



Indian Institute of Technology (Indian School of Mines) Dhanbad



FMME OreBits



From the HoD's Desk

I am pleased to present the October 2025 edition of our departmental newsletter. This month has been particularly enriching for our academic and research community, marked by active participation, collaboration, and notable achievements.

A major highlight of the month was the successful organization of CRISP-2025 (Conference on Critical Metals: Recycling, Innovation, Separation & Processing). The conference brought together distinguished speakers, researchers, and industry experts to discuss emerging challenges and opportunities in the field of critical minerals. The event provided an excellent platform for our faculty, research scholars, and students to showcase their work and engage in meaningful technical dialogue. I appreciate the efforts of the organizing committee and all contributors who made the event a significant success.

As we continue our journey towards strengthening teaching, research, and innovation in Fuel, Minerals and Metallurgical Engineering, I encourage everyone to remain proactive and committed to excellence. Let us build on this momentum and work collectively to elevate the academic profile of our department. Wishing everyone a productive month ahead.



Dr. Shatrughan Soren, Associate Professor & HOD
Dept. of Fuel, Minerals & Metallurgical Engg.
Indian Institute of Technology (ISM) Dhanbad
Mob: +91-9939707967, LL: +91-326-223-5948
Email: fmme@iitism.ac.in

Publications

- A new research paper titled "**Chlorination kinetics of spent wind turbine magnets for recovery of neodymium, praseodymium and dysprosium**" has been published in the prestigious *Minerals Engineering* journal (Volume 235, 2026). Authored by **N. S. Randhawa, S. Kumar, Aarti Kumari, J. Priya, K. Bauddh, and S. K. Sahu**, this study addresses a vital aspect of the circular economy.

DOI: <https://doi.org/10.1016/j.mineng.2025.109892>

Conferences/Workshops Organized

The Indian Institute of Technology (Indian School of Mines), Dhanbad, successfully hosted the National Conference on Critical Metals: Recycling, Innovation, Separation, and Processing (CRISP 2025) from October 13–15, 2025. Convened by Dr. Aarti Kumari with Co-Convenor Dr. Vishnu Teja Mantripragada, the conference brought together experts to explore cutting-edge advancements in the extraction, recycling, separation, and lifecycle management of critical metals. The discussions placed a special emphasis on emerging technologies and sustainable practices, aiming to align scientific innovation with national priorities for resource security and global sustainability goals.





A National Conference on Critical Metals – CRISP 2025

Keynote Speaks

Dr. D.K.Singh (Former CMD, IREL India Ltd.), Advisor of Department of FMME, delivered a distinguished keynote lecture at the **Innovation in Rare Earths and Lithium (IRLi 2025) Summit**, held at The Capitol Hotel, Bangalore, from October 9–10, 2025. Speaking on the theme **"Manufacturing of Rare Earth Permanent Magnets (REPM) in India: The Inevitable,"** Dr. Singh underscored the critical need for accelerating domestic research and technology innovation in rare earth processing and lithium extraction.



In addition to his keynote address in Bangalore, **Dr. D.K. Singh** played a pivotal role at the 11th Asian Mining Congress in Kolkata. on October 31, 2025, he chaired a high-level technical session titled **"Critical Minerals Processing and Policy."**

MoUs Signed

On October 6, 2025, the Department of FMME signed a strategic MoU with **Anantagni Industries Private Ltd.**, Aurangabad, to advance research in sustainable energy and the circular economy. Coordinated by **Prof. Rajasekhar Reddy Busigari**, the partnership focuses on developing scalable solutions for thermal conversion and waste valorization, leveraging the company's expertise in transforming waste streams into clean energy to foster eco-friendly industrial innovations.



Seminars & Conferences Attended

Prof. Pankaj Kumar Jain attended the 11th Asian Mining Congress held at the JW Marriott, Kolkata, along with the IME and ISME exhibitions at Biswa Bangla Mela Prangan and Science City Ground from October 30 to November 2, 2025. Organized by MGMI, the events provided a vital platform for industry engagement. Prof. Jain was accompanied by a delegation of students from the department who participated in both the conference and exhibitions, including B.Tech students Yatna Jain and Anish Banerjee (2nd Year), Sidhant Veer Benara (3rd Year), M.Tech scholar Vikas Kumar (2nd Year), and Junior Research Fellow Sai Madhira (2nd Year).



Student Achievements

Mr. Naveen Kumar Kisalay, a PhD scholar supervised by Prof. Kasturi Sala, successfully presented a technical paper at the 31st International Corrosion Conference (CORCON-2025) held in Jaipur from October 6–8, 2025. His paper, titled **“Failure Analysis of Cracked Superheater Hanger Tube of Boiler-5 at Barauni Refinery,”** was highly commended by the session chairperson for its technical depth and practical relevance in addressing critical boiler failures and maintenance strategies. As Asia’s largest corrosion science event, organised by NACE India, CORCON provided a prestigious platform for showcasing this research to over 1,000 global industry leaders, underscoring the institute's commitment to solving real-world industrial challenges through academic excellence.



Ms. Suprabha Palatasingh, a doctoral scholar, working under the Co-supervision of Dr. Aarti Kumari received 2nd Prize for Outstanding Poster Presentation titled "Sustainable Vanadium Recovery from Bayer’s Sludge using Choline Chloride-based Deep Eutectic Solvent DES: A study based on experimental and computational approach" at the National Conference on CRITICAL METALS: RECYCLING, INNOVATION, SEPARATION, and PROCESSING (CRISP 2025) held from 13-15th October 2025 at IIT(ISM) Dhanbad.

Editorial Team



Editor-in-chief
Prof. Shatrughan Soren



Editor
Prof. B. R. Reddy



Editor
Prof. Aarti Kumari