

## Sponsored Project



## Publication



## Admission

For more details, please visit the url:

### ➤ **BS and BS-MS (Dual Degree):** -

- 1.) KVPY **or**
- 2.) JEE (Advanced) **or**
- 3.) State and Central Boards

### ➤ <https://www.iiserb.ac.in/doaa/programmes>

### **PhD:** -

- 1.) M.E./M.Tech. /M.S. Degree in Chemical Engineering or an allied area with valid GATE Score. **or**
- 2.) M.Sc./M.S. Degree in an allied area of Chemical Engineering and must have a valid GATE score **or**
- 3.) National level examination or fellowship like CSIR/ UGC/ INSPIRE/ NET/ Rajiv Gandhi Fellowship etc. are also eligible to apply.

<https://www.iiserb.ac.in/doaa/programmes#PhD>

## Research Themes



### Energy conversion and Storage

- Fuel cell
- Battery technology



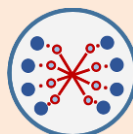
### Environment and Sustainability

- Waste water treatment
- Smart fertilizer



### Multiphase Transport

- Multiphase flows
- Machine learning for fluid dynamics



### AI in Chemical Engineering

- Physics informed AI in multiphase flows
- AI for accelerating CFD simulations



### Reaction Engineering and catalysis

- Sonochemistry
- Advance oxidation process



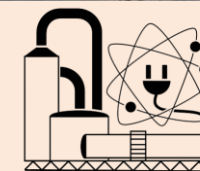
### Material Engineering

- Polymer nanocomposites
- Soft and active matter



**IISERB**

**Indian Institute of Science Education and Research Bhopal**



**Department of Chemical Engineering**

## Department Brochure



### Contact Address of the Department

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## Department Common Instrument Facility

- Fourier Transmission IR Spectrometer (Toshvin)
- UV-Vis Spectrometer (Toshvin)
- High Rotation Centrifuge (Thermofisher)
- Ice Flaking Machine (MRC)
- Millipore/Milli-Q Water unit (Merck)
- Tubular Furnace (Exacta)
- Spin Coating Unit (Holmarc)
- Humidity Chamber
- COD Apparatus (Hanna)
- Rotatory Evaporator (IKA)
- High Frame Rate Thermal Camera (Optics)

## Major Research Facility

- Universal Testing Machine (Zwick Roell, Germany)
- Ultra-centrifuge (Eppendorf, Germany)
- Freeze-Dryer/Lyophilizer (Labconco, USA)
- Gas Chromatography (Agilent technologies)
- Liquid Chromatography Shimadzu, Japan
- TOC Analyzer (OI Analytical, USA)
- Electrochemical Workstation (Textonix)
- Optical Tensiometer (Biolin Scientific)
- Dip Coating Unit (Holmarc)
- Optical Microscope (Leica)
- Inverted Microscope
- High Speed Camera Chronos (Krontech)
- Electrical Amplifier (Trek)
- Differential Pressure sensor

## Department Activities

- ❖ National conference on Advances in Chemical Engineering and Sciences - ACES 2019 and ACES 2020
- ❖ Department organizes biannually student-teacher interaction meetings (STiM) to facilitate the effective communication among the BS and BS-MS students and the faculty members.
- ❖ Poster Session & Expert talk organized on Engineer's Day.



## Faculty Profile



**Dr. Manoj Kumar Tripathi**  
Ph.D., IIT Hyderabad



**Dr. Sankar Chakma**  
Ph.D., IIT Guwahati



**Dr. Paramita Das**  
Ph.D., RWTH Aachen University, Germany



**Dr. Venkateshwar Rao Dugyala**  
Ph.D., IIT Madras



**Dr. Mahesh Ijjada**  
Ph.D., IIT Bombay



**Dr. Sweta Lal**  
Ph.D., IIT Hyderabad



**Dr. Rohit Ranganathan Gaddam**  
Ph.D., UQ, Australia



**Dr. Akshay Modi**  
Ph.D., IIT Bombay



## Vision of Department

To contribute to the sustainable growth of the society by imparting high quality education and by conducting research in frontier areas

## Mission of Department

Our mission is to nurture a synergistic relationship between science and engineering by offering academic programmes and conducting research that enhances the interaction between scientists and engineers, thus building and strengthening the science-engineering-society feedback.

## Academic Programme

- BS, 4-year Course
- BS-MS (Dual Degree), 5-year Course
- PhD

## Research Laboratory Facility

- Engineering Design and Drawing
- Introduction to Chemical Engineering Lab
- Thermodynamic and Fluid Mechanics Lab
- Heat Transfer and Mass Transfer Lab
- CRE and Process Control Lab

