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PRESS-RELEASE

GIAN Course on Inverse Methods and Machine Learning in Geosciences Concludes at IIT (ISM)

The five-day-long GIAN (Global Initiative of Academic Networks) Course on "**Inverse Methods and Machine Learning: Applications in Geosciences**", organized by the **Department of Applied Geophysics, IIT (ISM) Dhanbad**, concluded today with a valedictory session held at the institute's Executive Development Centre (EDC).

The course, conducted from **June 23 to 27**, witnessed participation from leading institutions including **IIT Guwahati, IIT Ropar, IIT Madras, IIT Kharagpur, CSIR-NGRI Hyderabad, and NIT Durgapur**, and brought together scholars and professionals engaged in geophysical research and applications.

The valedictory function was graced by **Prof. Mrinal Kanti Sen**, Professor at the University of Texas at Austin, USA, and an alumnus of IIT (ISM) Dhanbad (Batch of 1979), who served as the **Foreign Faculty** for the course. He delivered lectures on the fundamentals of **Machine Learning, Deep Learning, and Convolutional Neural Networks**, and emphasized the relevance of AI and ML in the modern era. "In a time when Artificial Intelligence and Machine Learning are transforming every domain, the application of these tools in Geosciences through Inverse Methods is especially pertinent," Prof. Sen remarked. He added that the foundational knowledge imparted during the course would enable participants to undertake advanced research in the area.

Prof. M.K. Singh, Dean (Academic), IIT (ISM), present as the **Special Invitee**, highlighted the importance of cross-institutional learning and collaboration. "It is crucial for scholars from one institute to gain exposure to diverse perspectives and pedagogies, and the teaching delivered by a world-renowned expert like Prof. MK Sen offers a significant value addition," he said. He also reflected on the growing influence of AI/ML across disciplines, noting the importance of responsible and timely integration of these technologies.

Prof. Sanjit Kumar Pal, Head of the Department of Applied Geophysics, underlined the growing utility of AI and ML across various sectors, stating that with appropriate training, these tools can yield highly efficient results in geoscientific applications.

Course Coordinator **Prof. Saumen Maiti**, who conceptualized and led the initiative, shared insights into the journey of organizing the GIAN Course. He acknowledged initial doubts about participation levels but expressed satisfaction over the encouraging response from institutions across the country. **Prof. P.K. Khan**, also present at the event, lauded Prof. Maiti's efforts in curating the course and successfully bringing in Prof. Sen as the lead international expert.

The GIAN course aimed to bridge advanced computational techniques with geophysical applications, enhancing interdisciplinary skills among researchers and academic professionals.

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Dean (Corporate Communications)