For Immediate Release: November 13, 2025

PRESS-RELEASE

ANRF–Sponsored Workshop on Wide Bandgap Semiconductors Begins at IIT (ISM) Dhanbad

A two-day national workshop on **"Wide Band Gap Semiconductors for Power Electronics"**, sponsored by the **Anusandhan National Research Foundation (ANRF), Government of India**, under **Scientific Social Responsibility (SSR)** activities, commenced today at **Raman Hall, 5th Floor, Academic Complex**, Department of Physics, IIT (ISM) Dhanbad. The workshop is scheduled from **13–14 November 2025** and aims to strengthen India's research ecosystem in advanced semiconductor materials crucial for next-generation power electronics.

The inaugural session began at 9:30 am in the presence of faculty members, researchers, participants, and invited experts from premier national and international institutions. The workshop highlights India's increasing focus on semiconductor research and academic–industry collaboration under the ANRF initiative.

Addressing the gathering, **Prof. Vineet Kumar Rai, Head, Department of Physics, IIT (ISM) Dhanbad**, spoke about the department's consistent progress, expanding academic programmes, and commitment to solving emerging technological challenges. He noted that the department has produced **over 700 graduates in the last five years**, reflecting its strong academic base. Stressing the value of practical learning, he expressed confidence that the workshop would provide participants meaningful exposure to advanced semiconductor science and hands-on understanding through lab sessions.

Delivering the keynote address, **Dr. K. Ashokakan**, former Scientist-H, IUAC New Delhi and currently Professor at UPES Dehradun, highlighted the rapid transformation in semiconductor technology and the growing importance of wide bandgap and ultra-wide bandgap materials. He emphasised their high efficiency, robust thermal performance, and future relevance in high-power, high-frequency and communication technologies. Drawing from his research experience, he also discussed radiation effects and doping techniques essential for improving device performance.

Speaking during the inaugural session, **Dr. M. Senthil Kumar**, Senior Principal Scientist, CSIR-National Physical Laboratory (NPL), New Delhi, stressed the need to understand technological fundamentals and choose the right semiconductor materials to enhance device quality and efficiency. He highlighted ongoing research on advanced materials, the importance of collaborative scientific efforts and expressed confidence that such advancements would contribute significantly to India's technological growth and economic strength.

Throughout the two-day event, experts will deliberate on semiconductor growth techniques, ion implantation, X-ray diffraction analysis, nanomaterials, lithography, and simulation of wide bandgap semiconductor devices. Sessions will also be addressed by international speakers from France and Germany, followed by lab visits and demonstration sessions organised by the Department of Physics.

The workshop aims to foster research collaborations, promote knowledge exchange and encourage young researchers to contribute to India's growing semiconductor mission. IIT (ISM) Dhanbad has sought media support to ensure broader visibility of this important initiative under ANRF.

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