



# IIT PATNA

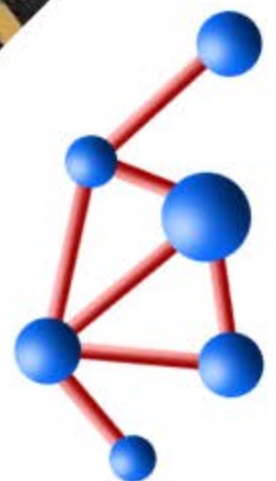
METALLURGICAL  
AND MATERIALS ENGINEERING

M-TECH 2019- 2020

---

PLACEMENT BROCHURE

---





## **CONTENTS**

**ABOUT US**

**WHY MSE IIT PATNA...?**

**COURSE WORK**

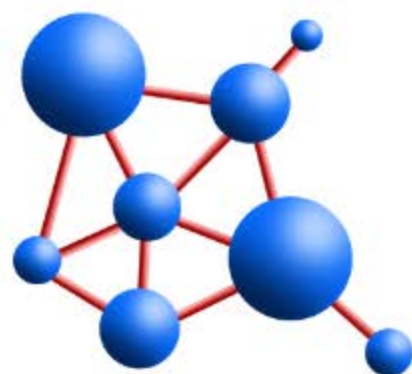
**LABORATORIES**

**CURRENT BATCH RESEARCH AREAS**

**SPONSORED PROJECTS**

**COLLABORATIONS & INTERNSHIP PROVIDERS**

**CONTACT US**



**PLACEMENT BROCHURE MSE 2019-2020**

# WHY MSE IIT PATNA...?

Materials Engineering involves design, innovate and improve the process; to transform minerals and metals to useful products we use every day in our life.

Department of Materials Science and Engineering was established in the year 2012 and was renamed as Department of Metallurgical and Materials Engineering in 2018.

The department faculty specialises in the areas of physical and mechanical metallurgy, phase transformations, thermomechanical processing, electron microscopy, materials chemistry, nano materials, thin films and coatings, ceramic and metal matrix composites, tribology, thermal spraying, polymer science and technology, fillers, composites, ultra-high temperature ceramics and phase field modeling.

# COURSE WORK



## CORE SUBJECTS

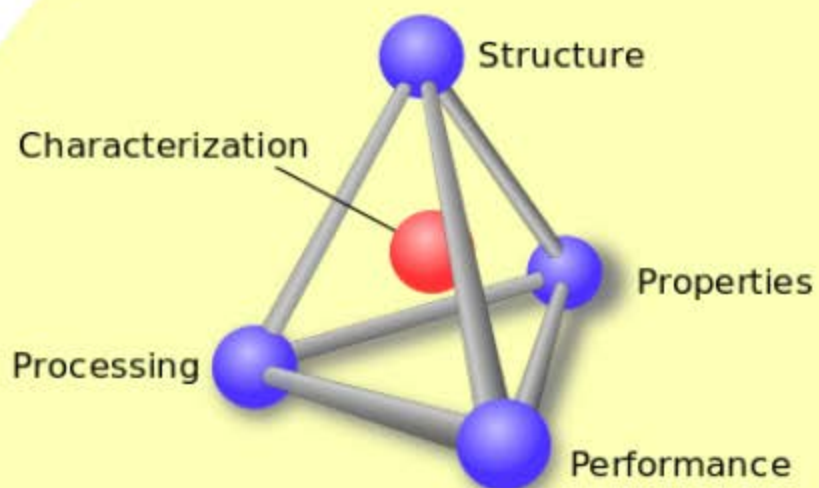
- Nano-structured Materials
- Materials Processing Technology
- Advanced Materials Characterization Techniques
- Structural and Functional Properties of Materials
- Thermodynamics & Phase Diagrams

## LABORATORY COURSES

- Microstructure and Phase Analysis Laboratory
- Materials Characterization Laboratory

## ELECTIVES

- Surface Engineering
- Rubber Science and Technology
- Composite Science and Technology
- Heat Treatment and Alloy Development



# LABORATORIES

There are currently five research laboratories along with couple of sub-units associated with them.

## 1. Metallurgical and Materials Engineering Lab

- Plasma Spray Lab
- Mechanical Testing Lab
- Nano-indentation Lab
- Metallographic & Corrosion Lab

## 2. Ceramics & Nanomaterials Lab

- Nanomaterials Lab
- Materials Chemistry Lab
- Ceramics Lab

## 3. Polymer Science and Technology Lab

- Polymer Characterization Lab
- Polymer Processing Lab
- Polymer Synthesis Lab

## 4. Processing and Modeling Lab

## 5. Flash Sintering Lab

Currently, research is undergoing in different facets of metallurgical & materials engineering. Thrust research areas are thin film and coatings, nano materials, novel polymer blends & composites, synthesis of advanced ceramics, carbon nanotube reinforced materials, flash sintering, ultra high temperature ceramics & Computational Material Science.





## CURRENT BATCH RESEARCH AREAS

- Polymer Nanocomposites
- Conductive Polymers
- Polymeric Blends and Elastomers (with Graphene Oxide, Carbon Dots and Silica as fillers)
- Topic Densification of Piezoelectric ceramic by flash Sintering
- Reactive processing of ceramics through flash sintering
- Ultra High temperature ceramic
- Structure and Property Co-relationship in Oxides
- Plasma Sprayed Hydrophobic and Wear Resistant Coating
- Nano-structured Coatings
- Computational modeling of sintering and microstructural evolution in materials

# SPONSORED PROJECTS

## COMPLETED PROJECTS

Hydrophobic Coating(SERB-DST),  
DENKA, Japan,

**75.75  
LAKHS**

WORTH PROJECTS HAVE  
BEEN COMPLETED

**3.34  
CRORES**

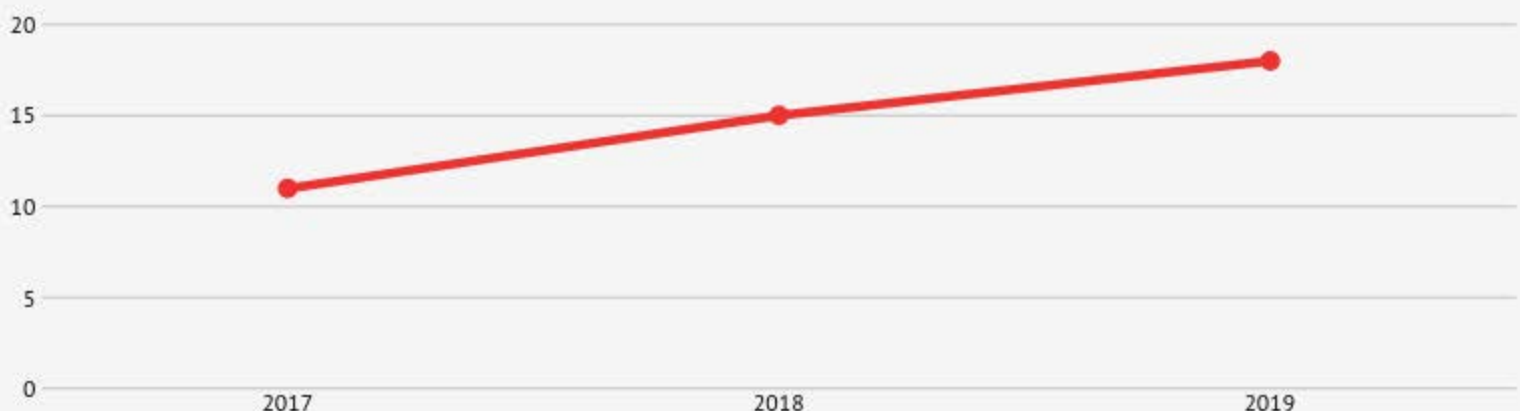
WORTH PROJECTS ARE  
ONGOING

## ON-GOING PROJECTS

ISRO, IMPRINT II, NRB, DST INSPIRE,  
MRF Tyres

## NO. OF PUBLICATIONS

In 2019 alone, the MME Department Publications is very much high compared to last year in past 6 months.



# COLLABORATIONS & INTERNSHIPS PROVIDERS

- Tata Steel
- NCL Pune
- JK Tyres
- NML Jamshedpur
- IRMRA Thane
- Action Shoes Delhi
- TVS Tyres
- DMRL
- DMSRDE
- CUMI
- DST
- NRB
- ISRO





# CONTACT US



## Department of Metallurgical and Materials Engineering

**Dr. Anup K. Keshri**  
Asst. Professor  
& Head of Department  
Contact: 0612-2552184  
Email: [anup@iitp.ac.in](mailto:anup@iitp.ac.in)

## Training & Placement Office

**Dr. Jose V Parambil**  
Professor In charge  
Contact: 0612-302-8091  
Email: [pic\\_tnp@iitp.ac.in](mailto:pic_tnp@iitp.ac.in)  
Address: Training & Placement  
Cell, IIT Patna, Kanpa Road,  
Bihta, Patna, India-801103

## Student Placement Cell

**Mr. Faique Ahmed Shakil**  
Head Coordinator, MME Dept.  
Contact: 7905627151  
Email: [1811MS02@iitp.ac.in](mailto:1811MS02@iitp.ac.in)