



ANRF SPONSORED

**One Day Faculty Development Program on
Design and Development of Novel High Strength Ultra-Lightweight Metal Matrix
Nanocomposite Material for Aerospace Applications by Hybrid Manufacturing Process
02 August 2025**



About the Institute: Indian Institute of Information Technology Design and Manufacturing, Kurnool (IIITDMKNL) was announced in 2014 after receiving the assent of President of India to the Institutes of Information Technology Act, 2014, and its subsequent publication in the Gazette of India, Extraordinary, Part- II, Section I, on December 08, 2014. The institute was announced by the Government of India to give effect to its obligation under the Andhra Pradesh State Reorganization Act-2014. The IIITDM Kurnool campus is located far away from the bustling life of the metropolis in the mineral-rich mountain trails of the Rayalaseema region of Andhra Pradesh. The campus is situated atop a hill that oversees Kurnool city. The place offers a perfect environment to nurture a peaceful state of mind required to carry out research and other student activities

About the Department: Department of Mechanical Engineering came into existence in the year 2016. The department has 13 qualified and dedicated faculty members with specializations in various areas of Mechanical Engineering. At present, the department is conducting an undergraduate course, two postgraduate courses, and research programmes leading to Ph.Ds.

CHIEF PATRON

Prof. B.S Murty

Director

IIITDM Kurnool

PATRON

Dr. Akhtar Khan

Head of the Department

Department of Mechanical Engineering

IIITDM Kurnool

COURSE COORDINATOR

Dr. R. Seetharam

Assistant Professor

Department of Mechanical Engineering

IIITDM Kurnool

Objective of the Workshop: The Faculty Development Program on "*Design and Development of Novel High Strength Ultra-Lightweight Metal Matrix Nanocomposite Material for Aerospace Applications by Hybrid Manufacturing Process*" aims to provide participants with a comprehensive understanding of the cutting-edge research, materials design, and technological developments in HEA-based composites. This FDP will focus on theoretical insights into the manufacturing, characterization, and applications of HEAs, which represent a paradigm shift in materials science due to their superior properties.

Key Features:

- Introduction to Engineering Materials
- Types of Composite Materials
- Fabrication Techniques for MMC
- Microstructural Characterization using SEM and XRD
- Mechanical Characterization: Tensile Testing and Microhardness Analysis
- Evaluation of Wear and Corrosion Resistance of MMCs

Hands-on Training Includes:

- Ultrasonic Stir Casting Technique
- Microwave Sintering Process
- Microstructural Examination using Olympus Optical Microscope
- Vickers Microhardness Testing
- Wear Testing using Pin-on-Disc Apparatus
- Compression Testing of Composite Specimens

Registration and Certification:

- There is no registration fee and the number of participants is limited to 25.
- Kit and Working Lunch will be provided.

Important Dates:

- Registration starts from 17th July 2025
- Last date of Application 30th July 2025
- Display of Short listed candidates 31st July 2025
- This workshop is open to all faculty members and research scholars from the Mechanical and Materials disciplines across various institutes, colleges, and universities.
- Participants are required to fill the online registration form by clicking on the following link:
- <https://forms.gle/ncW3gqoY1Qoq6kuP9>

Key Contact Details:

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