



Centenary Lecture Series-3

Prof. Nilesh Prakash Gurao Explores Micro-Mechanisms of Deformation in Titanium at IIT (ISM) Dhanbad's Centenary Lecture Series – 3.

As part of the ongoing Centenary Lecture Series celebrating 100 years of academic excellence, the Department of Mechanical Engineering, IIT (ISM) Dhanbad had the privilege of hosting **Prof. Nilesh Prakash Gurao**, Department of Materials Science and Engineering, IIT Kanpur.

Prof. Gurao delivered a ground breaking lecture on “**Micro-Mechanisms of Deformation and Damage in Titanium Using Combinatorial In Situ EBSD and Crystal Plasticity Simulations**” at the Department of Mechanical Engineering's Seminar Hall. His insightful presentation explored advanced techniques in micro-mechanics, focusing on the complex deformation behavior and damage evolution in titanium materials. By combining in situ Electron Backscatter Diffraction (EBSD) with crystal plasticity simulations, Prof. Gurao illustrated innovative approaches for understanding material behavior at the microscopic level, with critical applications in aerospace and automotive industries.

The event was graced by **Prof. S. Chattopadhyaya, Head of the Department (Mechanical Engineering)** and **Prof. Ashis Mallick** along with senior faculty members. The lecture saw enthusiastic participation from students, faculty, and researchers, fostering a vibrant atmosphere of academic exchange and intellectual discourse.

The event was coordinated by Prof. Abhijeet Sethi, Coordinator, Centenary Lecture Series, Mechanical Engineering Department.

The Centenary Lecture Series continues to bring global experts to IIT (ISM) Dhanbad, inspiring interdisciplinary collaboration, research innovation, and academic excellence as the institute celebrates its second century of achievement.



About Prof. Nilesh Prakash Gurao

Nilesh Prakash Gurao is presently working as a Professor in the Department of Materials Science and Engineering at the Indian Institute of Technology Kanpur, India. He completed his undergraduate degree in Metallurgical and Materials Engineering from Visvesvaraya National Institute of Technology, Nagpur, India in 2005 and his Ph.D. from the Department of Materials Engineering at the Indian Institute of Science, Bangalore, India in 2010. He worked as a postdoctoral fellow in the Department of Mechanical Engineering at the University of Saskatchewan, Saskatoon, Canada before joining as an Assistant Professor at IIT Kanpur in 2012. He has established the Microstructure-Texture-Stress Laboratory at IIT Kanpur and is presently carrying out research in the broad domain of crystallographic texture, mechanical behaviour of materials, and materials processing. His current research interests include in situ experiments using electron backscatter diffraction, synchrotron, and neutron diffraction, complex concentrated alloys, and additive manufacturing.