



## Department of Chemical Engineering



# Indian Institute of Technology, Kanpur

Student Placement Office

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## Placement Brochure (2023-2024)

# Message From HOD



## Prof. Jayant K. Singh

Ranked among the nation's top schools in Chemical Engineering, the department at IIT Kanpur is endowed with a highly competitive undergraduate program and a vibrant graduate program supported by state-of-the-art facilities and distinguished faculty members with both national and international recognitions. Our department's highly vibrant academic environment nurtures creativity, ethics, and out-of-the-box thinking. The students are guided by exceptional faculty, highly dedicated to research and teaching, and committed to providing cutting-edge knowledge and rigorous training to the students. Our students thus grow in an intellectually stimulating environment where the emphasis is on solving problems, allowing them to learn beyond the disciplinary boundaries. Thus, our alumni have made a remarkable impact in academia and industry. I heartily welcome companies to the campus recruitment at IIT Kanpur and become part of our extended community.



# About Us



The Department of Chemical Engineering at IIT Kanpur is ranked among the nation's top schools in Chemical Engineering. Aside from excellence in fundamental research, the department has made significant contributions to the chemical industry through its expertise in chemical process engineering, simulation, optimization and control, polymers, interfacial phenomena, and separations. Experimental research in the department is supported by state-of-the-art facilities, which include Scanning Tunnelling and Atomic Force Microscopes, Ellipsometer, Rheometers, Optical Profilometer, etc. IIT Kanpur was chosen by the Department of Science and Technology (DST) as one of the five places in India to have an operational state-of-the-art Nano-technology centre located in the Department of Chemical Engineering. Under the auspices of the FIST scheme of DST, several new facilities have been established. We take great pride in our alums, among whom we have recipients of almost all significant national and international recognitions: National Science Medal by the President of the United States of America, Membership of the National Academy of Science (USA), National Academy of Engineering (USA), National Medal of Technology and Innovation (USA), Infosys prize, Shanti Swaroop Bhatnagar prize, TWAS prize and many more.



## B.Tech

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

## M.Tech & MS(R)

- 49 students (42 + 7)
- 15+1 female candidates
- 2-year program
- Admission through GATE
- Compulsory departmental courses & electives
- 1.5 years thesis



STUDENT

# DEMOGRAPHICS

## Dual Degree

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

## Ph.D

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

# Laboratory Courses



- Chemical Process Simulation
- Unit Operation and Process
- Control Laboratory Courses
- 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
- Environmental 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 relationships among students, faculty, staff, and administrators.
- The activities aim to groom student personalities to make them responsible citizens dedicated to the nation's development.

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## ► SimuTech group

- Conducts group workshops and offers projects related to the field of simulation in Chemical Engineering to students.
- Workshops introduce simulation and modeling 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 control and design.



# Part recruiters



A Navratna Company



IndianOil

N Navin Fluorine  
International Limited

BHARAT OMAN  
REFINERIES LIMITED

Dr.Reddy's

JM Johnson Matthey  
Inspiring science, enhancing life

SAINT-GOBAIN

Hindustan Unilever Limited

ExxonMobil

HP

ITC  
ITC Limited

Chevron

Bharat  
Petroleum

Reliance  
Industries Limited

INGENERC  
Excellence Through Insight

ESSAR

KBR

LUMMUS  
TECHNOLOGY

JINDAL  
STEEL & POWER

Shell

Honeywell

Technip

Petrofac

TATA STEEL

LT

FOXCONN

MCDERMOTT

Bloomenergy®

vedanta

# Our Distinguished Alumni



Smt. Vartika Shukla  
Chairperson & Managing Director  
Engineers India Limited (EIL)



Dr. Ashutosh Sharma  
Former Secretary DST  
Government of India



Mr. Nitash Balsara  
Faculty Senior 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



Dr. Santosh K. Gupta  
Distinguished Professor  
UPES, Dehradun



Mr. Kushal Chand Sacheti  
Founder and CEO Galaxy,  
USA, Inc



Dr. K. Vijay Raghavan  
Principle Scientific Advisor  
Government of India



Mr. Hemant Jalan  
Founder Indigo Paints

and many more...

# Collaborators and Sponsors

We Collaborate with



Department of  
Biotechnology,  
Government of India



Department of science and technology  
Government of India



UPL

Sterlite

SAINT-GOBAIN

tcs TATA  
CONSULTANCY  
SERVICES



Hindustan Unilever Limited

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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 Analyzer
- 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, CO<sub>2</sub> Capture.

## Dr. Ishan Bajai

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 Dalal 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

## Student Placement Office

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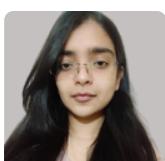
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