Glimpse of GeoNX 2026

IIT (ISM) DHANBAD 1926-2026

100 YEARS OF EXCELLENCE IN EDUCATION & RESEARCH

ABOUT THE INSTITUTE

Indian Institute of Technology (Indian School of Mines) Dhanbad is a premier technical institute located in Dhanbad, established in 1926 as the Indian School of Mines and granted IIT status in 2016. Recognized as an Institute of National Importance, it has a long-standing legacy in mining, geology, and petroleum engineering, while also offering a broad spectrum of modern programs in engineering, science, and management. The institute is known for its strong industry connections, particularly in the energy and mineral sectors, alongside growing research in emerging fields like data science and artificial intelligence. With its blend of historical depth and contemporary academic expansion, IIT (ISM) Dhanbad holds a significant position among India's technical institutions.

ABOUT THE DEPARTMENT

The Department of Mining Engineering at Indian Institute of Technology (Indian School of Mines) Dhanbad is one of the oldest and most prestigious in India, reflecting the institute's origins in resource and earth sciences. Established alongside the institute in 1926, the department has played a key role in shaping mining education and research in the country. It offers undergraduate, postgraduate, and doctoral programs covering areas such as rock mechanics, mine planning, underground and surface mining, mine safety, and environmental management. Known for its strong industry linkage with coal, metal, and energy sectors, the department emphasizes both theoretical knowledge and practical exposure through field training and laboratory work. Over the years, it has built a reputation for producing skilled engineers and researchers who contribute significantly to the mining and infrastructure industries in India and abroad. Notably, the department has been consistently ranked 1st in India for Mining Engineering in the QS World University Rankings.

FOREWARD

Geotechnical underground engineering focuses on the analysis and design of structures constructed beneath the ground surface, such as tunnels, shafts, basements, and underground stations. Owing to the complex, nonlinear behavior of soils and rocks, along with their interaction with underground structures, numerical analysis has become an essential tool in the modern geotechnical engineer's toolkit. Numerical methods, particularly the Finite Element Method (FEM) implemented in software such as MIDAS GTS NX, play a vital role in contemporary geotechnical practice. In applications involving underground excavation and ground modification, these methods offer detailed insight into soil–structure interaction, enable the prediction of potential failures, and facilitate the development of optimized and safe design solutions.

WHY NUMERICAL ANALYSIS IS CRUCIAL?

- *Capturing complex soil-structure interaction*
- *Simulation of construction stages*
- *Modelling non-linear & anisotropic ground conditions*
- *Predicting ground movement & settlements*
- *Analysis of retaining structures & complex geo-structural systems*
- *Interpreting obtained results (e.g. deformations, forces, stresses etc.) to understand system behaviour*
- *Safety & stability assessment*
- *Groundwater & seepage analysis*
- *Dynamic & seismic analysis*
- *Optimization & risk reduction*
- *Deep excavation & waste dump management*

ABOUT MIDAS

MIDAS IT (MIDAS Information Technology Co., Ltd.) is a global leader in engineering software solutions, headquartered in South Korea. Founded in 2000, the company develops advanced computer-aided engineering (CAE) tools for civil, structural, geotechnical, and mechanical engineering. Its well-known software products — such as MIDAS CIVIL NX, MIDAS Gen, MIDAS GTS NX, and MIDAS FEA NX—are widely used by engineers and consultants for infrastructure, building, and underground projects worldwide. With a strong global presence, MIDAS IT combines advanced technology with user-friendly design to support accurate analysis, design, and simulation.

Two-Day Expert Discussion and Hands-on Workshop

GeoNX 2026

SLOPE STABILITY • TUNNELLING • OPEN PIT MINING

USING MIDAS GTS NX

08 – 09 May, 2026

(Last Date of Registration: 07th May, 2026)

Organized by

Department of Mining Engineering

IIT(ISM) Dhanbad, Jharkhand- 826004

In Association With

MIDAS

IGS DHANBAD CHAPTER

Supported By

IIT (ISM) TEXMiN

ORGANIZING COMMITTEE

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Prof. Sukumar Mishra
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Prof. Dheeraj Kumar
Deputy Director

Chairperson
Prof. Bhanwar Singh Choudhary
Head, Department of Mining Engineering

Coordinator
Prof. Swapnil Mishra
Assistant Professor, Dept. of Mining Engineering

VENUE

TEXMiN Smart Classroom, i2H Building,
IIT (ISM) Dhanbad

HOW TO REACH THE INSTITUTE?

- ***The Campus is about 4.2 km from Dhanbad railway station and well connected by road and railways***

For further details, please contact the workshop coordinator.

Email: swapnil@iitism.ac.in / rohan.iitism@gmail.com
Contact: (+91) – 8586940630 / 9734071177

TOPICS TO BE COVERED

- ***Introduction to MIDAS GTS-NX***
- ***Slope Stability/Tunnel Analysis using MIDAS GTS-NX***
- ***Foundation Engineering using MIDAS GTS-NX***
- ***Design of NATM Tunnel***
- ***Expert Lecture***
- ***Design of TBM***

WHO CAN ATTEND

- ***Undergraduate and postgraduate student in Mining Engineering and related disciplines.***
- ***Research scholars working in geotechnical, mining, tunnel or slope engineering.***
- ***Faculty members from engineering institutions.***
- ***Practicing engineers and professionals from industry and consultancy organizations.***
- ***Government engineers and technical officers involved in infrastructure and geotechnical projects.***

REGISTRATION FEES

- ***NIL for IIT(ISM) Dhanbad students (B.Tech., M.Tech. and Ph.D.)***
- ***Rs. 1500/- for Students & Faculty Members from other Institutes***
- ***Rs. 3000/- for Industry Professionals/Others***
- ***Registration is mandatory for all participants and is subject to confirmation.***

Name of the Account:	IIT ISM CEP ACCOUNT
Account Number:	110261358281
Name of the Bank:	CANARA BANK
IFS Code:	CNRB0000986
SWIFT CODE:	CNRBINBBBFD

GENERAL INFORMATION

- ***Registration fee is non-refundable.***
- ***Fee includes working lunch with tea.***
- ***No TA/DA will be paid to the participants.***
- ***The participants will be selected on a first-come, first-served basis up to a maximum of 75 participants.***
- ***Attendance in all the sessions are mandatory to get the certificate.***

RESOURCE PERSONS

Mr. Chiranjib Sarkar
Principal Engineer - GEOCONSULT

Dr. Siddharth Pathak
Technical Support Engineer
MIDAS

PRODUCT DETAILS

- ✓ **MIDAS GTS NX Website**
- ✓ **MIDAS GTS NX Catalogue**
- ✓ **MIDAS GTS NX Download Link**
- ✓ **MIDAS GTS NX Installation Guide Link**

GIVEAWAY

- Certificate of Participation issued by IIT(ISM) Dhanbad & MIDAS
- MIDAS GTS-NX tutorial on tunnelling & slope stability analysis
- Steep learning through technical interaction through IGS community on key geotechnical challenges
- Networking opportunities with industry experts


TWO-DAY EXPERT DISCUS
NDS-ON WORKSHOP
SUPPORTED BY
TEXMIN


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AND HANDS-ON WORKSHOP
IIT (ISM) DHANBAD
1926-2026
ORGANIZED BY
Department of Mining Engineering
IIT (ISM) Dhanbad
Jharkhand - 826004
SUPPORTED BY
TEXMiN
IN ASSOCIATION WITH
MIDAS
DATE
9th May 2026
TIME
4:00 PM
VENUE
TEXMIN, CPA Centre,
IIT (ISM) Dhanbad
GeoNX
2026
CERTIFICATE DISTRIBUTION


VALEDICTORY CEREMONY
&
CERTIFICATE DISTRIBUTION
TEXMIN
GeoNX

Description:

The Department of Mining Engineering at Indian Institute of Technology (ISM) Dhanbad inaugurated the two-day expert discussion and hands-on training programme, GeoNX 2026, on 8th May 2026 at the TEXMiN Smart Classroom, I2H Centre. The programme focused on advanced applications of MIDAS GTS NX software in slope stability analysis, tunnelling, and open-pit mining. It attracted about 80 participants, including students, faculty members, researchers, and industry professionals, who engaged in expert lectures and practical training sessions on contemporary geotechnical and mining engineering practices.

The inaugural session was graced by Prof. Dheeraj Kumar, Deputy Director, IIT (ISM) Dhanbad, in the presence of Prof. Keka Ojha, Dean (CEP); Prof. R.K. Sinha, Acting Head, Department of Mining Engineering; and Prof. Swapnil Mishra, Coordinator, GeoNX-2026.

The primary objectives of GeoNX 2026 were to enhance participants' understanding of current industry practices and emerging trends in tunnelling, slope engineering, and open-pit mining; develop technical expertise in Finite Element Analysis (FEA) and geotechnical modelling; and address challenges associated with complex ground conditions in mining and civil engineering projects. The programme also aimed to promote practical and innovative engineering solutions through academia–industry collaboration, highlight the research and infrastructural capabilities of the Departments of Mining and Civil Engineering at IIT (ISM) Dhanbad, and strengthen professional networking and career opportunities for postgraduate and doctoral scholars.