INDIAN INSTITUTE OF TECHNOLOGY PATNA

CHEMICAL ENGINEERING

PLACEMENT BROCHURE 2022-23

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OUR VISION

The Chemical and Biochemical Engineering department of IIT Patna was initiated in the year of 2013 and the B.Tech. program in Chemical Engineering commenced in the year 2016. Within the short duration since inception, the department has steadily grown in facilities, including teaching and research laboratories, and the number of faculty and students. The department has credible research output in terms of journal publications, external research funding, and collaborations.

Unique from other UG programs, internships, industrial visits, and talks by experts have been part of the B.Tech. Chemical Engineering curriculum to ensure that they are exposed to the numerous opportunities in chemical and allied industries. Similarly, the final year projects have also been spread across industrial and research topics to provide the students with a flavor of project implementation where they implement classroom knowledge in real-world scenarios.

CONTENT

Message from the HOD

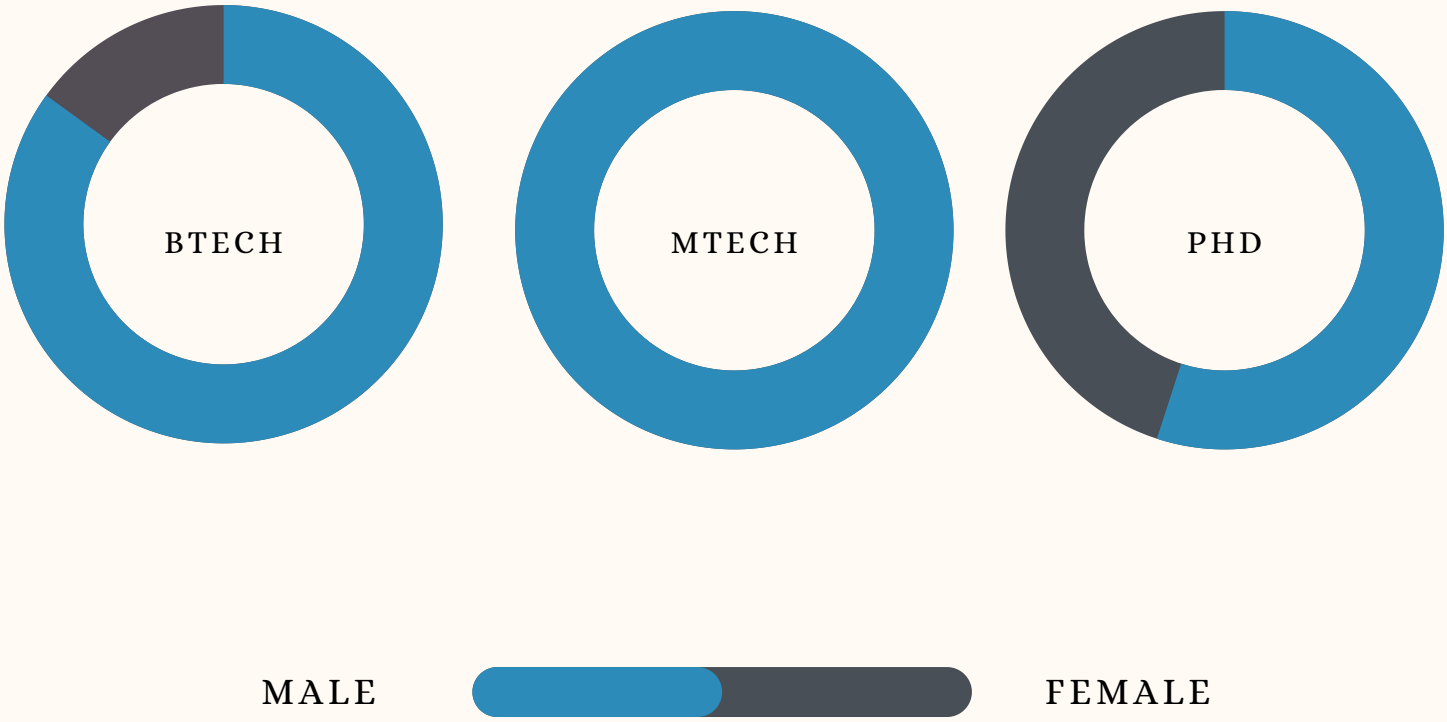
DR. SUSHANT KUMAR

HOD, DEPARTMENT OF CHEMICAL AND BIOCHEMICAL ENGINEERING

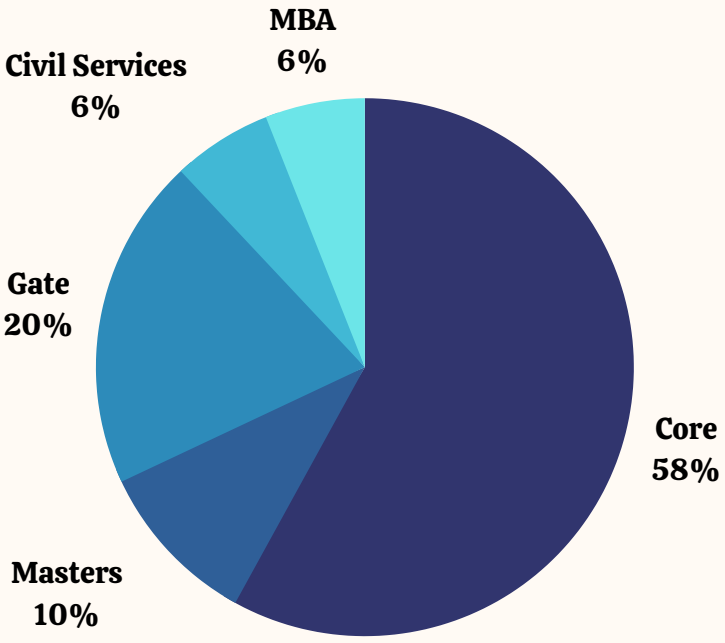
Greetings, Recruiters!

I am delighted to invite you to the Placements for the B.Tech. (Chemical Engineering) students at the Department of Chemical and Biochemical Engineering, IIT Patna. The department creates and maintains an academic and research atmosphere that is ideal for developing self-motivated, independent, and clear-thinking professionals. They become capable of handling the challenges associated with the multidisciplinary nature genuinely committed to their specialization. They also have skills and characteristics that have been carefully developed during their time at the institute. The curriculum has been intended to produce a skill set that is optimally compatible with the competency set expected by employers in the chemical and associated industries.

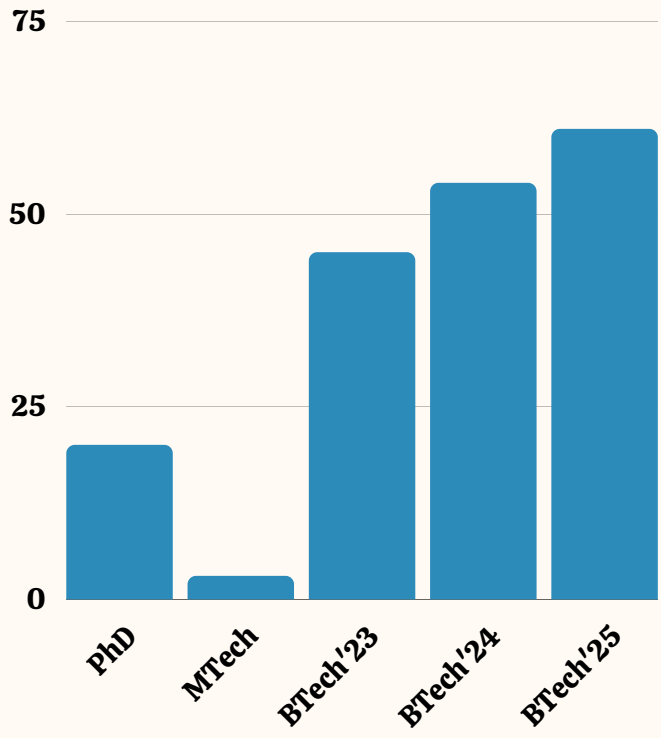
DEPARTMENT DEMOGRAPHICS



FUTUTRE PERSPECTIVE FOR CLASS OF 2022



BATCH STRENGTH



COURSES OFFERED

CORE COURSES

- CHEMICAL PROCESS CALCULATIONS
- FLUID MECHANICS MECHANICAL OPERATIONS
- HEAT TRANSFER & ITS APPLICATIONS
- MASS TRANSFER & ITS APPLICATIONS
- CHEMICAL ENGINEERING THERMODYNAMICS
- PROCESS EQUIPMENT DESIGN
- CHEMICAL PROCESS AND STIMULATION
- PROCESS CONTROL AND INSTRUMENTATION
- TRANSPORT PHENOMENA PROCESS
- PLANT DESIGN AND ECONOMICS
- CHEMICAL REACTION ENGINEERING
- CHEMICAL PROCESS TECHNOLOGY
- CHEMICAL REACTOR DESIGN

DEPARMENTAL ELECTIVES

- CATALYSIS SCIENCE AND ENGINEERING
- ENERGY MANAGEMENT
- BIO - PROCESS ENGINEERING
- FUEL AND COMBUSTION TECHNOLOGY
- NUMERICAL METHODS IN CHEMICAL ENGINEERING
- PETROLEUM REFINERY AND PETROCHEMICALS
- ADVANCED SEPARATION PROCESS
- RENEWABLE ENERGY SOURCES
- MOLECULAR MODELING AND SIMULATION
- HETEROGENEOUS CATALYSIS-FUNDAMENTALS AND APPLICATIONS
- PROCESS INTEGRATION
- RENEWABLE AND NON-CONVENTIONAL ENERGY SOURCES
- NON-NEWTONIAN FLOWSRHEOLOGY AND HEAT TRANSFER

LAB COURSES OFFERED

- MECHANICAL OPERATIONS AND FLUID FLOW LAB
- MASS TRANSFER LAB
- HEAT TRANSFER AND THERMODYNAMICS LAB
- CHEMICAL REACTION ENGINEERING AND ENVIRONMENTAL ENGINEERING LAB
- PROCESS CONTROL LAB
- CHEMICAL PROCESS SIMULATION LAB

RESEARCH AT IITP

Practical or informal knowledge manifests itself as skills or "knowing-how".
IIT Patna research accolade is comparable to any of the premier technical institutes of our country. Great, innovative and futuristic research papers are published not only by our faculty members but from our undergraduate students also. Being one of the premier research institute, great emphasis is given to research area. It is evident from our course structure also as from third semester onwards, undergraduates have numerous lab courses and encouragement from institute to work on research thesis.

Our faculty members have published research papers in many reputed international journals which includes- Journal of Chemical Engineering of Japan, International Journal of Heat and Mass Transfer, Journal of Computational Chemistry, Journal of Electrochemical Society and many more. Many of their research papers are accepted by information analytics sites such as Elsevier and Springer.

REASEARCH AREAS

PROCESS SYSTEMS ENGINEERING LABORATORY

Dr. Nitin Dutt Chaturvedi

PSEL aims to develop process and product design with emphasis on conservation of natural resources; in particular, materials, energy and water which is the need of the hour. .

CURRENT RESEARCH AREAS:

- Modeling and Simulation of Chemical processes
- Process system engineering
- Process Integration

GAS-SOLID STATE INTERACTION LABORATORY

Dr. Sushant Kumar

At GSIL, our research efforts are primarily directed in exploring novel catalysts/process routes for clean energy applications.

CURRENT RESEARCH AREAS:

- Solar-to-fuel conversion
- Ammonia Synthesis
- Heterogeneous Catalysis

CHEMICAL PROCESS DEVELOPMENT LABORATORY

Dr. Jose V Parambil

PDL aims at developing novel processes for production and separation of chemicals with improved efficiency while ensuring sustainability.

CURRENT RESEARCH AREAS:

- Development of a continuous separation process complementing continuous chemical synthesis
- Development of downstream processes for fermentation-based products
- Study of ayurvedic manufacturing processfor streamlining and improving reproducibility on an industrial scale

COMPUTATIONAL NANOSCIENCE LABORATORY

Dr. Sandip Khan

We are interested in understanding the structural, dynamical and interfacial properties of complex fluids at the nanoscale. We use Monte Carlo method, Molecular Dynamic Simulation and Density Functional Theory to probe the properties of fluids at molecular level.

CURRENT RESEARCH AREAS:

- Surface Phase transition of polar molecules
- Development of Novel Materials like super-hydrophobic, super-oleophobic, anti-fouling, anti-icing surfaces etc
- Self-Assembled Monolayer (SAMs) in application of chemical sensor
- Properties of confined fluids

BIOCHEMICAL LABORATORY

Dr. S. K. Samanta

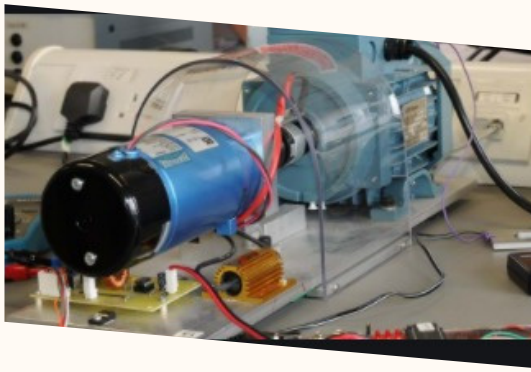
CURRENT RESEARCH AREAS:

- UV/TiO2 based Heterogeneous Photocatalysis for Degradation of Mixed Pollutants
- Enhancement of UV/TiO2 based Degradation Performance
- Microwave-enhanced Advanced Oxidation Processes for the Degradation of Dyes
- A Direct Method to Determine the Adsorbed Dyes on Adsorbent via Processing of DRS Data

ENERGY AND THERMOFLUIDS LAB

Dr. Anoop Kumar Gupta

E-Therm Lab focuses on solving emerging and cutting-edge problems in fluid, energy and particle transport systems with the help of MPCMs, two-way coupled multiphase flow behaviour, flow and deposition of ultrafine particles in arteries, flow through porous media, etc., using CFD.



CURRENT RESEARCH AREAS:

- Internal/external boundary layer flows in non-newtonian media
- Heat transfer augmentation in nanofluids
- Utilizing PCMs for efficient thermal energy storage
- Coupled CFD-DPM/CFD-DEM simulations

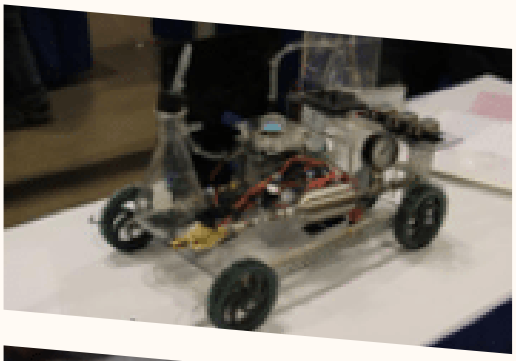
STUDENT ACTIVITIES

CHESSX CLUB

A student body dedicated to promoting the intellectual and cultural activities among students of Chemical Engineering department, IIT PATNA.
Assists students in identifying campus resources and fostering positive relationships amongst students, faculty, staff, and administration.
This club also works to pique the interest of students in the field of chemical engineering by hosting various events that provide hands-on experience.

CHEM-E-SWITCH

This exciting event explores the connectivity between multiple scientific disciplines by challenging contestants to create a mechanism to automate an electrical switch using any chemical they desire. Your chemistry and engineering abilities will be put to the test.



CHEM-E-CAR

This event included designing and building a small-scale automobile that runs on chemicals. The power for the car model was derived from thermoelectric generators, and the stopping mechanism was based on the iodine clock reaction.

ROCKET PROPULSION

The rocket design competition, in which participants need to use chemicals to transform a simple bottle into a sky-reaching weapon of mass destruction. In this project, we created a model out of an alcoholic spark plug.

INDUSTRIAL VISIT

Students actively participate in industrial visits to supplement and enhance theoretical knowledge and to get first-hand experience on industrial challenges and the latest technology coming up in the industries. Past prospective industrial visits sites include a visit to Indian Oil Corporation Limited (IOCL), Barauni, and Sudha Dairy, Patna.

STUDENT ACHIEVEMENTS

ACADEMIC INTERN

- Final year student Aarooj Yashin Ali has been awarded the MITACS Globalink Summer Internship and is pursuing his internship at ETS Montreal, Canada.
- Final year student Ananthajit A has done a research internship at IIT Madras.
- Final year student Parth Kanani has secured a research internship at CSIR-National Chemical Laboratory, Pune.
- Junior year student Siddharth Merukar has secured a research internship at IIT Kharagpur.
- Junior year student Utkarsh Patil secured an internship at Foundation for Innovators in Science and Technology (FIST), IIT Patna.
- Junior year student Syed Shaheer Tanveer completed an internship at IIT Guwahati and secured an internship at IIT Delhi.
- Junior year student Sai Nandan Panigrahy has secured an internship at IISc Bangalore.
- Junior year student Ashfaq Ahmed has done a research internship at Sustainbhoomi Renewable Consultancy.
- 3 students from the final year and 2 students from the junior year have been selected for IAS Intern (SRFP and FAST-SF).

INDUSTRIAL INTERN

- Final year students Priyaansi Singh and Apoorva Dwivedi have secured internships at Gujarat Alkalies and Chemicals Limited.
- Final year student Siddhant Soymon has done an internship in HPCL-Mittal Energy Limited.
- Final year student Md Aarooj Yashin Ali has done an internship under field leaders at Reliance Industries Limited.
- Final year student Sakshi Singh has done a business internship at Metvy.
- Final year student Sajal Kumar is a Product Design Intern at Directi.
- Final year student Shreya Dimri has secured an internship at Adobe India Private Limited.
- Junior year student Utkarsh Patil has done an internship at Atul Limited.

TECH ACHIEVEMENTS

Google Summer of Code

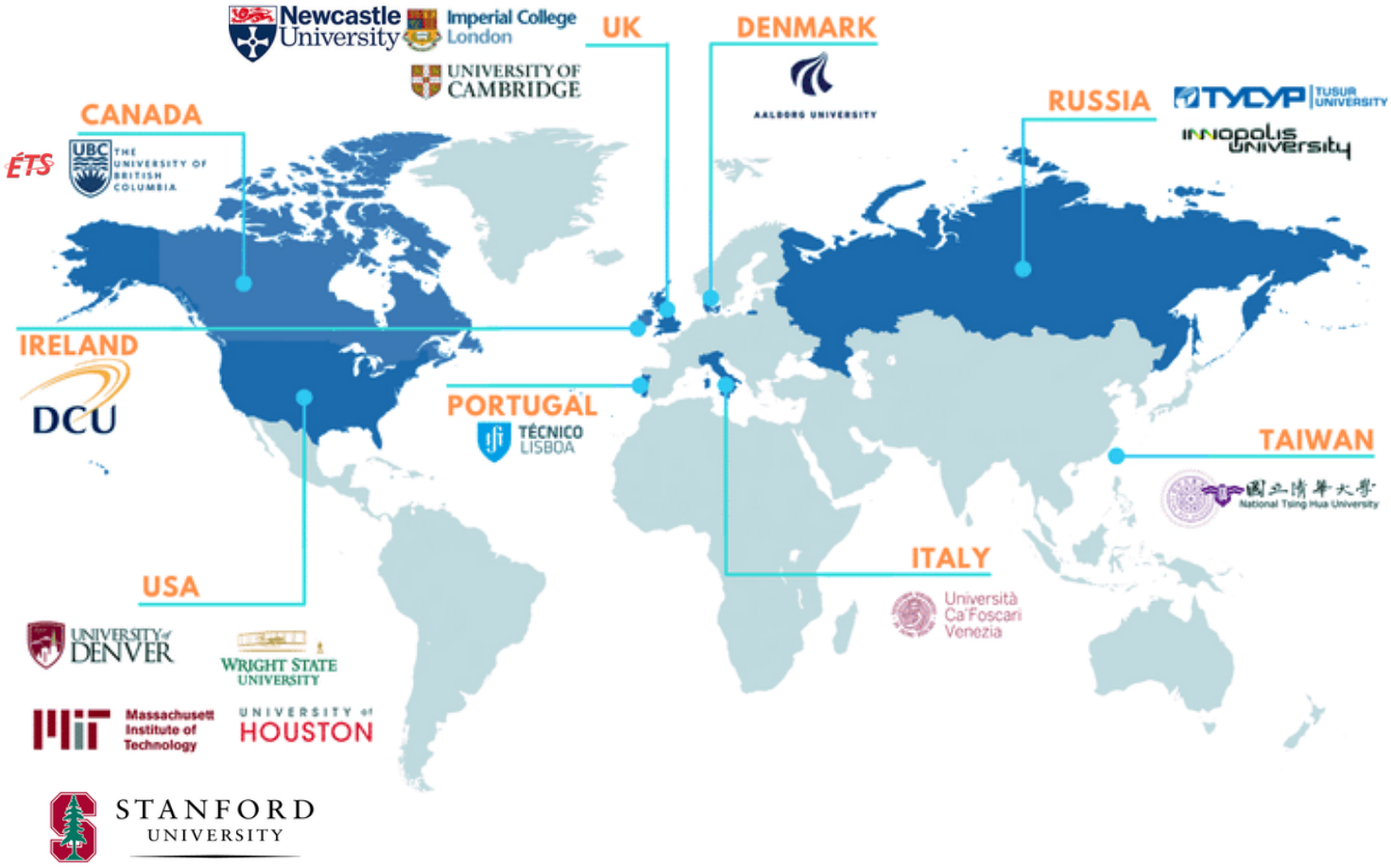
Final year students Ayush Srivastava and Anushka Chakraborty got selected by organizations for GSOC'21

INTER IIT TECH MEET

IIT Patna is ranked 9th among 23 participating IITs in the Grand Championship of the 10th Inter IIT Tech meet 2022, moving 2 places up from last year's ranking.

INTERNATIONAL PRESENCE

MOUs, POSTGRADUATES AND INTERNSHIPS



ALUMNI CONNECT

FUTURE BECKONS THE YOUNG DEPARTMENT.

SOURADEEP DAS (BATCH OF 2021)

GATE AIR -74/ MTECH IIT BOMBAY

Seniors and faculties of the Chemical department have always motivated me to keep improving and provided guidance throughout the 4 years of B.Tech journey. Apart from the academics, IIT Patna has also provided an enormous opportunities for personality building and leadership skills. Thank you IITP community for all these exposures and opportunities provided.

PARTH PATEL (BATCH OF 2020)

LNT VADODARA

IIT Patna has played a vital role in building my carrier. Seniors and faculties of the CBE department have always pushed me to keep improving and provided the necessary mentorship throughout the journey. I am grateful to them for guiding me to success in my education and eventually to a good career.

ATHARVA EKATPURE (BATCH OF 2021)

MS ENVIRONMENTAL ENGINEERING, STANFORD UNIVERSITY

The atmosphere in IIT Patna not only encourages research and engineering, but, My four years as an undergraduate at IIT Patna were definitive in developing communication, marketing and other industrial skills that are just as important as the knowledge of chemical courses. It inculcated competitive and entrepreneurial mindset which helped me a lot during my corporate internship at ERC Group.

NISHANT KULSHRESTHA (BATCH OF 2020)

HPCL, MUMBAI

IITs are known as land of opportunities and IIT Patna is no different. My four years of B.Tech degree has showered me with invaluable experiences. In these years, I learnt many skills(both technical and soft) which will continue to play a crucial role in my career and life. Chemical Engineering department is very well equipped which gave me an opportunity to understand the theoretical learnings by practical experience.

VIVEK GARG (BATCH OF 2021)

PPO LTI

I will always be utterly grateful to the IITP fraternity for the amazing four years it gave to me. Through fests and clubs I found great opportunities to improve my social and management skills. I will be forever thankful to my professors and peers for their motivation and unconditional support in every problem I faced.

PAST RECRUITERS

GAIL (India) Limited

CONTACT US

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