

National Conference
on
Critical Metals: Recycling, Innovation, Separation & Processing
(CRISP 2025)

13-15 October, 2025

Golden Jubilee Lecture Theatre (GJLT), IIT(ISM) Dhanbad

Program Schedule

Day 1: 13th October 2025 (Monday)

Time	Event	
08:00 onwards	Registration	
09:30 – 10:30	Inaugural Session Chief Guest: Dr. Vijay Kumar Saraswat, Member, Niti Aayog	
10:30 – 11:00	High Tea	
Session I: Unlocking the potential of Critical Metals for Atmanirbhar Bharat		
Time	Speaker	Title
11:00 – 11:20	Dr. Deependra Singh, Former CMD, IREL	Evolution of Critical Minerals Era- The REE Experience
11:20 – 11:40	Dr. Raghavendra Tiwari, Director, Materials Group, BARC Mumbai	Materials for Gen IV Nuclear Reactors in India
11:40 – 12:00	Dr. Ramanuj Narayan, Director, CSIR-IMMT Bhubaneswar	Title to be received
12:00 – 12:20	Dr. Sandip Ghosh Chowdhury, Director, CSIR-NML Jamshedpur	Rare Earth Elements and its Applications
12:20 – 12:40	Shri. R. Saravanabhavan, Deputy Advisor, NITI Aayog	Overview of the National Critical Mineral Mission and its Prospects
12:45 – 14:00	Lunch	
Session II: Innovations in Recycling and Metal Extraction		
Time	Speaker	Title
14:00 – 14:15	Dr. Alok Awasthi, Head, MP & CED, Materials Group, BARC Mumbai	Pyrometallurgy of critical metals -scientific basis for improved practices
14:15 – 14:30	Dr. Kartikey Kumar Yadav, Scientific Officer, BARC Mumbai	Scalable Next-Generation Hydrometallurgy Process Development for Rare-Earth Extraction from End-of-Life NdFeB Magnets

14:30 – 14:45	Dr. K. K. Singh, Professor, IIT (BHU)	Recycling of tantalum from waste capacitors: an effort to address the criticality
14:45 – 15:00	Dr. S. K. Sahu, Chief Scientist, CSIR-NML Jamshedpur	Sustainable recycling of rare earth elements from secondary resources
15:00 – 15:15	Dr. Nikhil Dhawan, Professor, IIT Roorkee	Recovery of critical metals from electronic waste
15:15 – 15:30	Dr. Ebhin Masto, Chief Scientist, CSIR-CIMFR, Dhanbad	Coal as a Potential Raw Material for Critical Minerals
15:30 – 15:45	Dr. Arunabh Meshram, Assistant Professor, IIT Kanpur	Materials Recycling Pathways: towards circular economy of critical metals
15:45 – 16:15	Tea Break	
Session III: Industry Perspectives on Critical Metals: Innovation, Technology, and Circularity		
Time	Speaker	Title
16:15 – 16:30	Dr. Sanjiv Tyagi, CEO, GMDC Science and Research Centre, Gujarat	Title to be received
16:30 – 16:45	Mr. Rajesh Goyal, Founder, Polyprotic	Indigenously Developed High-Performance Solvent Extractants for Critical Metal Recovery and Refining
16:45 – 17:00	Mr. Ajit Singh Choudhary, MD, ELITech Earth Science Pvt. Ltd.	Unlocking the Future of Critical Minerals: Bridging Technology, Characterisation & Human Capital
17:00 – 17:15	Dr. Amit Sarkar, Director, Vedam India Metallurgical Research Lab, Kolkata	Optimization of Bioleaching of rare earth elements from electronic waste by penicillium expansum and insights into its mechanism
17:15 – 17:30	Ms. Mohini Gavhane, Alfa Laval, Pune	Title to be received
17:30 – 18:30	Poster Session + High Tea	
19:00 onwards	Dinner	

Day 2: 14th October 2025 (Tuesday)

Time	Event	
08:30 – 09:30	Breakfast	
Session IV: Critical Mineral Resource Development: Challenges and Opportunities		
Time	Speaker	Title
09:30 – 09:50	Dr. Anand Rao, CMD, Uranium Corporation of India Limited (UCIL)	Current Status and Trends in Exploitation of a few Critical Metal Ore Deposits Occurring in India
09:50 – 10:10	Shri. Anuttam Mishra, Director, IREL	Rare Earths: A catalytic material for advance technologies
10:10 – 10:30	Dr. Arvind Kumar Mishra, Director, CSIR-CIMFR Dhanbad	Critical Mineral Scenario of India
10:30 – 10:50	Dr. K. Ramesha, Director, CSIR-CECRI Karaikudi	Title to be received
10:50 – 11:10	Dr. R. Ratheesh, Director, C-MET Hyderabad	Title to be received
11:10 – 11:30	Tea Break	
Session V: Critical Metals for Emerging Technologies: Separation, Recycling, and Advanced Applications		
Time	Speaker	Title
11:30 – 11:45	Dr. T. Sreenivas, Former Head, Mineral Division, BARC Hyderabad	R & D needs for recovery of critical mineral values from mine and process wastes
11:45 – 12:00	Dr. Ranjan Singh, Senior Scientist, DMRL Hyderabad	Thermal Performance Enhancement in Sm-Co and Nd-Fe-B type Rare Earth Permanent Magnets
12:00 – 12:15	Dr. Ranjit Bauri, Professor, IIT Madras	Transforming Solar Panel Waste into High-Performance Li-ion Battery Anodes through sustainable Silicon Recovery
12:15 – 12:30	Dr. Ritesh Ruhela, Scientific Officer, BARC Mumbai	Advances in selective separation of critical metals - A necessity for emerging green technologies
12:30 – 12:45	Dr. Chenna Rao Borra, Assistant Professor, IIT Kharagpur	Synergetic recycling of NdFeB magnets and Li-ion batteries
12:45 – 13:00	Dr. C. Naveen Kumar, Principal Scientist, CSIR-CECRI Karaikudi	Critical Metals Extraction from Primary and Secondary Sources
13:00 – 14:00	Lunch	

Session VI: Advances in Critical Metals Science and Technology		
Time	Speaker	Title
14:00 – 14:10	Mr. Atchutanna Vidyaadhari, Scientific Officer, BARC Hyderabad	Recovery of Rubidium, Caesium and Potassium from the Leach Residue of Indian Pegmatite Ore
14:10 – 14:20	Mr. Amit Karmakar, Research Associate, CSIR-CIMFR Dhanbad	Strategic Assessment of Rare Earth Element Potential in Coal Ash from Singrauli Coalfield, India for Resource Development
14:20 – 14:30	Mr. Sunil Kumar, Research Analyst, CEEW	Towards indigenous cobalt production through recovery from secondary sources
14:30 – 14:40	Mr. Nishant Kumar Pandey, Sr. Manager, TATA Steel	Hydrometallurgical processing of spent HDS catalyst for recovery of critical metals
14:40 – 14:50	Dr. Ram Karan, Scientific Officer, BARC Hyderabad	Studies on recovery of rare earth elements from coal fly ash of Indian origin using hydrometallurgical techniques
14:50 – 15:00	Mr. Reshu Sinha, Scientific Officer, BARC Hyderabad	Development of process flowsheet for lithium recovery from lepidolite ore of Bihar mica belt
15:00 – 15:10	Mr. Santosh Kumar, PhD Scholar, AcSIR, CIMFR Dhanbad	Evaluation of geochemistry and mineralogy of critical minerals in Indian coal deposits with emphasis on enrichment of REEs
15:10 – 15:20	Dr. Radha Shivaramaiah, Assistant Professor, Atria University	Lithium-Ion Battery Recycling in India: A Perspective
15:20 – 15:30	Mr. Ishan Bhattacharyya, Scientific Officer, BARC Hyderabad	Process Mineralogical Characterization of REE-bearing peralkaline granites of Ramania Area, Siwana Ring Complex
15:30 – 15:40	Dr. Shivaraj Kumar K, Post-Doctoral Researcher, IIT Madras	Debromination of waste printed circuit boards through a zero-discharge solvothermal process
15:40 – 15:50	Dr. Prashant Modi, Assistant Professor, Central Univ. Jharkhand	Coal Washery Rejects: Potential secondary resource for rare earths extraction
15:50 – 16:00	Dr. Pramod Kumar Rajak, Scientist, Wadia Institute of Himalayan Geology, Uttarakhand	Significant occurrences of critical minerals in high ash content Indian coal
16:00 – 16:30	Tea Break	
16:30 – 18:00	Panel Discussion	
18:00 – 18:30	Valedictory Session	
19:00 onwards	Grand Dinner <u>Venue:</u> Scolomin Club, IIT (ISM) Dhanbad	

Day 3: 15th October 2025 (Wednesday)

Time	Event
08:00 – 09:00	Breakfast
09:00 – 13:00	Conference Tour (Topchanchi Lake/ Maithon Dam)
13:00 – 14:00	Lunch