



National Conference on



Critical Metals

(Recycling, Innovation, Separation & Processing)

CRISP-2025

13-15 OCTOBER 2025

Organized by

Department of
Fuel, Minerals & Metallurgical Engineering
IIT(ISM) Dhanbad

In collaboration with



About the conference

The accelerating global transition towards clean energy, digitalization, and advanced manufacturing has intensified the demand for critical metals - lithium, cobalt, rare earth elements, nickel, and more. These elements power the future: from EVs and wind turbines to aerospace and electronics. India, recognizing the strategic importance of these resources, has launched the National Critical Minerals Mission to enhance domestic exploration, forge global partnerships, and build sustainable, resilient supply chains. Global efforts toward resource security, responsible mining, and innovation in recycling underscore the urgency for collaborative platforms that address the full lifecycle of critical metals. As part of the **100 years celebrations of the IIT(ISM) Dhanbad**, a national conference on **Critical Metals: Recycling, Innovation, Separation and Processing (CRISP-2025)** has been envisioned as a landmark event that brings together leading researchers, scientist, academicians, industry professionals, policymakers, and sustainability experts. The conference will explore cutting-edge advancements in extraction, recycling, separation, and lifecycle management of critical metals. Special emphasis will be placed on emerging technologies and sustainable practices that align with national priorities and global sustainability goals.

Theme of the conference

- Identification, exploration and characterization of critical minerals
- Beneficiation of critical minerals
- Critical metals extraction from primary & secondary resources
- Advanced separation and purification techniques
- Value addition and alloy development
- Role of AI and automation in critical metals exploration and extraction
- Environmental impact and lifecycle analysis
- National policy and regulatory framework on critical metals
- Future trends and opportunities in critical metals

Who Should Attend?

- Researchers and Academicians
- Mining, Mineral and Metallurgical Engineers
- Scientists and Sustainability Experts
- Industry Professionals and E-waste recyclers
- Policy Makers
- Students and Young Researchers

Venue: IIT (ISM) Dhanbad, Jharkhand-826004, India

About IIT(ISM), Dhanbad

The Indian Institute of Technology (Indian School of Mines), Dhanbad, established in 1926, is a premier institution renowned for excellence in mining, minerals, and energy research. Strategically located in India's resource-rich region, IIT(ISM) has evolved into a multidisciplinary centre of innovation spanning engineering, sciences, management, and humanities. With a strong emphasis on sustainable mining, mineral processing, energy transition technologies, and advanced materials, the institute plays a pivotal role in addressing national and global challenges in critical metals and resources management. Ranked 20th globally and 1st nationally in Mineral and Mining Engineering (QS World Rankings 2025), and 15th in Engineering (NIRF 2024), IIT(ISM) Dhanbad stands at the forefront of research, technology development, and industry collaboration. Its dynamic academic and industrial

ecosystem makes it an ideal venue for hosting CRISP-2025, a conference dedicated to advancing innovation, sustainability, and resilience in the critical metals sector.



About the Department of Fuel Minerals and Metallurgical Engineering

Established in 1976, the Department of Fuel Minerals and Metallurgical Engineering (FMME) at IIT(ISM) Dhanbad has been a leader in addressing challenges across mineral processing, fuel technology, and resource management. In response to emerging research and industry trends, the department expanded its academic and research horizons by incorporating Metallurgical Engineering in 2019. Today, it offers a comprehensive B.Tech program in Mineral and Metallurgical Engineering, along with M.Tech specializations in Fuel Engineering, Mineral Engineering, and Metallurgical Engineering, and a vibrant Ph.D. program. Equipped with state-of-the-art laboratories and advanced research infrastructure, the department conducts cutting-edge research in mineral processing, extractive metallurgy, process modelling, critical metal extraction, sustainable metallurgy, materials processing, additive manufacturing, fuel pyrolysis and combustion. Strong collaborations with premier R&D organizations and industries enhance its industry interface and research relevance. With 22 dedicated faculty members and a focus on interdisciplinary innovation, the department plays a crucial role in advancing sustainable resource utilization and critical metal technologies, aligning with national priorities and global industrial needs.

List of Key Speakers



Dr. D. Singh
Ex-Chairman and Managing Director,
IREL(India) Limited



Dr. Raghvendra Tewari
Director, Materials Group
BARC



Shri Anuttam Mishra
Director Technical
IREL(India) Limited



Shri R. Saravanabhavan
Deputy Advisor, NITI Aayog



Dr. Alok Awasthi
Head, Materials Processing &
Corrosion Engg. Division, BARC



Dr. Kamalesh Kumar Singh
(Professor, Department of
Metallurgical Engg., IIT(BHU))



Dr. K. Anand Rao
Head, Mineral Processing Division,
BARC



Dr. S. K. Sahu
Senior Principal Scientist
CSIR-NML, Jamshedpur



Dr. T. Sreenivas
Former Head, Mineral Division, BARC
Hyderabad



Dr. C. Naveen Kumar
Head, Electroplating &
Electrometallurgy Division
CSIR-CECRI, Karaikudi

Call for Abstract:

CRISP-2025 invites abstract from scientist, faculty, researchers, students and industry professionals. The submission of abstract should be align with the theme of the conference. The abstract can be sent to crisp2025@iitism.ac.in. Abstracts must be written in text form and up to 250 words in length. The abstract template can be downloaded from the conference website. **Last date of abstract submission is 15th August, 2025.** The acceptance of abstract for oral or poster presentation will notified later.

Registration Details:

For offline participants, registration fee includes access to all lectures, registration kit, breakfast, lunch, and dinner. For online participants, registration fee includes access to all lectures. Participation certificate will be given for both offline and online participants.

Participants	Offline Participation Amount (INR) (Inclusive of 18% GST)	Online Participation Amount (INR) (Inclusive of 18% GST)
Industry Professionals	12000/-	7000/-
Faculty & Scientist	8000/-	4000/-
Post Docs	7000/-	3500/-
Students & Research Scholars	3500/-	2000/-

Registration fee is to be paid to the below account through net banking or UPI. After the payment is successful, please register yourself on the conference website (<https://people.iitism.ac.in/~crisp2025/>) and upload the payment receipt using the same link.

Net Banking	UPI
<p>Name: IIT(ISM) SPECIAL FUND A/C no: 0986101024892 IFSC: CNRB0000986 Bank Name: Canara Bank Branch: Saraidhela Branch</p>	

Last Date for Registration: 5th September 2025

Important Dates

Abstract Submission start date	1st June, 2025
Abstract Submission Ends	15th August, 2025
Abstract Acceptance Notification	30th August, 2025
Last date of registration	5th September, 2025

Accommodation

Based on the availability, efforts shall be made to accommodate the participants inside the IIT(ISM) campus based on first-come, first-served. Arrangements can be made to provide institute guest houses (for delegates) and hostels/shared accommodation (for students) on request and payment basis. Besides the campus, there are many hotels available in Dhanbad, which participants can book.

Sponsorship Details

PLATINUM SPONSORSHIP AMOUNT: INR 5 LAKHS <ul style="list-style-type: none">▪ Complimentary registration for 5 participants▪ One stall for exhibition▪ Name & logo on conference website, booklet, banners, participant certificate▪ Inside full page for message in conference booklet	DIAMOND SPONSORSHIP AMOUNT: INR 3 LAKHS <ul style="list-style-type: none">▪ Complimentary registration for 3 participants▪ One stall for exhibition▪ Name & logo on conference website, booklet, banners, participant certificate▪ Inside full page for message in conference booklet
GOLD SPONSORSHIP AMOUNT: INR 2 LAKHS <ul style="list-style-type: none">▪ Complimentary registration for 2 participants▪ One stall for exhibition▪ Name & logo on conference website, booklet, banners, participant certificate▪ Inside half page for message in conference booklet	SILVER SPONSORSHIP AMOUNT: INR 1 LAKH <ul style="list-style-type: none">▪ Complimentary registration for 1 participant▪ One stall for exhibition▪ Name & logo on conference website, booklet, and banners▪ Name and logo in conference booklet-sponsors list
BRONZE SPONSORSHIP AMOUNT: INR 0.5 LAKH <ul style="list-style-type: none">▪ Complimentary registration for 1 participant▪ One stand for poster▪ Name & logo on conference website, booklet, and banners▪ Name and logo in conference booklet-sponsors list	

Organizing Committee

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Co-Patron	Prof. Dheeraj Kumar, Co-Patron, Deputy Director, IIT(ISM) Dhanbad
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	Prof. Alok Kumar Das, IIT(ISM), Dhanbad Prof. S. K. Gupta, IIT(ISM), Dhanbad Prof. R. M. Bhattacharjee, IIT(ISM), Dhanbad Prof. Rajni Singh, IIT(ISM), Dhanbad Prof. Sahendra Singh, IIT(ISM), Dhanbad Prof Shushanta Sarangi, IIT(ISM), Dhanbad Dr Devi Prasad Mishra, IIT(ISM), Dhanbad Prof. Aditya Kumar, IIT(ISM), Dhanbad Prof. Alok Sinha, IIT(ISM), Dhanbad Prof Somnath Chattopadhyaya, IIT(ISM), Dhanbad
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For any information:

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Convenors: Dr. Aarti Kumari (9304603155)

Dr. Vishnu Teja (8754510216)