



भारतीयप्रौद्योगिकीसंस्थान (भारतीयखनिविद्यापीठ), धनबाद Indian Institute of Technology (Indian School of Mines), Dhanbad

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PRESS-RELEASE

Dr. Vinod Kumar from IN-SPACe Delivers Insightful Talk on Space Sector Reforms at IIT (ISM) Dhanbad

The Indian Institute of Technology (Indian School of Mines), Dhanbad, hosted an enlightening session on “*Indian Space Sector Reforms and Applications*” by Dr. Vinod Kumar, Director, Promotion Directorate, IN-SPACe (Indian National Space Promotion and Authorization Center), on Wednesday at the Smart Classroom, i2h Building.

Organized by the Office of the Dean – Innovation, Incubation & Entrepreneurship (IIE), the event commenced with a welcome address by Prof. Alok Kumar Das, Dean (IIE), who emphasized the relevance of space innovations in driving academic and entrepreneurial growth.

In his hour-long talk, Dr. Vinod Kumar offered a comprehensive overview of India’s transformative space sector reforms and their far-reaching applications across various domains. He highlighted the critical role of space data in precision agriculture and detailed initiatives like the InSpace Skill Development Centres, minor degrees in space technology, and national-level competitions like the CANSAT.

Touching upon the broad impacts of space technologies, Dr. Kumar elaborated on:

- **Blue Economy:** Strategies for identifying potential fishing zones.
- **Green Economy:** Monitoring crop yields and soil health.
- **Geo Science:** Geotechnical and hazard monitoring through satellite data.
- **Krishi SAT:** Empowering agriculture through space-based solutions.
- **Digital Economy:** Leveraging satellite data for digital transformation.

He also addressed **emerging trends in satellite communications**, including:

- High Throughput Satellite Systems
- Big GEO versus Small MEO/LEO satellite constellations
- Direct-to-mobile satellite communication
- Market-responsive satellite flexibility
- Exploration of O/V/W bands and optical frequencies
- Space-based quantum communication

In addition, Dr. Kumar discussed the growing **commercial potential of the space tourism sector**, encouraging researchers and entrepreneurs to explore new frontiers in this domain.

The session concluded with a lively interaction where faculty members, undergraduate and postgraduate students, research scholars, and IPDFs engaged in discussions with Dr. Kumar on future prospects and collaborative opportunities in India’s space ecosystem.

This event is a testament to IIT (ISM) Dhanbad's commitment to fostering innovation and bridging academia with cutting-edge technological advancements.

Rajni Singh
Dean (Corporate Communications)