



IIT
ISM **INDIAN INSTITUTE
OF TECHNOLOGY**
INDIAN SCHOOL OF MINES
DHANBAD

Department of Mining Engineering



THE MINING EDGE

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Content

Message from HOD Desk	...01
Departmental Picnic	02-03
Saraswati Puja Celebration	...04
Participation in Road Safety Awareness Campaign	...05
Industrial Mine Excursion for B.Tech. Students	06-07
International Academic Interaction	...08
Exposure Visit of Panchayati Raj Representatives	...09
Publications & Projects	...10
Campus Placements	11-12
Students Achievement	13
Faculty Profile of the Department	14-15
Miner's Calendar 2026	...16

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From HOD Desk



It gives me great pleasure to present the January 2026 issue of The Mining Edge, the monthly newsletter of the Department of Mining Engineering, IIT (ISM) Dhanbad. This edition reflects the department's continued commitment to excellence in academics, research, industry engagement, international collaboration, and societal outreach.

The month witnessed a range of significant academic and professional activities. Faculty members actively contributed to national-level seminars, consultancy projects, and sponsored research, reinforcing the department's strong linkage with industry and professional bodies. The international academic interaction with delegates from TU Leoben, Austria, and exposure visits involving stakeholders such as Panchayati Raj representatives, underline our efforts toward global collaboration and community engagement.

Our students benefited from coal mine excursions and industrial exposure visits, which play a crucial role in bridging theoretical knowledge with real-world mining practices. I am also pleased to note the successful campus placements of our final-year undergraduate students in leading mining organizations, reflecting the quality of education and training imparted by the department.

The department's enthusiastic participation in the Road Safety Awareness Campaign organized by the Dhanbad District Administration highlights our collective sense of social responsibility. Additionally, cultural and community-building activities during the month strengthened interpersonal bonds and fostered a positive academic environment.

I sincerely appreciate the dedicated efforts of faculty members, students, technical staff, and the editorial team for their contributions to departmental activities and for bringing out this issue of the newsletter. I look forward to continued collective efforts toward advancing knowledge, innovation, and professional excellence in mining engineering.

Warm regards,
Prof. B.S. Choudhary

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Departmental Picnic



The Department of Mining Engineering organized a departmental picnic on 11 January 2026 at the scenic Usri Falls, Giridih, Dhanbad. The event was graced by the participation of faculty members along with their family members and Ph.D. research scholars of the department. Surrounded by the natural beauty of the waterfall and serene landscape, the outing provided a pleasant break from routine academic activities and created an environment for relaxation and informal interaction.



The picnic served as an excellent platform to strengthen interpersonal relationships and promote a spirit of unity and togetherness within the department. Shared meals, recreational activities, and friendly conversations contributed to a joyful and memorable experience for all participants. Such gatherings play an important role in enhancing mutual understanding, encouraging teamwork, and maintaining a healthy work-life balance. The event reflected the department's commitment to fostering a supportive, harmonious, and inclusive academic culture.



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Glimpses of Departmental Picnic



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Saraswati Puja Celebration



The Department of Mining Engineering observed Saraswati Puja on 23 January 2026 with solemnity and collective reverence near the Head of the Department's office. The ceremony was thoughtfully organized by the M.Tech and Ph.D. scholars, under the esteemed guidance and presence of the department's faculty members and technical staff.

The ritual proceedings were conducted in a calm, orderly, and dignified atmosphere, symbolizing harmony, cultural heritage, and deep respect for knowledge and intellectual pursuit. Enthusiastic participation from students, faculty, and staff contributed significantly to the spiritual depth and overall success of the event.



On this auspicious occasion, prayers were offered to Maa Saraswati, seeking her blessings for wisdom, clarity of thought, and continued academic and professional growth. The celebration underscored the enduring significance of knowledge, discipline, and lifelong learning within the academic environment. The occasion served as a source of motivation for students and researchers to pursue their scholarly endeavors with dedication, integrity, and perseverance, and to contribute constructively to societal development and national progress.



Participation in Road Safety Awareness Campaign Organized by Dhanbad District Administration

A Road Safety Awareness Campaign was organized by the Dhanbad District Administration on 25 January 2026, commencing at 07:00 AM, with the objective of promoting public awareness regarding safe road practices and responsible traffic behavior. A key highlight of the campaign was the formation of a human chain along a major urban corridor, extending from Randhir Verma Chowk to the GOL Building, Dhanbad, and covering an approximate distance of 6 km.



The campaign witnessed enthusiastic and large-scale participation from students and faculty members of the Department of Mining Engineering, IIT (ISM) Dhanbad, reflecting the department's commitment to social responsibility and community engagement. Participants actively contributed to disseminating messages related to road safety, traffic discipline, and accident prevention among the general public. The collective effort of the academic community, in coordination with the district administration, played a significant role in enhancing the visibility and impact of the campaign, thereby contributing to its overall success.



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Industrial Mine Excursion for B.Tech. Students

The Coal Mine Excursion for 4th Semester (Second Year) B.Tech. (Mining Engineering) students of the Winter Semester 2025–26 was conducted by the department of Mining Engineering of IIT (ISM) Dhanbad. The excursions were organized to provide structured field exposure to both underground and opencast coal mining operations at the Jhanjra Underground (UG) Project and the Sonapur Bazari Opencast (OC) Project of Eastern Coalfields Limited (ECL), a subsidiary of Coal India Limited.



The visits were conducted in multiple phases on 17 January, 24 January, and 31 January 2026, with students divided into three groups to ensure effective learning and safety. Each group comprised approximately 33 – 34 students and was accompanied by faculty members from the Department of Mining Engineering.





Industrial Mine Excursion for B.Tech. Students

During the excursions, students gained first-hand exposure to mine layout, production systems, mechanization, automation, and mass coal-producing technologies employed in both underground and opencast mining environments. Faculty members guided students through operational practices, safety protocols, and technological applications, enabling them to relate classroom instruction with real-world mining operations.



The excursions significantly enhanced students' practical understanding of contemporary coal mining practices and contributed to strengthening their technical competence, professional awareness, and preparedness for future industry engagement.



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International Academic Interaction: TU Leoben Delegation Visit to IIT (ISM) Dhanbad

Delegates from TU Leoben, Austria, visited the Bord and Pillar Training Gallery and the Longwall Training Gallery of the Department of Mining Engineering, IIT (ISM) Dhanbad, on 21 January, 2026 as part of an academic interaction and international collaboration initiative. The visit provided an opportunity to observe and gain practical insights into the bord and pillar mining method, including aspects related to excavation techniques, roof support systems, ventilation arrangements, and safety practices adopted in underground coal mining.



The delegates also visited the Longwall Training Gallery, where they were introduced to the operational principles of the longwall mining system, including the functioning of shearers, powered roof supports, armored face conveyors, and associated roof control mechanisms. The interaction highlighted the role of advanced mechanization and automation in enhancing productivity, safety, and operational efficiency in modern mining practices. The visit facilitated meaningful academic exchange and strengthened avenues for future collaboration between IIT (ISM) Dhanbad and TU Leoben in the field of mining engineering.

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Exposure Visit of Panchayati Raj Representatives

Participants from the Panchayati Raj institutions visited the Department of Mining Engineering, IIT (ISM) Dhanbad, on 30 January, 2026 as part of an exposure and awareness programme. The visit was organized with the objective of familiarizing local governance representatives with mining activities, associated technologies, and best practices related to safety, environmental management, and sustainable resource development.



During the visit, the participants were introduced to key aspects of mining operations through demonstrations and interactions with faculty members and technical staff. The programme provided insights into modern mining methods, safety measures, and the role of scientific planning in minimizing environmental impacts while ensuring efficient resource extraction. The interaction facilitated knowledge exchange between academia and local governance stakeholders and contributed to enhancing awareness about responsible mining practices and community-oriented development.

Publications & Projects

Journal Publication

Pal, L., Sahu, P., Paluri, P., & Panigrahi, D. C. (2026). Influence of physical and chemical properties on the thermal behaviour of coal: a comparative study and regression-based assessment of two Indian underground mines. *Fuel*, 416, 138545. <https://doi.org/10.1016/j.fuel.2026.138545>

Conference Presentation

Prof. R. K. Sinha presented a paper entitled “Effectiveness of Hydraulic Bottom Ash Stowing for Safe Depillaring in Lakhimata Colliery: A Field and Numerical Study” at the National Seminar on Mining Industry: Challenges & Opportunities (MICO-2026), held on 17–18 January 2026 at the Community Centre, Sector-IV, Bharat Coking Coal Limited (BCCL), Koyla Nagar, Dhanbad. The seminar was organized by the Indian Mine Managers’ Association (IMMA), Dhanbad Chapter. Prof. Sinha also actively participated in the panel discussion, contributing expert insights on mine safety, stowing practices, and sustainable depillaring strategies based on field experience and numerical analyses.



Research & Consultancy Projects

- **Prof. B. S. Choudhary** has been awarded a consultancy project by M/s JSW Steel Ltd., Ballari, entitled “Collaborative Study on Ore Quality and Recovery Optimization for Nine Mines of JSW Steel Ltd., Karnataka.” The project focuses on improving ore characterization and optimizing recovery strategies across multiple mining operations.
- **Prof. Swapnil Mishra** has been awarded a consultancy project entitled “Providing Consultancy on Proof Checking for the Slope Stability Challenges for the KK & KR Line of the East Coast Railway.” The consultancy is sponsored by M/s RITES Limited, Gurugram, Haryana, and focuses on addressing critical geotechnical stability issues associated with railway infrastructure.

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Campus Placements

Placement Results – Thriveni Earthmovers Private Limited

Name of Student	Programme
Ajmeer Sathish	B.Tech. (Mining Engineering)
Divya Kumari	B.Tech. (Mining Engineering)
Achyut Ranjan Das	B.Tech. (Mining Engineering)
Banoth Nikhila	B.Tech. (Mining Engineering)
Bhawesh Dewangan	B.Tech. (Mining Engineering)
Chaitanya Kailash Kanpate	B.Tech. (Mining Engineering)
Chinmay Pratim Roy	B.Tech. (Mining Engineering)
Geetanjali Beriya	B.Tech. (Mining Engineering)
Ramdayal	B.Tech. (Mining Engineering)
Sawan Raj Bharti	B.Tech. (Mining Engineering)
Suryam Agrawal	B.Tech. (Mining Engineering)

Placement Results – Gujarat Mineral Development Corporation (GMDC)

Name of Student	Programme
Kundan Kumar	B.Tech. (Mining Engineering)
Siddharth Singh	B.Tech. (Mining Engineering)
Poras Singh Rajpurohit	B.Tech. (Mining Engineering)



Campus Placements

Placement Result – Vedanta HZL (Hindustan Zinc Limited)

Name of Student	Programme
Koushik Mandal	B.Tech. (Mining Engineering)
Amit Kumar	B.Tech. (Mining Engineering)
Jayshant Kumar	B.Tech. (Mining Engineering)
Shruti Kumari	B.Tech. (Mining Engineering)
Devaram Revanth Reddy	B.Tech. (Mining Engineering)
Dharavath Pavan Kalyan	B.Tech. (Mining Engineering)
Aman Rawat	B.Tech. (Mining Engineering)

Placement Results – K12 Techno Services

Name of Student	Programme
Pritam Chandra	B.Tech. (Mining Engineering)
Rupesh Kumar	B.Tech. (Mining Engineering)
Ariyan Banerjee	B.Tech. (Mining Engineering)

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Students Achievement



Mr. Md Arif Alam, a student of second year M.Tech in Mining Engineering, has secured the position of Assistant Mine Manager at the West Bengal Power Development Corporation Limited (WBPDCL), marking a significant professional achievement.



Mr. Ashwani Kumar, a student of second year M.Tech in Tunneling & Underground Space Technology (TUST), has been selected for a six-month internship programme as an Intern (Tunnels and Underground Structures, Geotechnical Engineering, REC) at Ramboll India, scheduled from 12 January 2026 to 12 July 2026.



Both achievements make the Department immensely proud and serve as an inspiration to fellow students. I wish them continued success and a bright future in their professional endeavors.



DEPARTMENT OF MINING ENGINEERING

Faculty Profile of the Department



Prof. V M S R Murthy
Professor (HAG) On
Deputation As Director IIST
Shibpur

Research Interest:
Rock Excavation Engineering



Prof. Arvind Kumar Mishra
Professor (HAG) On Deputation
As Director CIMFR

Research Interest:
Explosive Engineering, Rock
Blasting Technology, Rock
Excavation Engineering,
Opencast Mining



Prof. Dheeraj Kumar
Professor (HAG)

Research Interest:
Digital Mining Technologies,
Mine Surveying & Geospatial
Technologies



Prof. R M Bhattacharjee
Professor

Research Interest:
Underground Coal Mining
Technology, Risk Assessment
And Safety Management,
Emergency Response &
Disaster Management,
Accident Investigation, Mine
Fire And Explosion



Prof. Devi Prasad Mishra
Professor

Research Interest:
Mine Ventilation and
Environmental Engineering, Mine
Fire And Explosion, Application
of CFD In Mine Ventilation and
Environmental Engineering,
Methane Drainage/CBM/UCG,
Stowing/backfilling With Fly
Ash/pond Ash, Characterization
of Fly Ash/pond Ash



**Prof. Bhanwar Singh
Choudhary**

Professor

Research Interest:
Drilling & Blasting Technology,
Underground Metal Mines,
Computer Aided Mine Planning,
Tunnel Engineering



Prof. Partha Sarathi Paul
Professor

Research Interest:
Core Mining Discipline: Mine
Safety Engineering; Occupational
Health, Safety And Ergonomics;
Applied Multivariate Modeling
And ML Techniques; Rock
Mechanics; Mine Ventilation.
Interdisciplinary: Automation For
Workplace Safety; Socio-
economic Impact Of Mining



Prof. Anindya Sinha
Professor of Practice

Research Interest:
Mine Planning & Design,
Mine Environment
Planning & Management,
Mine Mechanization &
Digitization



Prof. Rabindra Kumar Sinha
Associate Professor

Research Interest:
Design of Structures in Rock,
In situ Rock Mechanics
Investigations, Numerical
Modelling



**Prof. Vasanta Govind
Kumar Villuri**
Associate Professor

Research Interest:
Photogrammetry,
Cartography, Remote Sensing,
GIS And GPS



Prof. Radhakanta Koner
Associate Professor

Research Interest:
Mine Automation, Data Analytics,
Georesources Utilization Using
Remote Sensing Technology,
Slope Stability Analysis,
Landslide Analysis, Wireless
Sensing Technology, Real-time
Monitoring System In Mining



Prof. Patitapaban Sahu
Associate Professor

Research Interest:
Mine Ventilation, Sub-Surface
Environmental
Engineering, Mine
Radiation, CBM and Data
Analytics In Mining



DEPARTMENT OF MINING ENGINEERING

Faculty Profile of the Department



Prof. Gnananandh Budi

Assistant Professor

Research Interest:
Rock Mechanics And Ground Control



Prof. Kashinath Pal

Assistant Professor

Research Interest:
Rock Mechanics, Groundwater, Slope Stability



Prof. Mohammad Soyeb Alam

Assistant Professor

Research Interest:
Geospatial Technology In Mining, Underground Metal Mining, Mine Subsidence Studies, Mine Slope Stability Analysis, Mine Surveying



Prof. Siddhartha Agarwal
Assistant Professor

Research Interest:
Digitalization of Mining Operations, Industry 4.0 Applications In Mining, Machine Learning And Artificial Intelligence Applications In Energy Consumption In Mines, Earth Sciences: Geostatistics, Open Pit Mine Planning & Scheduling, Real Time Monitoring Of Air Pollution In Open Cast Mines, Geotechnical And Environmental Closure And Repurposing Planning



Prof. Swapnil Mishra
Assistant Professor

Research Interest:
Blast Resistant Design of Underground Structures, In-situ Stresses Surrounding Underground Structures, Impact Testing on Weak and Weathered Rock Conditions, Ground Subsidence, Rock Dynamics and Material Testing, Physical Modelling



Prof. Ashok Kumar
Assistant Professor

Research Interest:
Underground Mining Methods, Strata/Rock Mechanics, Numerical Modeling, Underground Instrumentation And Monitoring Of Strata, Support Design, Rockmass Characterisation, Excavation Methods For Tunnels & Caverns, Drilling & Blasting, Operations Research, Mine Environment, Surface Mining



Prof. Dondapati Gopi Krishna

Assistant Professor
Research Interest: Rock Mechanics, Numerical Modeling in Geotechnical Engineering, Coal Mining, Mine Instrumentation and Monitoring



Prof. Bhaskara Behera
Assistant Professor

Research Interest:
Rock Mechanics And Ground Control, Mining Methods, Numerical Methods In Geomechanics, Mine Planning And Design



Prof. Ajeet Yadav
Assistant Professor

Research Interest:
Rock Mechanics and Ground Control, Mining Methods, Mine Ventilation, Numerical Modelling



Prof. Ankush Galav
Assistant Professor

Research Interest:
Rock Mechanics and Ground Control, Mining Methods, Rock Excavation Engineering, Numerical Modelling, Mine Planning and Design, Mine Instrumentation and Monitoring



Prof. Santosh Kumar Behera
Assistant Professor

Research Interest:
Paste backfilling, underground metal mining, underground metal mine backfilling, underground coal mine stowing and associated mining methods, fly ash filling in open cast mines, and slope stability.



Prof. Maitreya Mohan Sahoo
Assistant Professor

Research Interest:
Remote Sensing, Geographical Information System, Geoinformatics, Digital Image Processing, Geological Spectroscopy, Hyperspectral Mixing and Unmixing, Super-Resolution, Digital Twin Technology, Artificial Intelligence



2026 CALENDAR

JANUARY

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

APRIL

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

M	T	W	T	F	S	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

SEPTEMBER

M	T	W	T	F	S	S
	1	2	3	4	5	6
5	8	9	10	11	12	13
14	15	16	17	18	19	21
21	22	23	24	25	26	27
28	29	30				

OCTOBER

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

DECEMBER

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

2026 Calendar of Important Mining Days

4th April : International Day for Mine Awareness and Assistance in Mine Action

22nd April : World Earth Day

1st May : International Labour Day

4th May : Coal Miners Day

23rd June : International Women in Engineering Day

30th October : Mine Rescue Day

1st November : Coal India Foundation Day

1st November : Indian Mining Day

5th December : World Soil Day

9th December : Foundation Day

11th December : International Mountain Day

14th December : National Energy Conservation Day

