

## Faculty Development Program On Novel Materials

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Sponsored by  
**AICTE Training and Learning (ATAL)  
Academy**

Organized by



Department of Mechanical Engineering  
National Institute of Technology Patna  
Ashok Rajpath-800005, Patna  
Website: [www.nitp.ac.in](http://www.nitp.ac.in)



**Chief Patron:** Prof. P. K. Jain (Director, NIT Patna)

**Patron:** Prof. S.K Verma (Deputy Director, NIT Patna)

**Coordinator:** Dr. Abhishek Singh (NIT Patna)

**Co-Coordinator:** Dr. Sarbjit Singh  
Associate Professor, MED, Punjab Engineering College  
(Deemed to be University), Chandigarh

**Convener(s):** Dr. Amit Kumar (NIT Patna)  
Dr. Anmesh Kr. Srivastava, (NIT Patna)

## INSTITUTE DETAILS

National Institute of Technology Patna is the 18<sup>th</sup> National Institute of Technology created by the Ministry of Human Resource Development, Government of India after rechristening the erstwhile Bihar College of Engineering, Patna. The Institute has highly qualified faculty of higher caliber in various disciplines. Institute offers B. Tech, M. Tech & Ph.D programmes in respective field of Engineering, Sciences and Technology with well-equipped laboratories. The institute is situated on the south bank of holy river Ganges behind Gandhi Ghat, one of the most important and reverential place of Patna. The Gandhi Ghat is associated with the immersion of ashes of father of the Nation Mahatma Gandhi in the river Ganges. The campus has a picturesque river view with historic heritage building presenting a spectacle of architectural delight and natural beauty. The Institute campus is 8 km from the Patna Junction railway station and 15 km from the Jai Prakash Narayan International Airport Patna.

### About the Department

The Department of Mechanical Engineering at NIT Patna is as old as the Institute itself. The Department is continuously striving to achieve excellence in education, academic and industry oriented research to prepare the manpower that

are globally competitive and capable of leading in industry, academia and government organizations in both India and abroad. Besides the Bachelor degree, Department offer Master and Ph.D. programme also. Under Ph.D. programme at the Department, the major research areas include Advanced/non-traditional machining processes, Micro-manufacturing, CAD/CAM, MEMS, Soft computing in Design and Manufacturing, Composites, Bio-materials, Modelling and Computation in heat transfer, Internal combustion engines, Nano-fluids, Mechanical Vibration and so on. The track record of the department, judged by the employment potential of our students and noteworthy achievements of illustrious alumni, is excellent. The major strength of the department is its experienced and enthusiastic teaching faculty and well supportive technical staff for laboratories. The department can boast of very well equipped laboratories and centralized workshop that caters to the need of the entire Institute. The department is also well equipped with computational facilities and resources both in terms of hardware and software.

## CONTENT OF THE FACULTY DEVELOPMENT PROGRAMME

*“Novel Materials”*



## FDP Overview:

This Faculty Development Program in Novel Materials and Nano technology will cover majorly the basic and advanced concepts related to both novel materials and nanomaterials. It starts with deeper discussion on engineering materials with special emphasis on metal matrix and smart material. The course is also replete with various Micro-Nano fabrication technologies which are to be discussed by eminent resource persons. Special emphasis has also been laid on Primary Processing & Secondary Processing of Advanced Composites and Processing of Nano Composites. Novel materials have one or more properties that can be significantly changed in a controlled style as stress, temperature, magnetic fields etc. The lectures of the experts will cover the aspects of both Novel and Nano materials.

## Contents to be Covered:

- Materials and Manufacturing: An Overview
- Processing Challenges of Advanced Materials
- Novel Materials Processing Methods
- Primary Processing of Composites
- Secondary Processing of Composites
- Processing of Nano Composites

- Approaches in Micro-Nano Fabrication
- Advanced Joining/machining Methods
- Processing of Green Composites
- Mechanical Characterization
- Metallurgical Characterization
- Art of Living and Stress Management

## Resource Persons:

Lectures will be delivered online by the faculty members from IITs, NITs and other reputed institutes. The faculty development program (FDP) has added provisions for distinguished speakers from various Industries and also from research laboratory.

## Address for Correspondence:

**Dr. Abhishek Singh (Assistant Professor)**  
Department of Mechanical Engineering  
National Institute of Technology Patna  
Ashok Rajpath, Patna – 800005 (Bihar)

Email: [abhishek.singh@nitp.ac.in](mailto:abhishek.singh@nitp.ac.in)  
Mobile No: 7488323257

## Who Should Attend?

- Faculty members from AICTE approved institutions.
- Research Scholars and PG Students from all the disciplines

- Participants from Government, Industry and staff of host institutions.

## Registration:

- **Registration Fee-Nil**
- Programme will be delivered through **online mode**.
- **The participants are advised to apply online at AICTE ATAL registration portal on or before 31<sup>st</sup> January 2021 through:**  
<https://atalacademy.aicte-india.org/signup>
- No TA/DA will be provided.
- Number of participants is limited to 200 (first-come first-served basis).

## Test and Certificate:

- A test shall be conducted by coordinator at the end of the program.
- The certificates shall be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test.

