



Indian Institute of Technology (Indian School of Mines) Dhanbad



FMME OreBits



From the HoD's Desk

It gives immense pleasure to present the November edition of our departmental newsletter, which captures the recent academic, research, and outreach activities of the Department of Fuel, Minerals and Metallurgical Engineering.

During this month, our students and faculty have continued to demonstrate excellence through notable research contributions, invited talks, and prestigious recognitions at national and international platforms. These achievements reflect the collective commitment of our department towards innovation, industry relevance, and high-quality teaching-learning practices.

The department remains focused on strengthening collaborations with premier institutes and industries, enhancing training and internship opportunities for our students, and nurturing a culture of curiosity and professional ethics. Appreciation is extended to all faculty members, staff, students, alumni, and well-wishers for their continuous support in driving the department's growth. Suggestions and contributions for future issues of the newsletter are warmly welcomed.



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

Student Achievements



Mr. Debasis Mishra, doctoral researcher working with the “Surface and Coatings lab” group @FMME department, has been officially selected for the prestigious "India-Japan Circulation of Talented Youths in Science" (LOTUS Programme) funded by the Japan Science and Technology Agency (JST). Under this international program, Mr. Debasis will spend one year at the Graduate School of Engineering, Tohoku University, Japan, working in collaboration with Prof. Kazuhiro Ogawa and Prof. Yuji Ichikawa.

As part of the bilateral collaboration, he has been invited to spend one month at Tohoku University to jointly oversee the research activities and strengthen laboratory-to-laboratory interactions between FMME, IIT (ISM) Dhanbad and Tohoku University. The collaboration will be focused on developing laser assisted cold spray technology for repair and remanufacturing of Mining Machinery components.

Invited Talks

Book chapter: Ritukesh Sharma, **Avanish Kumar**, Partha Sarathi De, “*Aluminum based composites with TiB_2 and multicomponent alloy reinforcements*” *Processing, microstructure, and property enhancement*". Chapter 12 - Advanced Functional and Composite Materials: Fabrication, Characterization and Applications, CRC Press, Taylor & Francis Group, ISBN 9781032619347.

Link: <https://www.routledge.com/Advanced-Functional-and-Composite-Materials-Fabrication-Characterization-and-Applications/Bhoi-Singh-Nanda/p/book/9781032619347>

Invited talk: Prof. Avanish Kumar delivered a talk on "From Elastic Deformation to Fracture: A comprehensive Overview of Mechanical Behaviour of Metals" in UGC-MMTTP Faculty Development Programme on “Alloy Design and Processing: Experimental, Simulation and Machine Learning Approaches”, Organised by IIT(ISM) Dhanbad during 21-26 November 2025.

An Interactive Session on Training and Placements



An interactive session on Training and internship opportunities was organized on 13 November 2025 by Prof Pankaj Kumar Jain. The students were told about the importance of industrial training for securing jobs in core sector. They were also informed about the placement opportunities and ways to prepare oneself for the placements.

Btech 1st year, 2nd year, 3rd year

Mtech first year Mineral and Fuel students were present.

Training opportunities in different sectors

- Coal washeries – coking/non-coking
- Integrated steel plants
- Mineral processing plants –
 - Iron ore
 - Copper ore
 - Lead-zinc ore
 - Manganese ore
 - Beach sand ore
 - Chromite ore
 - Limestone
 - Phosphate
 - Graphite

- E-waste processing plants
 - LOHUM
 - E-parishara
 - Attero
 - Cerebra Integrated Tech.
 - TES-AMM India Pvt. Ltd.
- Cement making plants
 - Ambuja
 - Prism Johnson
 - Ultratech
 - Birla
 - ACC
 - JSW cement

- Blast furnace
- Smelters
- Steel melting shops (SMS)
- Metal refineries

- Internship with
- Consulting firms
- Sales and marketing firms

Guest Speaker Talks

Prof. Shalini Gautam has been invited to 16th edition of the flagship conference and expo Gasification India – 2025, scheduled on 27-28 November 2025 at Novotel, Juhu - Mumbai as a Guest Speaker during the technical session Innovation & Research Synergies for India's Gasification Future.

India's coal gasification push is no longer a concept of the future — it is a movement in motion, backed by political will, industrial innovation, and policy clarity.

As more stakeholders align with the mission, coal gasification is rapidly transforming into a pillar of India's clean energy transition. The link of **conference website** is <https://missionenergy.org/gasification2025/>.



Faculty Achievement

Prof. Shalini Gautam has been recognised by Springer Nature India as one of the **Top five women researchers and innovators in the institute** and awarded for this achievement on 29th October 2025. Photos and awards are given below.



Editorial Team



Editor-in-chief
Prof. Shatrughan Soren



Editor
Prof. B. R. Reddy



Editor
Prof. Aarti Kumari