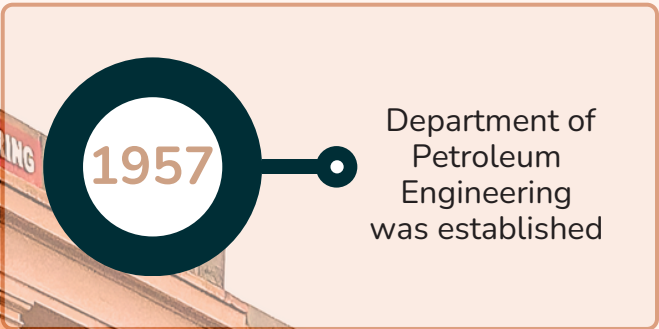
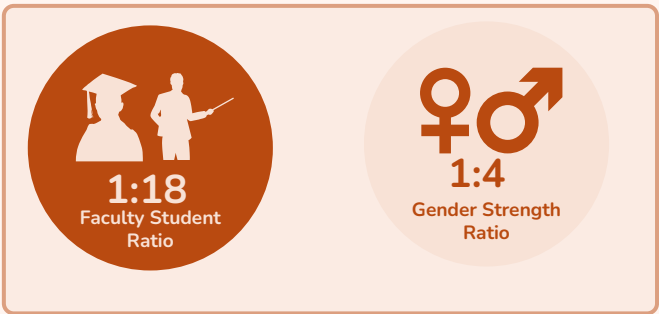


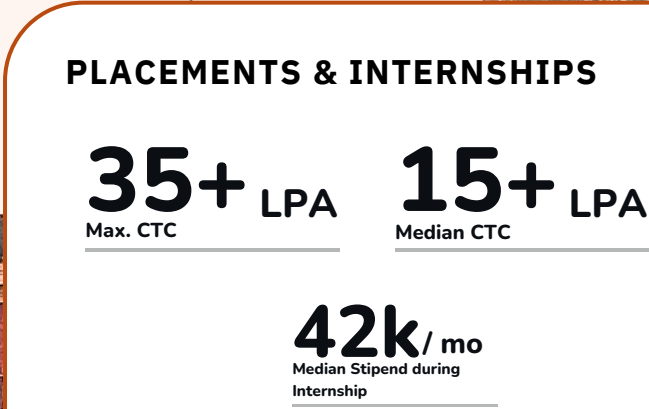


# DEPARTMENT OF PETROLEUM ENGINEERING

The department was established with an initial focus of engaging in several cutting-edge research projects, and it had an ambitious plan to create a few new centers of excellence in the following areas: mining exploration; artificial intelligence and automation for sustainability and natural resource management; natural hazards and mitigation; early warning systems for earthquake and tsunami prediction; and groundwater exploration.



Courses	Strength
Bachelor of Technology	77
Master of Technology	30



## DOMAINS OF STUDY

- Drilling Technology
- Offshore Drilling and Petroleum Production Engineering
- Drilling System Design
- Advanced Well Completion Practice
- Reservoir Fluid Thermodynamics
- Reservoir Modelling and Simulation
- Petroleum Production Operations
- Pipeline Engineering
- Petroleum Engineering Design
- Oil & Gas Field Development and Planning
- Petroleum Geomechanics and Hydraulic Fracturing
- Heat and Mass Transfer in Petroleum Operations

## LABORATORIES - UG, PG

- Drilling Fluid and Cementing Laboratory
- Reservoir Engineering Laboratory
- Product Testing Laboratory
- Process Engineering Laboratory
- Enhanced Oil Recovery Laboratory
- Reservoir Simulation/Reservoir Characterization Laboratory
- Drilling Simulation Laboratory

## Core Companies





# Meet our Head of Department



## PROFESSOR. KEKA OJHA

(Professor)

17-08-2022 - Present

[kekaojha@iitism.ac.in](mailto:kekaojha@iitism.ac.in)

Alma Mater : IIT Kharagpur

Primary Areas of Research

Reservoir Engg, CBM-shale, Hydraulic Fracturing



### Foreign University Experience

Post Doctoral Fellow at Department of Chemical and Biomolecular Engineering, University of Notre Dame, USA from July 2003 - July 2004

### Achievements

- SPE Distinguished Achievement Award for Petroleum Engineering Faculty, for South Asia and the Pacific Region, 2019.
- Excellent paper award in ICCCP 2011 conference during 28-29 May, 2011, Bangkok, Thailand.
- The best paper awards in PETROTECH 2009, the Asia's largest oil & Gas conference and Exhibition).

## Key Areas of Departmental Research

- **Enhanced Oil Recovery:** Alkali, Surfactant and Polymer flooding design, development of tailor-made surfactant and polymer & nanofluid.
- **Reservoir Simulation:** PVT Studies, Development of lab to field scale model and simulation.
- **Flow Assurance Techniques:** Inhibiting/controlling wax deposition in the pipelines.
- **Drilling Fluids:** Development of conventional and HTHP drilling fluids, Drilling fluids for CBM and Unconventional reservoir.
- **Hydraulic Fracturing:** Conventional and Un-conventional reservoir, rock mechanics studies, fracturing fluid development.
- **Unconventional Resources:** Gas Hydrates -Development of inhibitors, Shale Oil/Gas – Geo chemical characterization and reserve estimation, CBM field development.
- **Data Analytics:** Machine Learning application in reservoir characterization, production forecasting.

## Departmental Research and Development Activities

- **19+ R&D Projects** completed in companies in the likes of IRS, ONGC Ltd, IOGPT, ONGC Ltd, Oil India Ltd, MOES, Govt of India, New Delhi and many more.
- Funding of **150+ lakh Rs.** if allocated for **R&D projects** per year.
- **12 Consultancy Projects** completed in companies like Selan Exploration Technology Ltd, ONGC-PEPL-IOCL Joint Venture (JV), RIL, Mercator Petroleum Ltd., Mumbai MOES, The Energy & Resources Institute (TERI), New Delhi, and others.
- Funding of **20+ lakh Rs.** if allocated for **Consultancy projects** per year.
- **17 EDP Courses** undertaken in institutions like Oil India, RIL, ONGC, IOCL.
- More than **150 peer-reviewed publications** in the last 5 years.
- **2 Patents Granted, 3 Patents Published, 3 Patents Filed** in the last 5 years.



## Active Student Run Societies



### SPE-The Society of Petroleum Engineers

- There is an year round organization of a plethora of events, including Guest Lectures by professionals, CSR initiatives under SPE Cares, Placement and Internship Talks, webinars with Panel Discussions. The chapter has won the Outstanding Student Chapter award in 2010 and 2015 and the Gold Student Chapter Award in 2011, 2012, 2013, and 2016.

### FIPI-The Federation of Indian Petroleum Industry

- The chapter has received several awards at the national level which include the best chapter award in 2015, the winner of the quiz, and the presentation awards at Petrotech Youth Forum in 2016.

### ARMA - The American Rock Mechanics Association

- The student chapter is committed to building the technical and scientific knowledge base in rock mechanics and geomechanics and to ensuring wide acceptance among current and future researchers and practitioners.

### Alumni Network

- Shri Naresh Vashisht - Founder and President, Omimex Resources Inc.; Philanthropist
- Shri Shashi Shankar - Ex-Chairman & Managing Director, ONGC
- Shri NK Mitra - Chief Advisor, McDermott International Ltd; Ex-Director (Offshore), ONGC
- Shri Siddharth Sur - Director (Operations), AskeOR Tech Hydrocarbon Pvt Ltd; Ex-Director (IRS), ONGC; Ex- CEO, Mansarovar Energy Colombia Ltd
- Dr. Ram Gopal Agarwal - VP, PetroTel; Ex-Sr. Tech. Advisor, BP; AIME Hon. Member; SPE Distinguished Member

### GATE Results

#### GATE 2024

- Devesh Kumar Singh- AIR 2
- Ayush Katyare- AIR 6
- Priyanshu Raj- AIR 10
- Aman Kumar- AIR 11
- Ramendra Pandey- AIR 17
- Gopesh Sharma- AIR 33

### Foreign University Collaborations

