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PRESS RELEASE

IIT (ISM) Dhanbad Hosts Centenary National Seminar on Strong Motion Earthquake Studies

The Department of Applied Geophysics at the Indian Institute of Technology (Indian School of Mines) Dhanbad, is set to host the Centenary National Seminar on **"Strong Motion Earthquake: Structural Response Modelling and Aided Designing"** from **March 21–23, 2025**. This prestigious event aims to bring together researchers, engineers, and professionals to discuss advanced methodologies for minimizing earthquake-induced damages and enhancing community safety.

The seminar will focus on cutting-edge safety engineering technologies, particularly emphasizing infrastructure resilience to maintain functionality during seismic events. Key discussions will address critical issues such as **liquefaction evaluation and sustainable groundwater management**, leveraging geophysical methods like **electromagnetic surveys and magnetic resonance sounding**. Additionally, the event will explore **remote sensing technologies**, including **LiDAR and InSAR**, for detailed monitoring of ground deformation, fault lines, and landslides—vital for disaster preparedness and resource management.

By integrating strong motion studies with remote sensing, the seminar seeks to advance safety, design efficiency, and sustainability. Future directions in the field will include the development of **predictive models, integration of multidisciplinary datasets, and fostering community engagement** to enhance seismic resilience.

Dr. Prosanta Kumar Khan, **Professor (HAG), Department of Applied Geophysics**, and **Chairman-cum-Convenor** of the seminar, emphasized the importance of strong motion earthquake analysis in identifying subsurface risks such as fault lines, soil instability, and groundwater contamination. He highlighted those geophysical methods**, including seismic analysis, electrical resistivity tomography, and ground-penetrating radar**, provide crucial data for informed decision-making, thereby reducing structural failures and environmental hazards. The seminar will also cover essential topics such as **soil-structure interaction, performance-based design, and the integration of para-seismic devices** to improve structural resilience.

As part of the centenary celebrations, a **national workshop on "Earthquake Preparedness and Mitigation Measures: Are We Ready?"** is scheduled to take place on the **inaugural day of the seminar** at the **Smart Classroom (Ground Floor), TEXMiN, i2h Building**. This workshop will engage students and teachers from nearby schools, fostering awareness and preparedness for seismic hazards.

The Centenary National Seminar promises to be an enriching platform for knowledge exchange and innovation in earthquake engineering, contributing significantly to the development of safer, sustainable infrastructure capable of withstanding seismic challenges.

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