, FIE, Chairman, Rourkela Local Center
			Room 5	Prof. (Dr.) Rudranarayan Kandi, NIT Rourkela; Prof. (Dr.) Natraj Yedla, NIT Rourkela, Prof. (Dr.) Hemant Borkar, IIT Indore
			Room 6	Prof. (Dr.) Swapan Ku. Karak, NIT Rourkela; Prof. (Dr.) Animesh Mandal, IIT BBSR; Dr. Ramesh Kumar Mohapatra, NIT Rourkela (IEI committee member)
			Room 7	Prof. (Dr.) Priyanka Saini, Er. P. Mallick, Engine Division, HAL; Prof. (Dr.) Subash Chandra Mishra, Former HOD, MM NIT Rkl
			Room 10	Sct. (Dr.) Pallishree Prusti, IMMT; Prof. (Dr.) Hara Mohan Jena (IEI committee member); Er. Diptankar Mahapatra, SAIL, RSP
DAY-2 (27/07/2025)	10:00-11:15 AM	<b>Technical Session-V (Plenary + Invited talk)</b>	Room 1	Prof. (Dr.) Anindya Basu, NIT Rourkela; Dr. Nutan Kumar Dash, Imd. Past Vice President, IEI
			Room 2	Prof. (Dr.) Debasis Chaira, NIT Rourkela; Prof (Dr) Krishnamoorthi J, MMDB Member
			Room 3	Prof. (Dr.) Krishna Dutta, NIT Rourkela; Prof. (Dr.) Saroj Kumar Patel, NIT Rourkela
			Room 4	Prof. (Dr.) S. Murugan, NIT Rourkela; Prof. (Dr.) Praeek Khatri, NIT Rourkela
			Room 5	Prof. (Dr.) Sourav Dutta, NIT Rourkela; Prof. (Dr.) Anupam Mishra, NIT Rourkela
			Room 6	Prof. (Dr.) Shweta Shukla, NIT Rourkela; Er Kishore Kumar Mehrotra (FIE) Chairman, MMDB, IEI
			Room 7	Prof. (Dr.) Srinibas Mishra, NIT Srinagar; Er. Ashim Sabat, SAIL RSP (IEI committee member)
			Room 8	Prof. (Dr.) Satosh Kumar Sahoo, NIT Rourkela; Prof. (Dr.) Manoj Masant, NIT Rourkela;
			Room 9	Prof. (Dr.) Rama Ch. Pradhan, NIT Rourkela(IEI committee member); Dr. Golaph Mohammad Chowdhury, MMDB Member
			Room 10	Er. Adil Mohammed, SAIL(IEI committee member); Prof. (Dr.) Tapabrata Maity, NIFFT Ranchi
			Room 11	Dr. Soumitra Ku. Dinda, NIT Rourkela; Er. Santosh Kumar Polaki, FIE, Chairman, Rourkela Local Center
	11:15 AM-01:15 PM	<b>Technical Session-VI (Contributory talk)</b>	Room 1	Prof. (Dr.) Shampa Aich, IIT Kharagpur; Prof. (Dr.) Kuldeep Ku Saxena, LPU; Er. Aurobinda Dash, JSW Steel
			Room 2	Prof. (Dr.) Rajesh Kumar Prusty, NIT Rourkela; Prof. (Dr.) V. Sampath, IIT Madras;
			Room 3	Prof. (Dr.) Archana Mallik, NIT Rourkela; and Er. Ajay Kumar Goswami (IEI committee member)
			Room 4	Prof.(Dr.) Atanu Bhowmick, NIT Rourkela; Prof. (Dr.) Renu Kumari, NIT Jamshedpur; Prof. (Dr.) Santos Kumar Das, NIT Rourkela
			Room 5	Sct. (Dr.) Dipen Kumar Rajak, CSIR; Prof. (Dr.) Lakshmi N. Ramasubramanian, IIT Delhi,
			Room 6	Prof. (Dr.) Prakash G. Ranaware, NIT Rourkela and Dr. Anil Ku. Barik, SAIL, RSP; Prof. (Dr.) Tapabrata Maity, NIFFT Ranchi
			Room 7	Prof. (Dr.) Ram snjeevan Murya, IIT Indore; Prof. (Dr.) Soumya Sanjeeb Mohapatra, NIT Rourkela; Er. Himansu Satapathy, (IEI committee member)
			Room 8	Prof. (Dr.) Asit Behera, KIIT Bhubaneswar; Prof. (Dr.) Viswanath H M, Manipal University; Er. Chitrasen Tajan, SAIL, RSP (IEI committee member)
			Room 9	Prof. (Dr.) Srijan Acharya, NIT Rourkela; Prof. (Dr.) Bhuvanesh Srinivasan, IIT Madras
			Room 10	Prof. (Dr.) Ratnakar Swain, NIT Rourkela (IEI committee member); Prof. (Dr.) Rachna Sehrawat, NIT Rourkela(IEI committee member)
			Room 11	Prof. (Dr.) Anshuman Patra, NIT Rourkela; Prof. (Dr.) Syed Nasimul Alam, NIT Rourkela; Er. Priyabrata Mallick, HAL