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## **PRESS-RELEASE**

### **IIT (ISM) Dhanbad Students Win Top Prize in PAN-India IIT Hackathon, India Energy Week**

A team of innovative minds from IIT (ISM) Dhanbad has achieved a significant milestone by winning the first prize at the prestigious Pan-India IIT Hackathon organized as part of India Energy Week 2025. The announcement was made by the Hon'ble Minister of Petroleum and Natural Gas, Shri Hardeep Singh Puri, during a startup event titled "Energizing India: Catalyzing Growth Through Startup Innovation" held at ONGC, Vasant Kunj, New Delhi.

The team developed a patented process for the low-cost production of nitrogen-doped multilayer graphene nanopowder designed for CO<sub>2</sub> adsorption and conversion. This breakthrough introduces a sustainable and eco-friendly method to create advanced graphene materials using bamboo powder, demonstrating an impactful solution for tackling environmental challenges like carbon dioxide emissions.

The graphene nanopowder features a unique porous, layered structure ideal for capturing CO<sub>2</sub>, offering a low-cost, green technology innovation with immense potential for global energy and environmental applications.

The award-winning team consists of Sayantika Thandar, M.Tech (Chemical), Riya Jaiswal, M.Tech (Chemical); Mohammad Faheem, B.Tech (Chemical); Mr. Md. Modassir Ashraf, B.Tech (Chemical)

The team was mentored by Prof. Ejaz Ahmad and Dr. Afaq Ahmad Khan from the Department of Chemical Engineering, IIT (ISM) Dhanbad.

The Hackathon, held under the theme of Carbon Capture, Utilisation, and Storage (CCUS) and also Development of Cost Effective Renewable Energy Sources, storage system and integration, witnessed participation from leading IITs, including IIT Bombay, IIT Delhi, IIT Guwahati, IIT Kharagpur, IIT Madras, and IIT Roorkee. As winners, the IIT (ISM) team will present their innovative solution to the Hon'ble Minister of Petroleum and Natural Gas at IEW 2025, scheduled to be held on February 14, 2025, at Yashobhoomi, Delhi.

Speaking about the achievement, Prof. Ejaz Ahmad commented, "This recognition underscores the innovative spirit of IIT (ISM) Dhanbad students. Their invention offers a promising step forward in sustainable energy solutions, aligning with India's energy transition goals."

It is noteworthy that this is not the first time IIT (ISM) has showcased its expertise on the global stage. In 2024, another team, Energy Nexus, won the Switch Energy Alliance Competition, competing against participants from 31 countries in a rigorous three-round challenge.

### **About India Energy Week**

India Energy Week, scheduled from February 11–14, 2025, is a flagship event aimed at empowering innovation in the energy sector. The Hackathon brings together the brightest minds from across India to present groundbreaking solutions for a sustainable energy future.

Rajni Singh

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