



# भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद Indian Institute of Technology (Indian School of Mines), Dhanbad

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## **PRESS-RELEASE**

### **IIT (ISM) Dhanbad Hosts National Workshop on Next-Gen Geotechnical Engineering for Railway and Mining Applications**

Over 100 practicing engineers, researchers, and students from across the country gathered at IIT (ISM) Dhanbad today for the inauguration of a two-day hands-on workshop on **Next-Gen Geotechnical Engineering: Numerical Modelling in Railway and Mining Applications**. The event, being organized on March 28-29 as part of IIT (ISM) Dhanbad's centennial celebrations by the Department of Civil Engineering under the aegis of the Dhanbad Chapter of the Indian Geotechnical Society, is being held in collaboration with MIDAS Research and Development Centre India.

The workshop, taking place at Sir Mokshagundam Vishvesvaraya Seminar Hall, is designed to equip participants with the necessary skills to model and analyze critical geotechnical problems in railway and mining sectors. Key areas of focus include:

- Developing expertise in FEM modeling for complex geotechnical challenges such as embankment stability, deep excavations, and slope failures.
- Analyzing the impact of cyclic and dynamic loading on railway embankments and infrastructure.
- Understanding groundwater influence on soil behavior through multi-phase seepage analysis in embankments.
- Evaluating slope stability and failure mechanisms in open-cast mines, including bench stability and highwall failures.
- Assess mining-induced subsidence effects on surface infrastructure and slopes, developing effective mitigation strategies
- Enhance practical problem-solving skills by simulating real-world geotechnical challenges using advanced numerical modeling techniques

During the inaugural session, **Mr. Ravi Kiran Anne, Director of MIDAS**, who graced the occasion as the Chief Guest, emphasized the evolving challenges in civil and geotechnical engineering and the importance of leveraging advanced simulation software, high-performance computing, and extensive research data.

He urged participants to remain curious, challenge conventional methodologies, and embrace cross-disciplinary collaborations. Highlighting the core theme of the workshop, he remarked that **Numerical Modelling is not just about creating a mesh and pressing a button, but requires meticulous selection of material models, precise definition of input parameters, and sound engineering judgment in result interpretation.**

**Prof. Sagar Pal, Dean (R&D) at IIT (ISM)**, presiding over the function, detailed the institute's recent research achievements and emphasized the significant increase in funding for research and development.

**Prof. Sarat Kumar Das, Dean (Faculty) and Chairman of IGS Dhanbad Chapter**, shared insights on the history and activities of the local chapter, while **Prof. Srinivas Pasupuleti, Head of the Department of Civil Engineering**, provided an overview of the department's history, academic programs, and ongoing research projects.

**Prof. Sowmiya Chawla, Coordinator of the Workshop and Honorary Secretary of IGS Dhanbad Chapter**, welcomed participants and encouraged them to engage deeply in their respective fields. The event concluded with a vote of thanks delivered by workshop Co-Cordinator **Prof. Vishwas Nandkishor Khatri** from the Department of Civil Engineering.

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