



DEPARTMENT OF CHEMICAL ENGINEERING

**INDIAN INSTITUTE OF TECHNOLOGY
KANPUR**

STUDENT PLACEMENT OFFICE



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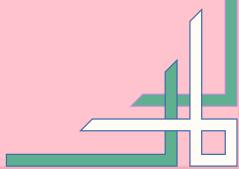
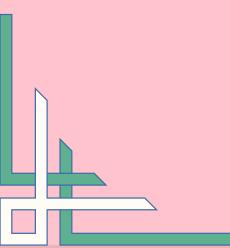
Placement Brochure (2024-2025)

Message From HOD



**Dr. Jayant K. Singh
Professor and Head**

Ranked among the nation's top schools in Chemical Engineering, the department at IIT Kanpur offers a highly competitive undergraduate program and a vibrant graduate program, supported by state-of-the-art facilities and distinguished faculty with national and international recognitions. Our department fosters an academic environment that nurtures creativity, ethics, and innovative thinking. Students are guided by exceptional faculty dedicated to research and teaching, committed to provide cutting-edge knowledge and rigorous training. This intellectually stimulating environment emphasises problem-solving and interdisciplinary learning, preparing our students to excel beyond traditional boundaries. As a result, our alumni have made significant impacts in both academia and industry. We warmly invite companies to participate in campus recruitment at IIT Kanpur and join our extended community.



About Us



The Department of Chemical Engineering at IIT Kanpur is ranked among the nation's top schools, built by exceptionally dedicated faculty committed to cutting-edge research and rigorous student training. Our mission is to prepare engineering graduates to be leaders in industry and society by developing their technical, problem-solving, and communication skills, with a focus on serving society. Our programs provide an interdisciplinary foundation to address complex engineering problems.

We conduct research in core chemical engineering areas like fluid mechanics, thermodynamics, separation processes and controls, as well as interdisciplinary fields such as Materials & Nanotechnology, Biotechnology & Bio-systems, Catalysis & Reaction Engineering, Complex Fluids & Soft matter, Advanced materials for Energy and Sustainability and High-performance computing. We are launching initiatives to enhance technical skills and apply them to real-life problems, leveraging machine learning and data science for advanced computational training.

Experimental research in the department is supported by consecutive high-value DST FIST grants, providing us with state-of-the-art facilities. These include a High Resolution Field Emission Microscope, Scanning Tunnelling and Atomic Force Microscopes, an Ellipsometer, Rheometers, an Inductively Coupled Plasma Mass Spectrometer, Optical Profilometer and several other advanced facilities.

We offer a vibrant learning environment, fostering collective efficacy among our faculty and a commitment to diversity, equity, inclusion, and academic integrity. We take pride in our alumni, who have received prestigious national and international recognitions, including the National Science Medal, membership in the National Academy of Sciences and Engineering (USA), the National Medal of Technology and Innovation, the Infosys Prize, the Shanti Swarup Bhatnagar Prize, the TWAS Prize and more...

B.Tech

- 104 students
- 4-year program
- Admission through JEE
- Basic engineering & departmental courses
- Undergraduate projects

M.Tech & MS(R)

- 44 M.Tech students & 1 MS(R) student
- 2-year program
- Admission through GATE
- Compulsory departmental courses & electives
- 1.5 years thesis



STUDENT DEMOGRAPHICS

Dual Degree

- 6 students
- 5-year program
- Admission through JEE
- Basic engineering & departmental courses
- 1.5 years thesis

Ph.D

- 15 students
- Admission through written test and interview
- Compulsory departmental courses & electives
- PhD thesis

LABORATORY COURSES

- Chemical Process Simulation
- Unit Operation and Processes
- Process Control Laboratory
- Chemical Engineering Design

FUNDAMENTAL COURSES

- Thermodynamics
- Fluid Mechanics & its Applications
- Heat Transfer & its Applications
- Mass Transfer & its Applications
- Chemical Process Industries
- Process Dynamics and Control
- Chemical Reaction Engineering
- Biochemical Engineering
- Chemical Engineering Design
- Applied Numerical Methods in Engineering

SPECIALIZATION COURSES

- Petroleum Refinery Engineering
- Computer Aided Process Control
- Molecular Modelling & Simulation
- The Structure and Rheology of Complex Fluids
- Process Engineering & Optimization
- Chemical Plant Safety & Hazard Assessment
- Reaction Engineering of Polymers
- Advanced Fluid Mechanics
- Pollution: Control & Modelling
- Mechanics of Soft Matter
- Statistical Thermodynamics
- Nano-sciences & Micro-fluids
- Modelling & Simulation of Separation Processes
- Hydrodynamic Stability

In addition to the Unit Operations & Process Control lab and Design Lab, course projects involving various tools, like MATLAB, COMSOL, ASPEN PLUS, HYSYS, & FLUENT, equip the students with sufficient practical skills.

DEPARTMENTAL ACTIVITIES

► Chemineers Society

- A student body aiming to promote intellectual and cultural activities of students of the Department of Chemical Engineering, IIT Kanpur
- Helps students identify campus resources and foster harmonious relationship among students, faculties, staff, and administrators
- The activities aim to groom student personalities to make them responsible citizens dedicated to the nation's development



► SimuTech group

- Conducts group workshops and offers projects related to the field of simulation in Chemical Engineering to students
- Workshops introduce simulation and modelling softwares like Aspen Plus, Aspen Dynamics, Aspen HYSYS, and COMSOL
- The group offers various projects with students on topics like Computational fluid dynamics, Computational heat transfer, Modelling of chemical reactors, and Plant design & control



AREAS OF RESEARCH

Materials &
Nanotechnology

Biotechnology
&
Bio-systems

Energy &
sustainability

Complex
fluids & Soft
Matter

Theory,
Computation
& Machine
Learning

Catalysis &
Reaction
Engineering

PAST RECRUITERS



A Navratna Company



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Navin Fluorine
International Limited

Dr.Reddy's

BHARAT OMAN
REFINERIES LIMITED

JM Johnson Matthey
Inspiring science, enhancing life

KBR

SAINT-GOBAIN Hindustan Unilever Limited



ExxonMobil



Bharat
Petroleum

ESSAR

Reliance
Industries Limited

INGENERC
Excellence Through Insight

LUMMUS
TECHNOLOGY

Shell

Honeywell

JINDAL
STEEL & POWER

TATA STEEL

Technip



Bloomenergy®

Petrofac P

FOXCONN

MCDERMOTT

OLA ELECTRIC

vedanta

Cosmo First
Ahead Always

Pharma ACE
Analytics Center of Excellence

Quest
global



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Former Secretary DST
Government of India



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Scientist University of California,
Berkeley



Dr. Rakesh Agrawal
Professor Purdue University



Dr. Kamal Kishore Sharma
Vice Chairman Lupin Limited



Dr. Rakesh K. Jain
Professor, Tumor Biology
Harvard Medical School



Mr. Jagjeet Singh Bindra Former
president Chevron Global
Manufacturing



Dr. Ashok Mishra Former
Director IIT Bombay



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UPES, Dehradun



Mr. Kushal Chand Sacheti
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Principle Scientific Advisor
Government of India



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Founder Indigo Paints

and many more...

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Biotechnology,
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STATE OF THE ART FACILITIES

- **Rheometer Polarized Optical Microscope**
- **Micro PIV**
- **Atomic Force Microscope**
- **Optical Profilometer**
- **Real time PCR**
- **Atomic Absorption Spectroscopy**
- **Confocal laser scanning microscope**
- **Dispersive Raman Spectrometer**
- **Nano Imprint Lithography**
- **3D Bioprinter**
- **ICP Mass Spectrometer**
- **Surface Area Analyser**
- **Universal Testing Machine**
- **Temperature Programmed Reduction**
- **and many more...**

Faculty list and Expertise

Dr. Vishal Agarwal

Catalysis, Biofuels, Nucleation, Gas-Surface and Liquid Surface Interactions, Molecular Simulation.

Dr. Pankaj A. Apte

Statistical Mechanics, Interfacial Thermodynamics, Phase equilibria and nucleation.

Dr. Goutam Deo

Catalysis and reaction engineering, Supported catalysts, Reaction kinetics.

Dr. Sanjeev Garg

Bioinformatics, Bioremediation, RNA Interference, Computer Aided Product and Process Design, Flexibility Analysis of Chemical and Biological Systems

Dr. Animangsu Ghatak

Adhesion and friction on soft interfaces, Fracture of soft thin sheets, Bio-inspired approaches in design of engineering material.

Dr. Raju K. Gupta

Photocatalysis, Green synthesis of nanomaterials, Surface chemistry, High dielectric constant materials, Perovskite solar cells, Supercapacitors.

Dr. Yogesh M. Joshi

Rheology, Polymer science and engineering and Fluid mechanics.

Dr. Nitin Kaistha

Process modeling, Simulation and control, Plantwide control system structure synthesis, Control of reactive distillation columns.

Dr. Harshwardhan H. Katkar

Soft matter, Biophysics, Nanopores, Bacterial Assemblies, Fluid Mechanics, Multiscale modeling, Bottom-up coarse-graining, Enhanced sampling.

Dr. K. P. Krishnaraj

Flow, structure and stress transmission in granular media, structure and transport in spatial networks.

Dr. Nishith Verma

Adsorption, Synthesis of nanomaterials including adsorbents and catalysts, Environmental pollution control (air/water purifications).

Dr. Rahul Mangal

Polymer physics, colloids, complex fluids, nanocomposites, active matter, liquid crystals.

Dr. Raj Ganesh Pala

Electrochemical and reaction engineering, Sustainable energy and environment, Photoelectrochemical systems, CO₂ Capture.

Dr. Ishan Bajaj

Process systems engineering, Nonlinear optimization, Technoeconomic and life-cycle analyses, Energy system modeling, Operations research

Dr. Siddhartha Panda

Chemical sensors, Lab-on-a-chip, Micro/nano fabrication, Microfluidics, Materials processing for microelectronic and display technologies..

Dr. Dipin S. Pillai

Stability Theory, Nonlinear Dynamics, Reduced-Order Modeling, Hydrodynamic Stability, Thin Films, Electrohydrodynamics, Multiphase flows.

Dr. Raghavendra Ragipani

Carbon dioxide capture and mineralization, Resource recovery and solid waste utilization, Sustainable process engineering.

Dr. Indranil Datal Saha

Modeling and simulation of the dynamics of polymer chains in flow, Mesoscale and molecular dynamics simulations.

Dr. V. Shankar

Stability of fluid flows, Rheology of complex fluids.

Dr. Ashutosh Sharma

Confined Soft Materials, Nanomechanics, Meso-Patterning, Colloids and Interfaces, Wetting and Adhesion, Functional Interfaces.

Dr. Himanshu Sharma

Flow through porous media, Enhanced oil recovery, Colloids & interfaces, Nanotechnology.

Dr. Jayant K Singh

Thermodynamics, Selective adsorption and separation, Energy storage materials, Wetting transition, Self assembly and crystallization at nanoscale.

Dr. Raghvendra Singh

Signal transduction, Systems biology, Biophysics.

Dr. Sri Sivakumar

Synthesis and characterization of nanomaterials, Layer-by-Layer (LbL) assembly, Polymer capsules, Thin films, Drug delivery, and Photonic crystals.

Dr. Naveen Tiwari

Transport Phenomena, Instabilities in micro-scale free surface flows, Flow through porous media.

Dr. Anurag Tripathi

Modelling and simulation of complex fluids, Rheology and segregation of granular mixtures, Wet granular flows.

Dr. Akash Choudhary

Complex fluids and flows, Active Colloids & Biological Microswimmers: Dynamics & Rheology, Microfluidics, Electrorheology

Dr. Soumik Das

Chemical sensors, Lab-on-a-chip, Micro/nano fabrication, Microfluidics, Materials processing for microelectronic and display technologies.

CONTACT US

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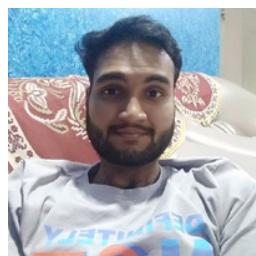
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THANK YOU