



భారతీయ సాం కేతిక విజ్ఞాన సంస్థ హైదరాబాద్  
भारतीय प्रौद्योगिकी संस्थान हैदराबाद  
Indian Institute of Technology Hyderabad

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## DEPARTMENT OF MATERIALS SCIENCE AND METALLURGICAL ENGINEERING



ATOMS TO APPLICATIONS

2023 - 2024

Reach us :

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# Message from Head

## Dear Recruiter

Greetings from the Department of Materials Science and Metallurgical Engineering, Indian Institute of Technology Hyderabad. We sincerely hope that some of our students will soon be part of your esteemed organization, and rest assured that they will contribute immensely to the progress of your organization.

Our department offers course works covering broad fields of materials science and metallurgical engineering, from fundamentals to advanced and emerging areas such as nanomaterials, biomaterials, energy materials, electron microscopy, thermomechanical processing, thin films and devices, metal extraction and recovery from waste, to name a few, which impart strong foundation on several major aspects of materials science and metallurgical engineering and enhance the state of the knowledge of the students.

Through the available flexible fractal academic program following T-based education in IIT Hyderabad, our department not only covers the breadth of different futuristic areas like Additive Manufacturing, Integrated Computational Materials Engineering, Semiconductor Materials and Devices, E-waste Resources Engineering and Management and so on but also make them stand firm by imparting in-depth knowledge on the fundamental aspects of Materials Science and Metallurgy. Moreover, most of the teaching courses contain practical component and along with the lab practical and project-based thesis (one year in M.Tech. program), the students are given ample opportunity to gain hands-on expertise in all the instruments and techniques.

To explain more, the students acquire industry-relevant skills by learning the principles and having hands-on practice of major characterization techniques such as X-Ray diffraction, optical and electron microscopy as well as spectroscopy and are also ready to work on futuristic areas of R&D/Technology Developments for your organization. Students also learn key materials processing techniques such as casting and thermomechanical processing of engineering alloys, fabrication of thin films and coatings, and ceramic and polymer processing methods. In addition, they learn various multi-scale computational materials modeling techniques. As a part of their undergraduate and graduate level teaching, students learn basic and advanced courses on thermodynamics, kinetics, and phase transformations of materials. In these courses, they are trained to apply fundamental principles of thermodynamics and kinetics to study phase equilibria and diffusion in key engineering alloys such as steels, superalloys, and light alloys using CALPHAD-based tools. They also learned various advanced courses such as the design of biomaterials and bioimplants, biomimetics, metamaterials, design of semiconductors, ferroelectric and ferromagnetic devices and sensors, and nanomaterials, functional and structural polymers, and soft materials. Thus, our department aims to develop students with a strong fundamental understanding with a desire to innovate and explore new and exciting areas such as high entropy alloy design, plasmonics, materials informatics, magnetic nanowires and so on. In addition, to become industry-ready, the students are also trained in communication skills through the given formal courses, seminars, and technical writing professional ethics/plagiarism courses.

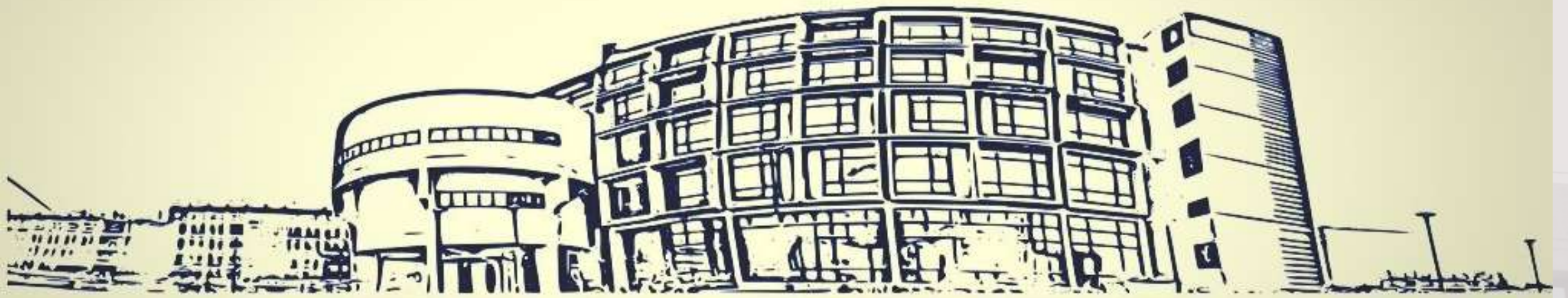
Finally, I, on behalf of our department as well as the Institute, wholeheartedly recommend our students for successful job opportunities in your organization. Every student has the potential to become an asset to your esteemed organization. Do not hesitate to revert in case of requiring any further information.

### **Prof. Suhash Ranjan Dey**

Head of Department  
Materials Science and Metallurgical Engineering  
IIT Hyderabad  
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# About us



## Dept. of Materials Science and Metallurgical Engineering Indian Institute of Technology Hyderabad

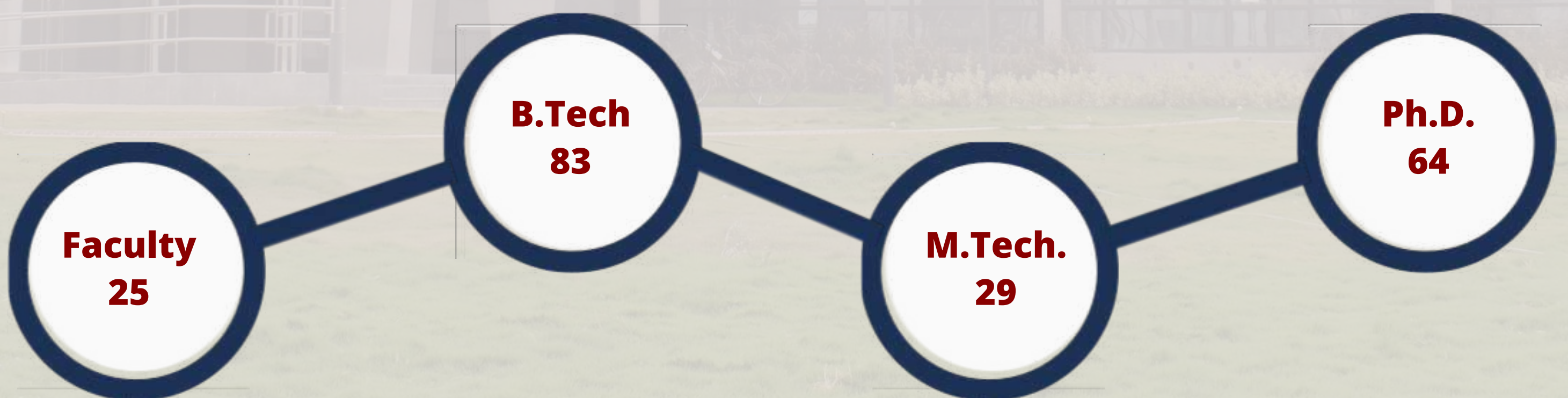
Materials Science and Metallurgical Engineering (MSME) faculty and student research spans from the infinitesimally small to the macroscopic scale to achieve breakthroughs of global significance. We are scientists and engineers working at the atomic and molecular levels to enable materials, devices and systems essential for cutting-edge solar energy production, energy storage, information technology, medicine and many more.

Department of MSME is home to the world's premier program focused on Materials Science and Metallurgical Engineering the study of matter and how it is made.

Our community members undertake interdisciplinary projects that draw on fundamental sciences in pursuit of beneficial engineering solutions. From construction materials to anti-microbial materials, we seek to understand the design, composition, structure-properties correlation, and performance of materials – and to derive new, effective, and sustainable alternatives.

Our field welcomes original thinkers who embrace complexity, aspire to drive positive change, and harness the power of ambitious research to shape a better future. Our collaborative community of students, scientists, scholars and industrial professionals from across the globe are working together

While continuing to equip students with the latest scientific and technological skills sets much needed by the industry, the department has evolved into a hub of excellence in its niche areas of research. multinational corporations and R&D institutions as its research collaborators and funding partners.





# Academic Curriculum

## Basic Courses

- Introduction to Materials Science and Engineering.
- Fundamentals of Physical Metallurgy.
- Fundamentals of Extractive Metallurgy.
- Structure of Materials.
- X-ray Diffraction in Materials Science.
- Imaging in Materials Science.
- Physics of Solids.

## Structural Materials

- Advanced Physical Metallurgy.
- Thermomechanical Processing of materials.
- Thermodynamics and Kinetics of Materials.
- Phase Transformations.
- Advanced Thermodynamics of materials.
- Diffusion in Solids.
- Role of Microstructure in Materials.
- Solidification Processing.
- Mechanical Behaviour of Materials.
- Corrosion.

## Functional Materials

- Functional Properties of Materials.
- Electronic Materials and Devices.
- Semiconductor Materials and Devices.
- Functional Ceramics.
- Magnetic Materials.
- Functional Polymers.

## Computational Materials

- Computational Methods in Material Science.
- Machine Learning and Data analytics in Materials Science.
- Materials Process Modeling.
- Computational Thermodynamics and Kinetics of Materials
- Phase-field modeling.
- Finite Element Modeling and Computational Solid Mechanics.
- Electronic Structure and Atomistic Modeling of Material (DFT Calculation).

## Characterization and Synthesis

- Characterization of Materials.
- Advanced Synthesis of Materials.
- Electron Microscopy.
- 2D materials: Synthesis, Characterization and Applications.



# Academic Curriculum

## Extractive Metallurgy

- Iron and Steel Making
- Process Metallurgy
- Electrometallurgy

## Manufacturing Processes

- Casting and Solidification.
- Metal Joining.
- Additive Manufacturing.
- Powder Metallurgy.
- Composite Materials.

## Advanced Courses

- Plasmonics.
- Soft Materials.
- High Entropy Materials.
- Thin Film Technology.
- Nanomaterials.
- Biomaterials –materials in medicine.
- Nature inspired materials.
- Materials for green energy.
- Bioengineering.

## Lab Courses

- Material Characterization Lab.
- Materials Lab.
- Materials Tinkering Lab.
- Metallography Lab.
- Materials Synthesis Lab.
- Fabrication Lab.
- Foundry and Solidification Lab.
- Mechanical Testing Lab
- Heat Treatment Lab.
- Metal Forming Lab.



# Advanced Research Labs / Facilities

MSME department is furnished with world-class facilities assisting students in learning vital skills and gain hands-on experience of the latest technologies used in industries and academia. The department has several state-of-the art laboratories such as X-materials Innovation Hub, Advanced Structural and Functional Materials research laboratories equipped for teaching, research and innovation.

The department maintains the following laboratories for research:

- Sensor Materials Lab
- Biomaterials Lab
- Nano-optics and devices Lab
- Polymer Lab
- Metallography Lab
- Electron Microscopy Lab
- High Precision Lab
- Heat Treatment Lab
- Mechanical Testing Lab
- Powder Metallurgy Lab
- Combinatorial Lab
- Material Synthesis Lab
- Heavy Instrumentation Lab
- Material Simulation Lab



The following are our Advanced facilities:

## Synthesis and Processing Instruments

- Physical Vapour Deposition
- Chemical Vapour Deposition
- Pulsed Laser Deposition
- Electron Beam Deposition
- Magnetron Sputtering
- Planetary Ball Mill
- Rolling Mill
- Refrigerated Centrifuge
- Cold Isostatic Press
- Freeze Drier
- Uniaxial Compaction Press
- Electrochemical Analyser
- Robotic Welding

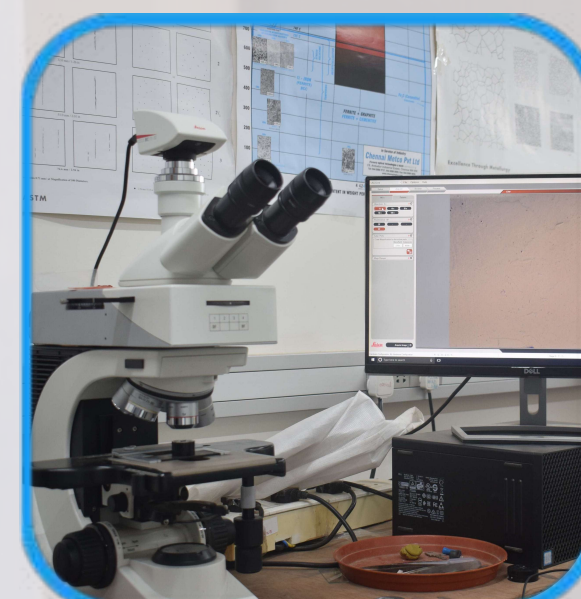




# Advanced Research Labs / Facilities

## Microstructure and Mechanical Analysis

- TEM
- SEM
- Upright Microscope
- Nanoindenter
- PIPS
- Universal Testing Machine – MTS , Instron
- Hardness Tester
- Impact testing machine
- TGA
- DGA
- DTA
- Dilatometer
- EDM wire cutting
- Ion-Milling



## Functional Properties Characterization

- XRD
- Thin Film XRD
- BET
- PPMS
- Confocal Raman
- UV-visible spectrometer
- Atomic Force Microscope
- Impedance analyzer
- Potentiostat
- Bio-Safety Cabinet
- Incubator Shaker
- High Resolution Spectroscopy
- Viscometer



## Computational

- Thermocalc
- DICTRA
- TC-Prisma

## Furnaces

- Induction-Melting Furnace
- High Temperature Furnace
- Infra-red Rapid Heating Furnace
- Muffle Furnace
- Salt-bath Furnace
- Autoclave
- Tube Furnace

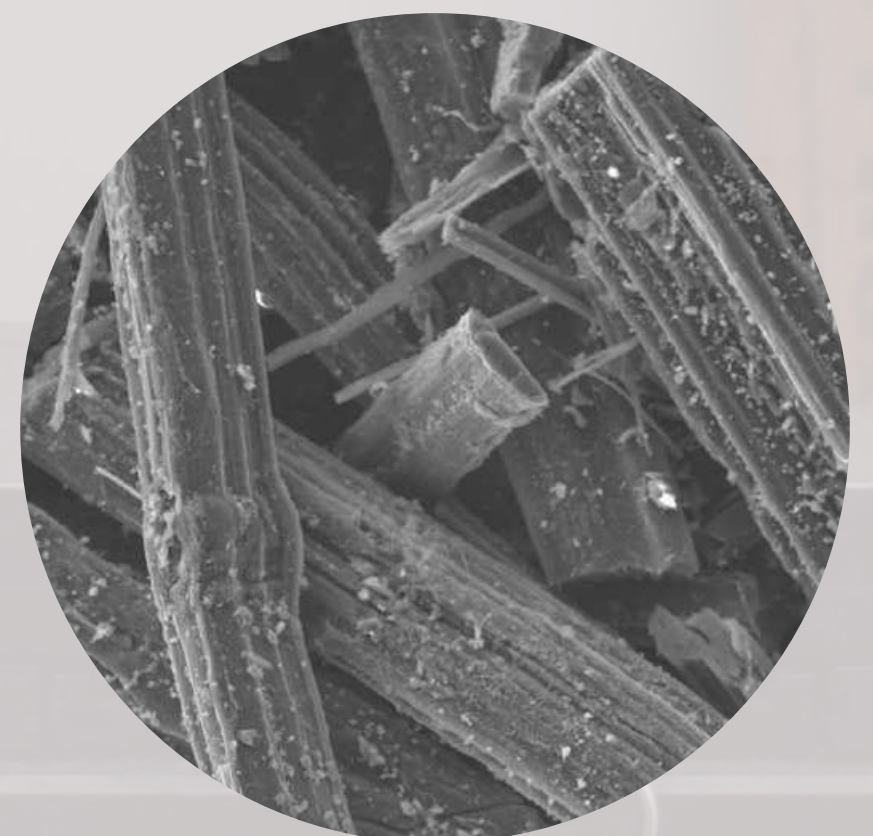
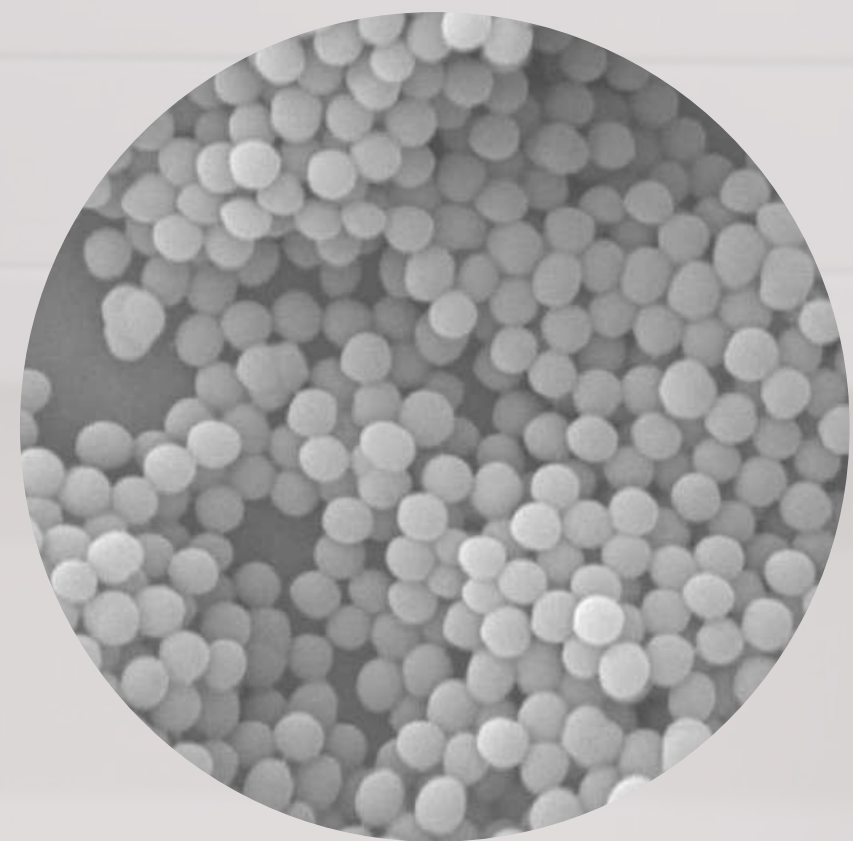
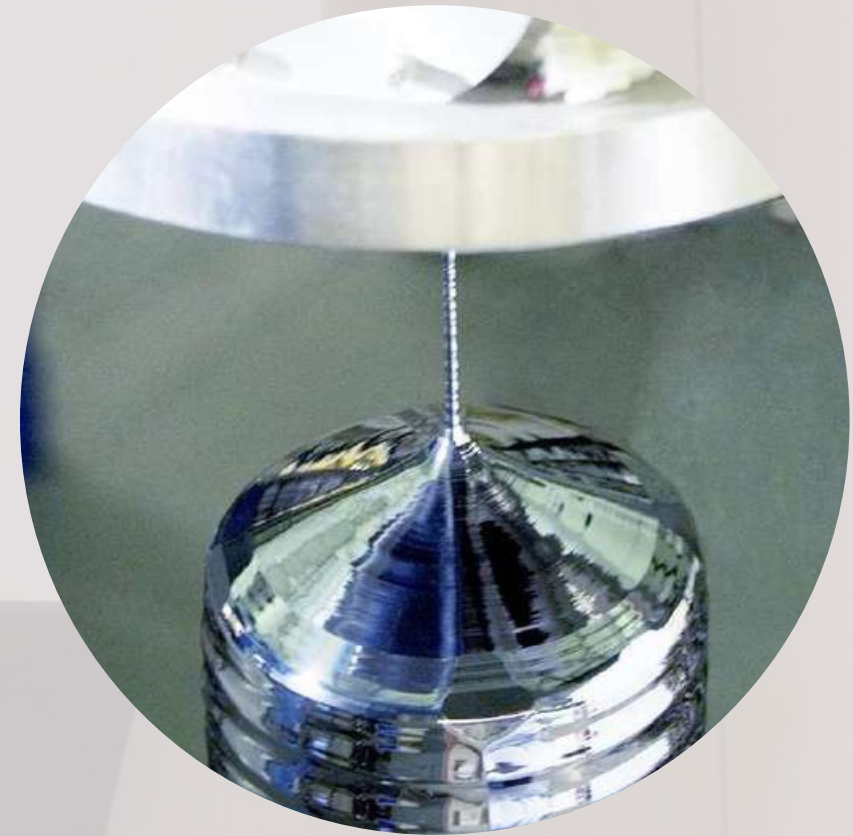


The HR-S/TEM facility recently commissioned at IIT Hyderabad, JEOL JEM-F200 TEM is India's first cold-field emitter TEM, operated at 200 kV.



# Ongoing and Completed Sponsored Projects

- National Centre for Clean Coal Research and Development (DST-IISc)
- On-demand Real Time Ultra-sensitive Cytokine profiling with Integrated Nano-Plasmonic Platform (DST)
- Bacterial cellulose derived tunable nanostructured carbon as high performance anode for Lithium Ion battery (DST-SERB)
- Antimicrobial food packaging material to enhance the shelf life of strawberry, capsicum, broccoli, Indian gooseberry, guava and okra during storage (large and small quantity) and transportation. (Waycool Food and Products Pvt. Ltd)
- Development of High Entropy Alloys with Multiscale Heterogeneities (DRDO)
- Microstructural evolution and structure-property correlations in FeCoNi based multi component alloy thin films (Indo-Sweden DST-VR Joint Call)
- Antimicrobial Panty Liners for Vulvovaginal Candidiasis (AT&T Incorporation)
- Simultaneous monitoring of multiple cytokines via SERS signals using critically coupled optical perfect absorber sensor substrates (SERB-nanomission)
- Synthesis of novel multifunctional nano composites and study the influence of size, shapes, strain and organizational behaviour at nano scale for magnetodielectric device applications (DRDO)
- Development of High Entropy Alloys with Outstanding Strength-Ductility for various Applications (TATA Steel) Bacterial Cellulose based depth filters (EATON)
- Evolution of nanostructure and mechanical properties during severe plastic deformation of materials- Critical evaluation of the role of solution hardening and stacking fault energy (CSIR) Challenging the strength-ductility paradox in materials (JICA- CKP)
- Polymer and carbon based three dimensional micropatterned nanofabric (DST-UKIERI)
- Recrystallization behavior and evolution of microstructure and mechanical properties in bulk nanostructured duplex steels processed by severe plastic deformation (DRDO)
- Novel low cost antimicrobial materials for healthcare and food packaging industry (DST-SERB)
- Self-cleaning superhydrophobic coatings for automotive applications (EATON)
- Artificial Leather (Malai Biomaterials Pvt. Ltd)
- Biomaterial based food packaging (LDS Pvt. Ltd)





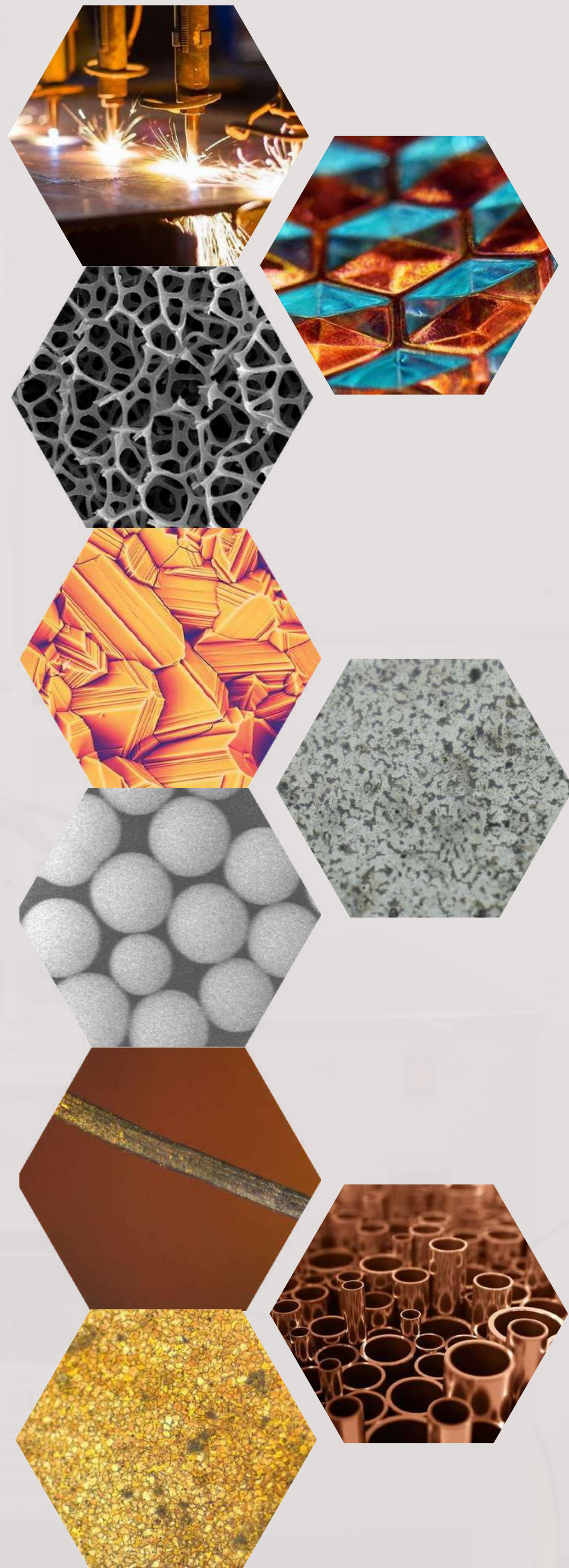
# Ongoing M.Tech and B.Tech Projects

## M.Tech Projects

- Enhancing Coercivity of NdFeB alloy magnets by grain boundary engineering (DRDO).
- High Entropy alloys through PM route, to improving ductility and toughness.
- Design and development of low alloy steel using ML approach(DMRL).
- Phase-field models and their acceleration using Physics-Informed (ML).
- Carbon metal oxide-based material for Na-ion batteries.
- Development of Ferrimagnetic thin films for emulation of synaptic device for neuromorphic computing applications.
- Fabricate Thin film transistor by Printing technique.
- Developing a machine learning model for predicting point defect properties in semiconductors.
- Semiconducting polymer for sensor.
- Significance of stacking fault energy in bulk nanostructured materials: Insights from binary alloys and high entropy alloys as model systems.
- Corrosion study of additive manufactured Inconel alloys.
- Effect of temperature in High Pressure Die Cast Process and optimizing the same to reduce the shrinkage/porosity rejections. (Rane group)
- Mechanical behaviour of Cu-Nb nanolayered composites synthesized by severe plastic deformation.
- Study of Fracture toughness in tungsten and tungsten composites.

## B.Tech Projects

- Microstructural characterisation of 3D printed stainless steel
- Optimization of process-structure-property relations in Al-alloy using CALPHAD and ML
- Artificial superlattice structure for magnetoelectric energy harvestors
- Schottky diodes for high frequency/high power devices
- Preparation of microporous thin films for metal oxide transistors
- Enhancement of microscope images using image processing and deep learning
- Growth of 2D materials on piezoelectric layers
- Effect of crystal structure and morphology of films on RRAM characteristics
- Phase growth behaviour in ternary diffusion couple
- Accelerated prediction of process microstructure maps in alloy system using deep learning and Physics based models
- Thickness dependent phase and resistivity of sputtered W thin films
- Nanostructures Thermoelectrics





# M.Tech. Programme in Semiconductor Materials and Devices

- Our department started an industry oriented course – A new M.Tech program in Semiconductor Materials and Devices.
- The program focuses on upskilling Countries human resources for ever-growing semiconductor needs for self-reliance country.
- The program aims to nurture expertise in Semiconductor Materials and Devices, one of essential resources to make India as the global hub for Electronic Systems and Manufacturing. The program is in line with the recent expansion of the vision of Aatmanirbhar Bharat in setting up of India Semiconductor Mission.
- In the recent initiatives of the Indian government Rs.76000 crore (>10 billion USD) has been approved for development of semiconductors and manufacturing ecosystem in the country (source: investindia.gov.in). The current academic program is meant for enthusiastic bright candidates who are willing to take a career path on semiconductor technology.
- By the year 2030, the global need of AI+IoT devices are predicted to be >350 billion (source: 2020 IEEE ISSCC, Cisco VNI Global IP Traffic Forecast 2017-2022).
- The specialized degree programs such as Semiconductor Materials and Devices is of paramount importance to meet the technological growth and demands both nationally and globally.



## Courses

- Fundamentals of Semiconductor Materials
- Spintronic Materials and Devices
- Functional Polymers and composites
- 2D materials: synthesis characterization and applications
- Nanoporous Materials

- Semiconductor Devices
- Electronic Materials and Devices
- Flexible Electronics
- Device Simulations
- Thin Film Technology

Semiconductor  
Materials

Semiconductor  
devices

Testing &  
Processing

- Semiconductor Extraction, Purification and Growth
- Micro and Nanofabrication
- Electrochemical Processes in Semiconductors
- Semiconductor Materials Characterization lab
- Semiconductor Devices Characterization lab
- Inter Diffusion in Solids

- Industrial lectures on Semiconductor devices, electron packing and e- waste management



# Online M.Tech in Industrial Metallurgy

Our department offers an online MTech program for professionals working in metallurgical, materials, and manufacturing industries who wish to upgrade their skills. This program covers both fundamental and scientific principles and applied engineering aspects and offers great flexibility in terms of courses. It includes a wide range of elective courses spanning fundamental metallurgical principles, materials processing, materials testing, and characterization, new generation high-performance alloys, and computational materials engineering

Different courses (Electives offered) under this program are

- Advanced Physical Metallurgy
- Deformation Behavior of Materials
- Applied Phase Equilibria and Phase Transformations
- Engineering Alloys
- Corrosion Science and Engineering
- Diffusion Analysis in Materials Engineering
- Role of Microstructure in Materials Selection
- Welding Processes
- Metallurgy of Welding and Additive Manufacturing
- Thermomechanical Processing of Materials
- Casting and Solidification
- Powder Metallurgy Manufacturing
- Metal Additive Manufacturing
- Structure and Characterization of Materials
- Electron Microscopy
- Wear and Tribology of Materials
- Non-Destructive Testing of Materials
- Metallurgical Failure Analysis
- Composite Materials
- High Entropy Materials
- Microstructural Design for Advanced Manufacturing
- Introduction to Computational Methods in Materials Science
- Machine Learning and Data Analytics in Materials Science

and many more are offered during the program duration.



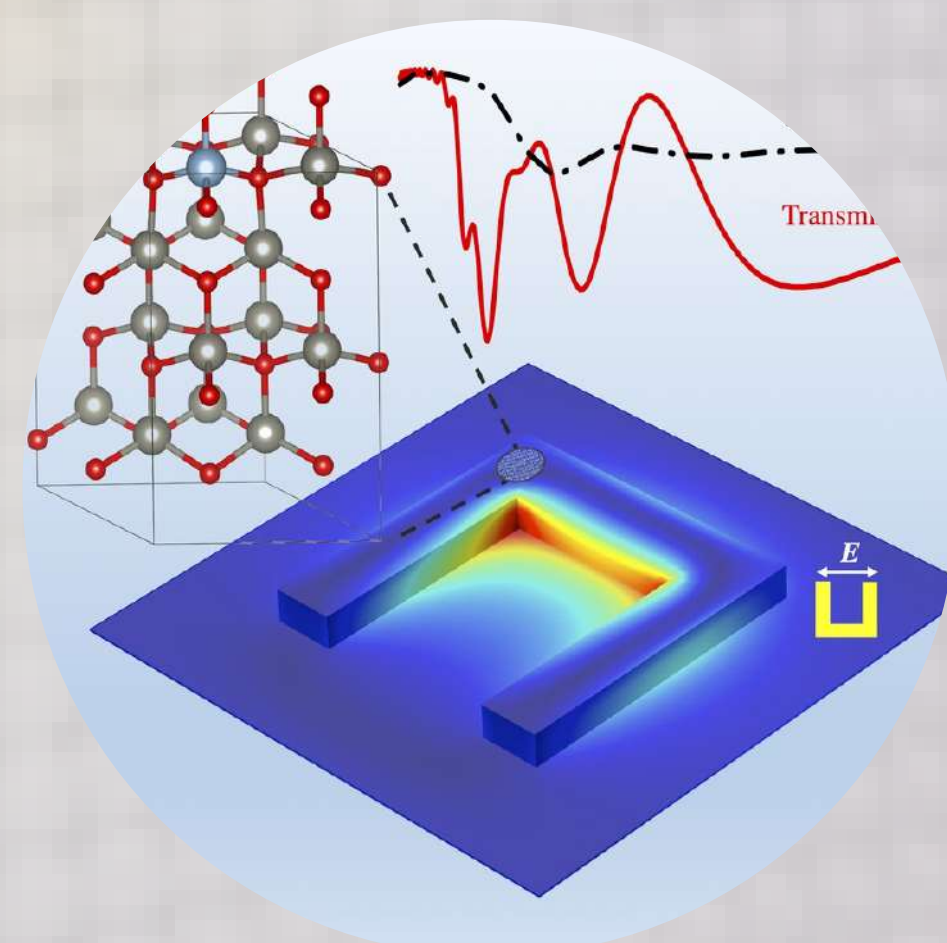
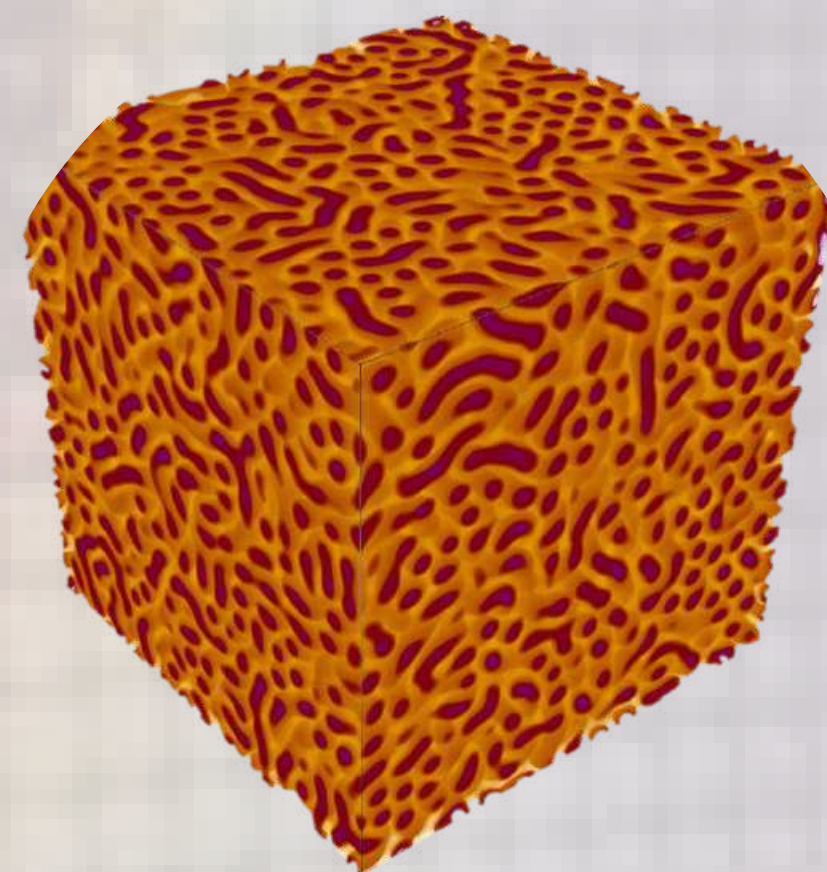
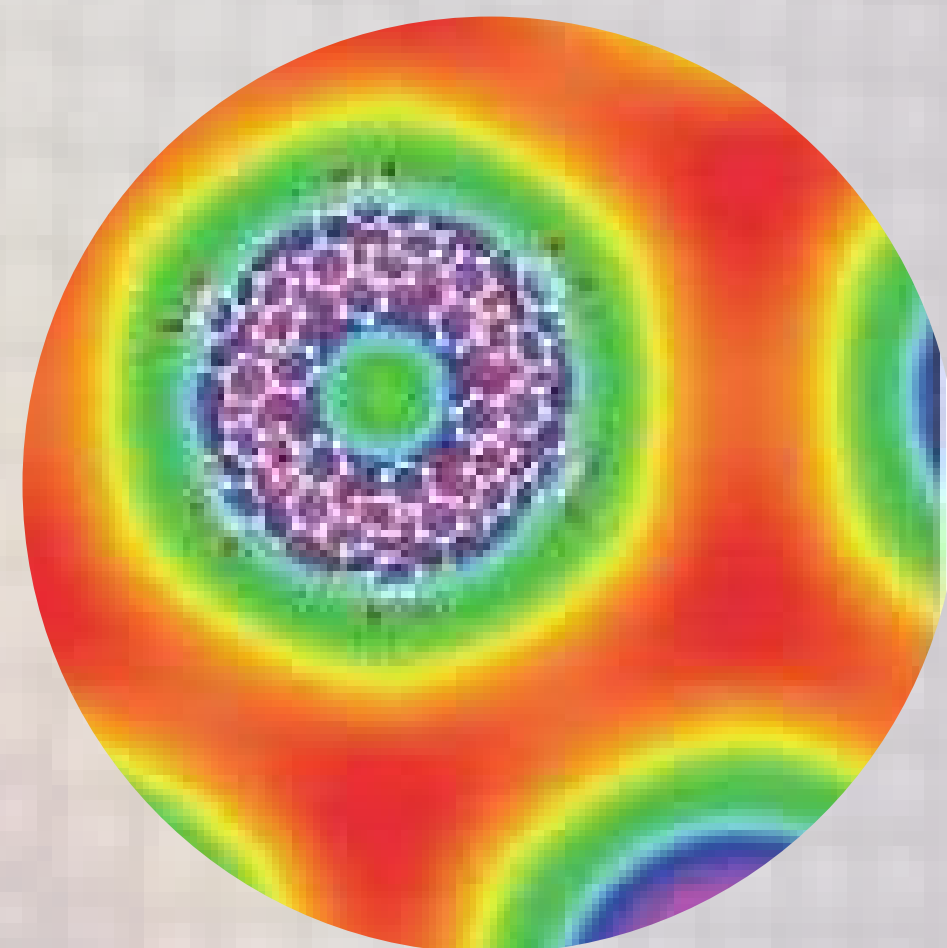


# Interdisciplinary M.Tech Program: Integrated Computational Materials Engineering

The Master's program in ICME is a unique interdisciplinary program designed for professionals working in industries and research organizations. The purpose of this course is to teach professionals from various industries an accelerated approach to designing materials and products concurrently and synergistically. This course aims to teach the principles of materials design, modeling tools at multiple length scales and timescales, and their applications in linking processing-structure-property-performance relations in materials to address issues related to product design and applications.

The curriculum is designed to provide state-of-the-art knowledge of ICME with an emphasis on problem-solving and hands-on development and implementation of computational models and simulations for materials design. Some of the major courses are as follows:

- Principles of Materials Engineering
- Introduction to ICME Techniques and Tools
- Optimization and Machine Learning in Materials Science – data-driven modeling of process-structure-property-performance relations
- Finite Element Modeling and Computational Solid Mechanics
- Computational Thermodynamics and Kinetics of Materials
- Electronic Structure Calculations - their applications in materials design
- Electronic Structure Calculations - their applications in materials design
- Atomistic Modeling and Simulations of Materials – fundamentals and applications of kinetic Monte Carlo
- Molecular statics, and molecular dynamics simulation
- Mesoscale Modeling of Process-Structure Relations in Materials -
- Phase-field modeling
- Cellular Automata, Computational Micromechanics - Discrete
- Dislocation Dynamics and Crystal Plasticity
- Materials Process Modeling (Applications of Computational Fluid Dynamics – Modeling of Casting, Forming and Joining Processes)
- Concurrent and Parallel Programming
- Information and Tools Integration for ICME (taught by Expert from Industry)





# Faculty and their Research Areas

**Prof. B.S.Murty**



**Nano crystalline materials , High entropy alloys, Bulk metallic glasses, Thermodynamics and kinetics of phase transformations, Transmission electron microscopy and atom probe tomography**

**Prof. Pinaki P.Bhattacharjee**



**Design and development of novel high entropy alloys for advanced structural applications, Development of light metals alloys for novel applications, Bulk nano- and heterostructures materials by severe plastic, deformation processing, Thermo-mechanical and other advance materials processing, Crystallographic texture, Mechanical behaviour of materials**

**Prof.G.D. Janakiram**



**Welding and Materials Joining, Additive Manufacturing, Metallurgical failure analysis, Materials Processing**

**Prof. Bharat B. Panigrahi**



**Powder Metallurgy & Sintering Mechanisms, Metal Additive Manufacturing, Nanostructures, High Entropy Alloys, MAX Phases and MXene, Advanced ceramics & composites, High temperature materials, Biomaterials, Microstructure-Mechanical Properties of Steels, Surface modification by Electro-Spark Deposition, Wear & Tribology**

**Prof. Suhash R. Dey**



**Advanced Multi-Functional Nanostructured Materials/ High Entropy Alloys, Combinatorial Alloy Design of emerging materials (Co-Cu-FeNi-Zn High Entropy Alloys, CIGS & CZTSSE solar photovoltaics, Additive Manufactured Binary & Ternary Ti-based, Biomaterials, IFHS Steel) through combined computational, (DFT) and experimental techniques (electrodeposition, powder metallurgy, ink jet print)**

**Prof. Ranjith Ramadurai**



**Multi ferroic oxide thin films for fundamental science and functional device applications, High-k dielectric thin films for CMOS technology and memory device applications, Surfaces and Interfaces of oxide hetero structures on silicon and single crystalline oxide substrates, Influence of process conditions, strain engineering and interface engineering on domains and domain dynamics of multiferroic thin films utilizing scanning probe microscope.**



# Faculty and their Research Areas

**Dr. Atul Suresh  
Deshpande**



**Nanostructured carbon materials for Li-ion batteries and supercapacitors, Synthesis of novel multicomponent oxide (high entropy oxide) and high entropy alloy nanoparticles, Biomimetic approaches for super hydrophobic surfaces and coatings**

**Dr. Saswata  
Bhattacharya**



**Phase Transformations in alloys and oxides, phase-field modelling of microstructural evolution, microstructure-property correlations, modelling deformation of materials using discrete dislocation dynamics and continuum crystal plasticity**

**Dr. Mudrika  
Khandelwal**



**Bacterial cellulose and other natural materials- understanding structure, mechanism and applications, high performance green composites, liquid crystals and self-assembly of rod-like entities, fibre spinning, strategies for developing anti-fouling and anti-microbial materials, materials for tissue scaffolding.**

**Dr. Subhradeep  
Chatterjee**



**Phase Transformations and Microstructure Development, Laser and Electron Beam Processing, Welding and Surface Treatment, Modelling and Simulation, (Phase Field/FEM/CVM).**

**Dr. Rajesh  
Korla**



**Mechanical Behaviour of Materials both at room temperature as well as at high temperature, Creep and super plasticity, Micro mechanical deformation, Molecular dynamic simulations, Nano indentation, light weight alloys.**

**Dr. Sairam K  
Malladi**



**In situ Transmission Electron Microscopy, In situ characterization and technique development using MEMS devices (lab on chip), Phase transformations in materials, Electrochemistry and Corrosion, Graphene based super capacitors, Materials for Energy Applications**



# Faculty and their Research Areas

**Dr. Shourya  
Dutta Gupta**



**Nanophotonics, Plasmonic nanostructures and nanoparticles, Metamaterials and met surfaces, Sensors, Alternative materials for plasmonics, Alternative fabrication techniques, Nano-optical biosensors, Graphene based devices, Lab-on-a-chip based optical devices, Microfluidic devices**

**Dr.  
Chandrasekhar  
Murapaka**



**Spintronic based memory and logic devices, Nano magnetic materials, Domain wall dynamics in ferromagnetic networks, Spin torque nano-oscillators for RF applications, Spin-orbit torque induced magnetization switching and dynamics, Magnetic tunnel junctions, Micro and Nanofabrication techniques**

**Dr. Mayur  
Vaidya**



**Diffusion controlled processes in deformed and nanocrystal line materials, Phase growth and interdiffusion kinetics in thermoelectric materials, Diffusion in multicomponent alloys, Processing, characterization and stability of nanocrystal line alloys.**

**Dr. Deepu Babu**



**Nano porous materials, Adsorption, Membranes, Active separations, Defect engineering, Carbon nanomaterials, Metal-organic frameworks, Plasma functionalization, Phase inversion, Chemical vapour deposition, Nano fluidics.**

**Dr. G. Suresh  
Kumar**



**Printed and flexible electronics, Oxide semiconductors, Electrolyte gating, Organic electronics, Gas sensors and Memristors**

**Dr.Ashok  
Kamaraj**



**Nano Process metallurgy, Physical (hot/cold) modelling & simulation of unit processes, Iron and steel making, Continuous casting of liquid steels, Inclusion engineering, Hot slag engineering, Life cycle analysis of processes/products, Development of alloy steels and certified reference materials (CRM) in steels.**



# Faculty and their Research Areas

**Dr. Anuj  
Goyal**



**Computational Material Science, Electronic structure theory, Defects thermodynamics, Point defects, dislocations and interfaces, Metals and semiconductors (oxides, nitrides, chalcogenides, halides), Semiconducting Devices, First Principle Calculations, Multiscale Modelling, AI/ML, Energy, High Performance Computing (HPC).**

**Dr. Piyush Vijay  
Jagta**



**Mechanics of Thin Films and Coatings, Stress Engineering of Thin Films, Reliability issues in Microelectronic Packaging, Mechanical Behavior of Nanostructures, Semiconducting Devices, Materials Processing**



# Why hire from MSME ?

- The teaching and research philosophy of the department is to impart the students with the understanding of the interplay between major aspects of materials science, namely, composition, structure, processing, characterization and properties and equip them to develop innovative technologies based on sound fundamental principles.
- The department offers course work covering broad fields of materials science and metallurgical engineering from fundamentals to advanced and emerging areas such as Nano-Materials, Bio-Materials, Energy Materials, Electron Microscopy, Thermo-Mechanical Processing, Thin Films and Devices to name a few, which impart strong foundation on several major aspects of materials science and Metallurgical engineering and enhance the state of the knowledge of the students.
- Curriculum based on both the theory and application
- Students working under renowned faculty and Collaborations research with various industries and institutes
- We have students with different backgrounds who are not only highly talented in their fields, but also enthusiastic about bringing a positive change
- We have a few of our students having Industrial experience in various fields and various background.

## Skills and Experience

### **MATERIAL CHARACTERIZATION :**

- Scanning Electron Microscope
- Transmission Electron Microscope
- XRD
- FTIR

### **MATERIAL PROCESSING :**

- Powder processing techniques (production, sintering, compaction)
- Thermo-mechanical processing
- Fabrication of thin films

### **MECHANICAL ENGINEERING DESIGN SOFTWARES**

- Solidworks
- Ansys
- Fusion360
- Autocad
- CATIA

### **MECHANICAL TESTING / OTHERS :**

- Tensile, Hardness, Impact testing, nanoindentation
- Metallographic sample preparation
- Contact Angle Measurements

### **COMPUTATIONAL SKILLS IN MATERIAL SCIENCE:**

- Thermo-Calc
- DICTRA
- PyMKS
- MATLAB
- Tensorflow
- Origin

### **Electronic Structure and Atomistic Modeling of Material (DFT Calculation)**

- QUANTUM EXPRESSO
- ORCA
- LAMMPS



# Our Past Recruiters

Following are the list of our past recruiters

- **Tata Advanced Systems Limited**
- **Vedanta Limited**
- **Larsen & Toubro Limited**
- **Whirlpool Of India Ltd**
- **Applied Materials, Inc**
- **Saint-Gobain India Privated Ltd**
- **Taiwan Semiconductor Manufacturing Company,**
- **Limited Micron Technology, Inc**
- **Mishra Dhatu Nigam Limited**
- **JPMorgan Chase & Co**
- **Forum 8 Company Ltd**
- **DENSO Corporation**
- **Goldman Sachs Group, Inc**
- **Saas Labs Software Private Limited**
- **Capgemini Technology Services India Limited**
- **HCL Technologies**
- **Zomato Ltd**
- **Amazon Retail India Private Limited**
- **Fujitsu Limited**
- **Bharti Airtel Limited**
- **Mercedes-Benz India Pvt Ltd**
- **BNY Mellon Technology Private Limited**
- **Synopsys (India) EDA Software Pvt Ltd**
- **Dhani Services Limited**
- **Gojek Tech**
- **Rakuten India Enterprise Private Limited**
- **Accenture India Private Limited**
- **Arcelormittal Nippon Steel India Limited**
- **Rapyuta Robotics Private Limited**
- **Sprinklr India Private Limited**
- **Jaguar India Private Limited**
- **Riskcovry - Insurance Company**



# Our Collaborations





# Contact Us



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# Contact Us



## How to Participate ?

To participate kindly register to the Office of Career Services (OCS),  
Recruiter's portal

For the detail information please visit <https://ocs.iith.ac.in/>

## Contact us

The OCS Placement Team will provide all the possible assistance to  
your Organization to conduct the recruitment process

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