ENGINEERING ENGINEERMIND °

> RESERVOIR RESERVOIR RESERVOWLEDGE KNOWLEDGE

NAAC ACCREDITATION
'A' GRADE (CGPA 3.39/4.0)



PANDIT DEENDAYAL PETROLEUM UNIVERSITY

SPT SCHOOL OF PETROLEUM TECHNOLOGY



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Professor in Mathematics

Dr. Surendra Singh Kachhwaha

Professor in Mechanical Engineering, School of Technology, PDPU

Dr. Indrajit Mukhopadhyay

Professor in Department of Solar Energy, School of Technology, PDPU

Dr. Ashvin Dave

Professor in Department of Business Administration & Commerce, School of Liberal Studies, PDPU

VISION

School of Petroleum Technology (SPT) is committed to being a premier oil and gas institution contributing to the country's energy manpower resource. The school provides challenging and rewarding opportunities to students and faculties and shows a pathway to energy research and academics.

MISSION

The mission of SPT is to provide a broad range of career oriented educational programs with the goal of producing innovative, creative graduates who are well prepared for their chosen careers in a global society. The school strives hard to bridge the gap between academia and industry. It generates new knowledge by engaging cutting edge research and promotes academic growth by offering state-of-the art undergraduate, post graduate and doctoral programs.

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Board of Governors

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FRS Bhatnagar Fellow & President, Global Research Alliance, National Chemical Laboratory

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Director General, Pandit Deendayal Petroleum University

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The Secretary to Government, Energy and Petrochemicals Department, Government of Gujarat

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Shardul Amarchand Mangaldas & Co., New Delhi

Shri Jalaj Dani

Chairman – IIM - Trichy and Co-promoter of Asian Paints

Shri Parimal Nathwani

Reliance Industries Ltd.

Nominee of

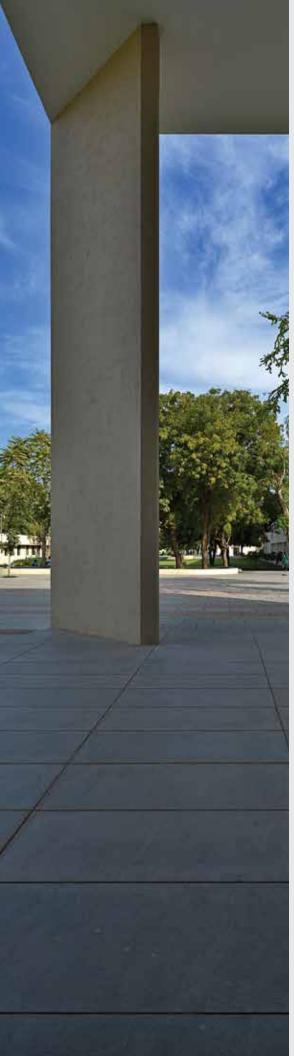
Gujarat Energy Research & Management Institute - GERMI

Dr. Nigam Dave

Dean, Faculty of Liberal Studies, PDPU

Dr. Sunil Khanna

Director, School of Technology, PDPU



President's Message



Dr. Mukesh Ambani President Pandit Deendayal Petroleum University

Whith Pandit Deendayal Petroleum University, we envisioned the creation of a world-class university. To be one of the front-runners in imparting education in the fields of energy & infrastructure, humanities, engineering, management, and liberal arts. I am exuberant to announce that Pandit Deendayal Petroleum University (PDPU) is now one of the leading international universities in India. In a short span, PDPU has reached a crucial juncture when a major transformation is taking place in the world economy. PDPU now is old enough to create young professionals who impart significant contributions to the economic and the social landscape of India.

Today the corporate world seeks a generation of young people who are not only academically sound, but are also able to think innovatively. I feel proud to see the holistic education system of PDPU successfully bringing the best out of the students. I'd like to reiterate my whole-hearted support for PDPU and wish them all the very best for their future endeavors and accomplishments.

All the Best!

Director General's Message



Dr. Prof. S. S. Manoharan Director General Pandit Deendayal Petroleum University

reetings from Pandit Deendayal Petroleum University (PDPU), Gandhinagar, Gujarat.

I am happy to present to you the students of 2021 batch who will be completing their education at PDPU's School of Petroleum Technology for potential employment in your organization. The students have undergone a rigorous and professional engineering education programme under the guidance of highly trained faculty at PDPU and now are industry ready to make their careers in business and industry. These students were admitted to PDPU on the basis of the meticulous screening process, such as JEE (Main), and ACPC.

PDPU, developed on a 100-acre green landscaped sprawling campus, is located in the planned city of Gandhinagar, the capital of the state of Gujarat. The campus has all the modern facilities like beautiful academic and residential buildings, modem classrooms, Internet and Wi-Fi, state-of-the-art laboratories, Computational facilities, a well-stocked library, excellent cafeteria, wellness centre etc. I am confident that the students will make a good impression with their sound conceptual knowledge, technical skills and work and professional ethics. The students are well equipped with the necessary skills to perform effectively in any Industry 4.0 environment. I am sure you may like to take advantage of the talent nurtured by PDPU and induct them into your esteemed organization.

I, on behalf of PDPU, welcome you to participate in our Campus Recruitment Programme. It would be my privilege to host you at the PDPU campus.



UGC Recognition

PDPU is recognized by the UGC - University Grants Commission under Section - 2(f) of the UGC Act, 1956 and included in the list of approved universities in India listed by UGC Approved Universities.

PDPU Act

Pandit Deendayal Petroleum University (PDPU), Established by the PDPU Act 2007; Acts of the Gujarat Legislature and Ordinances promulgated and Regulations made by the Governor, in the State of Gujarat, India on 4th April 2007.

Pandit Deendayal Petroleum University addresses the need for trained and specialized human resource and expand the opportunities for students and professionals to develop intellectual knowledge base with leadership skills to compete in the global arena. This objective is being addressed through a number of specialized and well-planned undergraduate and post-graduate energy education programs and intensive research initiatives.

Since its very inception, Pandit Deendayal Petroleum University has been striving to develop itself into an internationally renowned & respected Institution imparting excellent education & training based upon the foundation of futuristic research & innovations. With the path-breaking innovations in both its curriculum and research, the university is rapidly gaining a legendary reputation in the industry across the world.

In addition to offering formal
Undergraduate, Post-graduate &
Doctoral Programs, the university
actively encourages its faculty
members and other academic staff to
undertake research projects in order to
strengthen the research profile of the
university. Research and development
is carried in various engineering &
technology sectors like Petroleum,
Geothermal Energy, Solar PV, Battery &
Energy Storage, Biofuels & Bioenergy,
Automation Sector, Chemistry and
Welding Technologies.

Currently PDPU has seven (7) Centres of Excellence which are:

SOLAR RESEARCH & DEVELOPMENT CENTRE

CENTRE OF EXCELLENCE FOR GEOTHERMAL ENERGY

SIEMENS CENTRE OF EXCELLENCE

CENTRE FOR BIOFUEL & BIOENERGY STUDIES

DRILLING, CEMENTING AND STIMULATION CENTRE

INTERNATIONAL AUTOMOBILE CENTRE OF EXCELLENCE (IACE)

INNOVATION & INCUBATION CENTRE

The University's mission is nurtured and supported by:

- Exceptional faculty, who draw students into the pursuit
 of knowledge, introducing them to the pleasures and
 responsibilities of the life of the mind in a challenging
 world:
- Graduate, professional, and research programs that foster advanced theoretical development, promote professional preparation, enhance the quality of the faculty, and extend the University's international reach;
- Substantial library resources and information technology that support research and classroom learning;
- A residential campus that fosters a sense of community and integrates curricular and extracurricular life;
- Abundant opportunities for students to undertake community service, internships, and study abroad; to participate in substantive research, often as early as the first year; and to study and reflect in ways that foster intellectual, spiritual, and moral growth.

PDPU's lush green & clean campus is located on Knowledge Corridor in the periphery of Ahmedabad & Gandhinagar. The state's remarkable cultural, technological, and economic resources nourish the University's mission and enrich its life, just as the University, in turn, enriches the city.

SIRO

Government of India, Ministry of Science and Technology, Department of Scientific and Industrial Research has accorded recognition to Pandit Deendayal Petroleum University (PDPU), Gandhinagar as Scientific and Industrial Research Organization (SIRO). On receiving this recognition, PDPU is entitled to all administrative support from the Ministry of Science and Technology (DSIR), as may be required on all issues to promote or encourage scientific research activities. Also the University will be entitled to avail custom / excise duty exemption on the import of equipment, instruments, spares thereof, consumables etc.

DSIR, a Government of India body that undertakes promotion of research and transfer of technology to India, carries out thorough evaluation of the R&D unit and ensures compliance with all Government of India regulations before awarding renewals. The recognition and duty waiver is awarded every three years.

Association of Indian Universities

PDPU has been granted membership by the Association of Indian Universities. PDPU for strategic planning process including guidelines for assessing on-campus international partnership capacity and developing practical strategic plans for partnership activities in India have planned a collaboration with The International Academic Partnership Program (IAPP), originally funded by the U.S. Department of Education's Fund for the Improvement of Postsecondary Education (FIPSE), is a major initiative of IIE's Center for International Partnerships in Higher Education.

Director's Message



Dr. R.K. Vij Director - School of Petroleum Technology

Ifeel immensely privileged in extending my whole hearted invitation to your esteemed organization on behalf of the staff and students of School of Petroleum Technology, to participate in the campus recruitment program for 2020-21.

From the moment of its inception, School of Petroleum Technology has witnessed an enthralling elevation in the field of academic excellence, research, development and industrial collaboration. SPT has a good alumni base in Oil and Gas Industry. I feel proud to say that within a short span of time, SPT has built a good reputation with the industry and our placement is reflecting the same.

The Petroleum Engineering program offered at SPT covers the entire value chain from the exploration of hydrocarbon till the supply of petroleum products to end users. Keeping this in mind SPT offers B.Tech degree in Petroleum Engineering with majors in Upstream and Downstream. Our academic programs are amongst the best in the country and well suited to the industry. The school provides an optimum mix of theory and practical, with strong emphasis on state-of-art software's and its industrial applications. The program gives a lot of importance to practical experience for which extensive interaction with industry is built into the curriculum. SPT organizes expert lectures, conclaves, seminars and workshops and collaborative projects with industry. This makes the students aware of the industry expectations, which in turn helps in making them not only employable but deployable as energy soldiers from day one of employment.

The School of Petroleum Technology has always been at the fore-front of producing some of the most efficient and innovative engineers in the industry and I hold faith that the students of this year are better than their counter part in respect of industrial exposure, digital awareness and hands on expertize on latest petroleum engineering softwares like Petrel, Eclipse, IMEX, Kappa, Frac-pro, Petex and EOR screening softwares. In fact we have initiated a new pedagogy wherein we are focusing our efforts on converting our student to hard core petroleum engineer especially in the field of Production Engineering, Drilling Engineering and Reservoir Engineering.

The Government of India has approved PDPU as National institute for EOR screening for producing fields of India. In line with the policy PDPU carved out a road map for establishing Centre of Excellence for ER "CEER". Under this project the best human resources available in India have already been empanelled, equipment's have been identified for setting up full-fledged EOR laboratories. Efforts are already on for collaborating with World best Centre of Excellence for EOR like University of Calgary, University of Alberta, SRC, Inno-Tech Alberta etc.

I am sure you will find our students are very competent and you will visit us again, year after year. I look forward to a warm and enduring relationship.



School of Petroleum Technology has been set up under Pandit Deendayal Petroleum University (PDPU) as a centre of excellence to develop human resources to cater to the petroleum and allied energy sectors, improve knowledge base of technologists and provide a competitive edge to professionals in the global arena. It has been promoted with the initiative of Gujarat State Petroleum Corporation Ltd. (GSPC) a Gujarat government undertaking, which is a leader in the energy sector

School of Petroleum Technology offers B.Tech - Petroleum Engineering, M.Tech - Petroleum Engineering, M.Tech - Petroleum Technology (Exploration), Ph.D.



B.Tech

PETROLEUM ENGINEERING

The 4 year B.Tech Program in Petroleum Engineering is based on integrated approach of relevant basic sciences and engineering and Oil and Gas Industry technology operations and emphasis in the application of this knowledge base to Reservoir Engineering, Operation and Production Engineering, Drilling and Well Completion, Enhanced Oil Recovery, Marketing and distribution of crude oil and natural gas & its by-products, Refining of petroleum crude, LNG value chain, Pipeline engineering etc.

Total intake is 120 students.



Students in the Petroleum Engineering program will be taken on a holistic journey of the entire value chain starting from exploration of hydrocarbons to the supply of petroleum products to end users.

The major subjects covered in the curriculum of PETROLEUM UPSTREAM are Reservoir Engineering, Operation and Production Engineering, Drilling and Well Completion, Enhanced Oil Recovery etc. The major subjects covered in the curriculum of PETROLEUM DOWNSTREAM are Processing, Marketing and distribution of crude oil and natural gas & its by-products, Refining of petroleum crude, LNG value chain, Pipeline engineering etc.



Present in India's most prolific on-shore basin and in close proximity to some of the most productive regions of India, SPT students have a very good exposure of the upstream industry. With specialized courses in Work over and Stimulation, Surface Production Operations, Well Test Analysis, Enhanced Oil Recovery, Drilling and Drilling Fluids, the course equips the students with essential skills to tackle the challenges faced by the oil and gas professionals today. Projects aided by the industry encompassing the entire spectrum of the upstream sector have added to the knowledge and skill sets of our students. It is hence implied that the students of the upstream class of petroleum engineering enjoy a niche knowledge base topped with several lectures, workshops and training sessions by engineers, managers and technicians from across the oil and gas value chain.

Course Structure

B.Tech

Petroleum Engineering

Semester I

- Principles of English Composition
- Mathematics-I
- Physics
- Geology for Petroleum Engineers
- Energy and Environmental Studies
- Engineering Drawing
- Physics Practical
- Geology for Petroleum Engineers Practical
- NCC/NSS
- Elective 1 : Swami Vivekananda
- Elective 1 : Gandhian Thoughts

Semester II

- Mathematics-II
- Chemistry
- Sedimentary and Petroleum Geology
- Elements of Engineering
- Introduction to Petroleum Engineering
- Fluid Mechanics
- Chemistry Practical
- Sedimentary and Petroleum Geology

 Practical
- Surveying

Semester III

- Mathematics-III
- Applied Physics
- Thermodynamics
- Heat and Mass Transfer
- Geomechanics and Strength of Materials
- Petroleum Exploration
- Heat and Mass Transfer Practical
- Geomechanics and Strength of Materials Practical
- Rural Internship

Semester IV

- Numerical Methods
- Drilling Engineering-I
- Reservoir Engineering
- Transport Phenomena
- Programming Languages: Python
- Drilling Engineering Practical
- Numerical Methods Practical
- Earth Science and Hydrocarbon Exploration Field Work

Semester V

- Well Logging and Formation Evaluation
- · Production Engineering-I
- Petroleum Refinery Engineering
- Unconventional Hydrocarbon Energy Resources
- Process Dynamics and Control
- Introduction to Petroleum Software
- Group Assignment and Presentation
- Process Dynamics and Control PracticalPetroleum Engineering-I Practical
- Industrial Orientation

Semester VI

- Well Test Analysis
- Surface Production Operation
- Reservoir Modeling and Simulation
- Drilling Engineering-II
- Process Equipment Design
- Petroleum Engineering-II Practical
- Petroleum Product Testing Practical
- Personality Development and Communication Skill
- Elective 2 : Seismic Sequence Stratigraphy
- Elective 2 : Pipeline Engineering
- Elective 2 : Corrosion Studies in Oil and Gas Industries
- Elective 2: Hydrocarbon based Fertilizer Industries

Semester VII

- Production Engineering-II
- Integrated Reservoir Management
- Natural Gas Processing and LNG
- City Gas Distribution
- Project
- Industrial Internship
- Seminar
- Elective 3: Enhanced Oil Recovery
- Elective 3 : Petroleum Management
- Elective 3 : Petrochemical Engineering
- Elective 3 : Flow Assurance

Semester VIII

- Hydrocarbon Contracts and Asset Management
- Health Safety and Environment
- Project
- Project Defence and Viva Voce
- Grand Viva



LAB FACILITIES

SPT believes in an application based teaching approach rather than a theoretical approach. The School has created a number of sector relevant engineering laboratories which are well equipped to facilitate the pedagogic and research process. SPT has set up state-of-the-art Lab Facilities for the students where they not only perform experiments designed based on the theoretical studies, but are also provided a platform to take up research studies as well. The practical classes are well integrated into the curriculum, but the school encourages even more extensive use of these facilities to nurture a research led environment. The labs are being continuously upgraded with new equipment, to strengthen the research work of the M.Tech and Ph.D. students who rely extensively on experiments to validate their work.







Earth Science

The objective of this lab course is to make students understand the basic properties of rocks and minerals and identify them in hand specimen and under microscope. This enables them to understand the structural geology and mineralogy of the samples as well. They are exposed to the utilization of geological maps and various geological tools.



Geomechanics and Strength of Materials

The objective of this lab course is to make students understand the mechanical properties of rocks and its application in upstream hydrocarbon industry. The students analyse the pore structure, compressive and tensile strength ductility, hardness, brittleness, elasticity, fatigue limits of various materials.



Drilling Fluids & Cementation

The objective of this lab course is to make students understand the characteristics of drilling fluid and cementation. They learn about the classification of drilling fluids, properties and nature of drilling fluids, and how to select an effective fluid system.



Petroleum Engineering-I

The experiments in this course are based on the entire value chain of petroleum engineering. The course covers experiments on Drilling Fluids, Cements and Reservoir Engineering.



Petroleum Engineering - II

The experiments in this course are based on the entire value chain of petroleum engineering. Students are exposed to practical aspects of Instrumentation and Control, Petrophysics and Logging.



Safety, Health and Environment

The objective of this lab course is to give students an exposure on day-to-day Safety, Health and Environmental activities of various segments of hydrocarbon industries.



Petroleum Product Testing

Practical classes are based on theory course content of the Petroleum Engineering course. The students test the physical and chemical properties of petroleum and petroleum related products.



Petroleum Product Application

Practical classes are based on theory course content of the Petroleum Engineering and Refinery courses. The students test the chemical properties of petroleum and petroleum related products, such as fire point, flash point, drop point, smoke point etc.



Reservoir Characterization

Practical classes are based on theory course content of the Reservoir Engineering course. The students understand the reservoir characteristics, mineralogy, and textural structure of various samples.



Computer and Language

SPT has a state of the art Computer and Language Lab, where students are exposed to various computer languages, internet applications and engineering software used in Oil and Gas industry.

Petroleum Software Lab

Experimental and Numerical Studies are the fundamental entities of an engineering study. Numerical simulation models play a pivotal role in arriving at an optimal engineering solution and enrich the prompt project management decision. The Petroleum Software Lab is a distinctive feature of SPT, PDPU among the other petroleum universities in the Country. The lab houses the latest version of industrially used software covering all spectra of Petroleum Industry. The School presently has software from the pioneers of the peer community. The details of the software available presently are furnished herewith:

COMPANY	SOFTWARE MODULE AVAILABLE		
Computer Modelling Group Ltd. (CMG)	SOLVE University (Access to GEM, IMEX, STARS Simulator) WinProp CMOST Builder Results		
Kappa Engineering	Saphir NL - Pressure Transient Analysis Topaze NL - Rate Transient Analysis Rubis - Multi Purpose Numerical Model Citrine - Field Performance Analysis Azurite - Formation Testing Emeraude - Production Logging		
PETroleum EXperts (PETEX)	Integrated Production Modelling Software: IPM models the complete oil and gas production system including reservoir, wells and the surface network.		
NSI Technologies	StimPlan: A fracturing software to develop an optimum fracture design		
CARBO Technology	FracPro: Fracture design, analysis and monitoring software		
Baker Hughes – A GE Company	MFrac and JewelSuite		
Emerson E&P Software	Paradigm and Roxa		



FACULTY

Dr. R.K. Vij Director SPT

Areas of Interest: Petroleum Engineering, Reservoir Management, Enhanced Oil Recovery and Asset Management.

Prof. Subhash N. Shah Shell Chair Professor

Areas of Interest: Hydraulic Fracturing, drilling, horizontal multilateral well completions/ stimulation and coiled tubing technology.

Prof. Anirbid Sircar Professor

Areas of Interest: Geothermal Exploration & Exploitation, City Gas Distribution, Seismic Interpretation, Reservoir Characterization, Probabilistic Resource Analysis, Integrated Reservoir Management Field Development, Asset Management etc.

Dr. Uttam Kumar Bhui

Associate Professor

Areas of Interest: Clay mineralogy and low temperature geochemistry, Petroleum system and Basin modelling, Reservoir modelling.

Dr. Bhawanisingh G. Desai Associate Professor

Areas of Interest: Applications of Ichnology and Sequence Stratigraphy for reservoir studies.

Dr. N. Madhavan

Assistant Professor

Areas of Interest: Economics of ecosystems and biodiversity, Application of environmental indicators, Biomonitoring, Diversity index.

Dr. Sivakumar P Assistant Professor

Areas of Interest: Enhanced oil Recovery, Loss control

Materials, Microbial Isolation and Identification for MEOR, Petroleum Down Stream Processing; Petrochemical Engineering; Biofuels; Nano Technology; Catalysis; Cracking.

Dr. R. Balasubramanian Assistant Professor

Areas of Interest: Petroleum Refinery Engineering, Surface Production Operations, Heat and Mass Transfer, Petrochemical Processing, Safety, Health and Environment and Natural Gas Engineering.

Dr. Rohit Srivastava Assistant Professor

Areas of Interest: Functional Nanomaterials, Electro/photochemical Technology, Energy Storage & Conversion and Biophysical Chemistry.

Dr. Achinta Bera

Assistant Professor

Areas of Interest: Reservoir Characterization and Modelling, Enhanced Oil Recovery, Unconventional Energy Resources, Colloids & Interface Science, Nanotechnology in Oil and Gas.

Dr. Pawan Gupta Assistant Professor

Areas of Interest: Flow Assurance, Methane Recovery from Gas Hydrates, Hydrate Based Storage and Transportation, Drilling Fluids, Enhanced Oil Recovery, Unconventional Energy Resources.

Dr. Vivek Ramalingam Assistant Professor

Areas of Interest: Reservoir Characterization; Well Logging and Interpretation; Reservoir Engineering and Simulation; Multiphase Fluid Flow in Porous Media; Hysteresis Relative Permeability Modelling.

Dr. Hari S Assistant Professor

Areas of Interest: Offshore platform design and riser analysis; Sonic and shock wave enhanced oil recovery; Petroleum production engineering; Functionally Graded Materials for Oil and Gas Applications.

Dr. Lakshmana Rao Jeeru Assistant Professor

Areas of Interest: Refinery Engineering, Petrochemical Technology, Oil and Gas Processing Plant Design, Natural Gas Hydrates, Heterogeneous Catalysis, Kinetic Modeling of Homogeneous and Heterogeneous Reactions, Transport Phenomena, Environmental Studies, Industrial Pollution Control, etc.

Dr. Shanker Krishna

Assistant Professor

Areas of Interest: Anisotropy and Fractures in Materials, Exploration Geophysics, Geomechanics, Non-Destructive Evaluation. Pipeline Engineering, Drilling and Production Engineering, Reservoir Engineering and Management, Rock Physics.

Mr. Maunish Sanjaybhai

Assistant Professor

Areas of Interest: Stimulation, Particulate diverters for refracturing, Enhance Oil Recovery, and Cement slurry design.

Mrs. Namrata Bist Rawat Assistant Professor

Areas of Interest: Production Engineering, Artificial lift technology, Renewable Energy, Hydraulic fracturing, HF fluid, Applications of Petroleum Engineering in Software domain.

Dr. Abhijit Kakati Assistant Professor

Areas of Interest: Enhanced oil recovery, Reservoir and Well Dynamics, Molecular Dynamic Simulation, Data Analytics for Oil and Gas Industry.

Mr. Gudendra Singh Negi Adjunct Professor

Areas of Interest: Reservoir characterization with the application of tracers for understanding the reservoir fluid dynamics to evaluate the techno economics of EOR application in our industry.

Mr. Shashi Shekhar Prasad

Adjunct Professor

Areas of Interest: Petroleum Production Engineering, Advance Drilling, Production Optimization and Offshore Operations.

Dr. Nilesh Kumar Jha

Assistant Professor

Areas of Interest: Low Salinity + Additives EOR, CO2 EOR/ Geosequestration, Reservoir Engineering, Wettability, X-Ray Micro CT.

Mr. Amit Verma

Assistant Professor

Areas of Interest: Hydraulic Fracturing, Unconventional Reservoir, Drilling Fluids, Rheology and Enhanced Oil Recovery.

Mr. S. Paul Naveen Assistant Professor

Areas of Interest: Unconventional Resources Technology, Well Test

RESEARCH & DEVELOPMENT

ONGOING FUNDED PROJECTS

FACULTY NAME	PROJECT TITLE	ROLE (PI/CP-PI)	SUBMITTED TO	BUDGET (APPROX.)
Dr. Rohit Srivastava	Fabrication of nature inspired nanohybrid as electrocatalyst for water splitting and CO2 reduction	Pl	DST	₹31,00,000
Prof. Anirbid Sircar	Effect of laying pipeline on soil productivity in various places of Gujarat	PI	2020GERMI/RE4/ENV/2019-20/497 GSPL, Gujarat (GERMI)	₹ 32,00,000
Dr. Bhawanisingh G. Desai & Dr. Alexey Ippolitov	Global biodiversity, evolution, and biogeographical connections of belemnites of southern and northern hemisphere around early/ late cretaceous	As Collaborator	1st March, 2019 to 28th February, 2021 Department of Science and Technology and Russian Federation of Basic Research (International Bi- Lateral Research project)	₹ 19,94,400
Prof. Anirbid Sircar	Geothermal exploration and exploitation in Gujarat with special focus on power generation		EPD, Government of Gujarat	₹21,00,00,000
Dr. Uttam Kumar Bhui	Investigation of sorption properties of natural shale rock samples for metal ions of nuclear importance under different experimental conditions	Pl	Submitted to BRNS	₹ 47,00,000

FUNDED PROJECTS - SUBMITTED TO FUNDING AGENCIES

FACULTY NAME	PROJECT TITLE	ROLE (PI/CP-PI)	SUBMITTED TO	BUDGET (APPROX.)
Dr. Rohit Srivastava	Solar-driven highly-efficient electrochemical cells for the splitting of water and reduction of CO2 into green fuels	Pl	CRG-DST	₹ 40,00,000
Dr. Pawan Gupta	Towards understanding the methane production from simulated natural gas hydrates using slow-depressurization, chemical inhibitor, CO2-CH4 exchange and combination approach	PI	Submitted to SRG-SERB	₹ 32,00,000
Dr. Vivek Ramalingam	Implications of pore scale physics on Darcy's scale trapping mechanisms in a multiphase system of subsurface porous media – A numerical study applied to geo-sequestration of CO2	PI	Submitted to SRG-SERB	₹ 19,89,560
Prof. Anirbid Sircar	Stochastic resource estimation of subtle geothermal traps in Cambay and Saurashtra basin, Gujarat, India using integrated interpretation of gravity, magnetic and resistivity data	PI	Submitted to SERB Core Research grant on 3 rd March, 2020	₹ 55,00,000
Dr. Uttam Kumar Bhui	Investigation of sorption properties of natural shale rock samples for metal ions of nuclear importance under different experimental conditions	PI	Submitted to BRNS	₹ 47,00,000

DRILLING, CEMENTING AND STIMULATION (DCS) RESEARCH CENTRE PROJECTS

FACULTY NAME	PROJECT TITLE	ROLE (PI/CP-PI)	SUBMITTED TO	STATUS (ONGOING/ SUBMITTED
Dr. R. K. Vij & Dr. Asit Acharya	Evaluation of ONGC Videsh Limted Investments Overseas in 19 countries by Evaluating, Investment Pattern, Production Performance, and Verifying IRR	Dr. R. K. Vij (PI) & Dr. Asit Acharya (Co-PI)	NITI Aayog	Submitted
Dr. R.K. Vij & Dr. Jatin Agarwal	ER Screening of Dholka field	Dr. R.K. Vij (PI) & Dr. Jatin Agarwal (Co-PI)	Joshi Technologies International Inc. (JTI)	Submitted
Dr. R.K. Vij & Dr. Jatin Agarwal	ER Screening of Asjol , North Balol & CBON- 07 field	Dr. R.K. Vij (PI) & Dr. Jatin Agarwal (Co-PI)	Hindustan Oil Exploration Corporation (HOEC)	Submitted
Dr. R.K. Vij & Dr. Jatin Agarwal	ER Screening of Kanawara, North Kathana, Allora & Dholasan field	Dr. R.K. Vij (PI) & Dr. Jatin Agarwal (Co-PI)	Gujarat Natural Resources Oil and Gas Ltd. (GOGL)	Submitted
Dr. R.K. Vij & Dr. Jatin Agarwal	Due Diligence of ONGC Western Onshore Blocks for Bidding, Evaluating Production Performance and Future Potential	Dr. R.K. Vij (PI) & Dr. Jatin Agarwal Co-PI	SIAM Services Pvt. Ltd. & Expert Petroleum (Romanian Company)	Submitted
Dr. Jatin Agarwal	Proppant evaluation for HTHP conditions	Dr. Jatin Agarwal (PI)	Schlumberger	Submitted
Dr. Jatin Agarwal	Proppant evaluation for HTHP conditions	Dr. Jatin Agarwal (PI)	Shraddha Associated Guj Pvt. Ltd.	Submitted
Dr. R.K. Vij & Dr. Jatin Agarwal	ER Screening of Unawa, Tarapur, Sanad East, Ingoli field	Dr. R.K. Vij (PI) & Dr. Jatin Agarwal (Co-PI)	Gujarat State Petroleum Co- orporation Ltd. (GSPC)	Ongoing
Dr. R.K. Vij & Dr. Jatin Agarwal	ER Screening of Bhandut and Cambay field	Dr. R.K. Vij (PI) & Dr. Jatin Agarwal (Co-PI)	Oilex	Ongoing





STUDENT ACHIEVEMENTS

- Dr. Anirbid Sircar, Dr. Manan Shah, Bhavarth Shah, Tanay Bhanushali, Jyoti Shankar, Bhagyesh Kansara, Meet Soni, Priyansh Bhimajiyani published a paper titled "Reckoning of water quality for irrigation and drinking purposes in the Konkan geothermal provinces, Maharashtra, India" in Elsevier - Groundwater for Sustainable Development in July 2019.
- Lijo P. Lalu and Ravinav Lal published a paper titled "Use of N115 Carbon Nano-Fluid for Solar Powered Steam Assisted Gravity Drainage for Extracting Bitumen" in OnePetro in March 2018 and also presented the same at International Petroleum Technology Conference (IPTC) in March 2019.
- Samip Umaretiya published a paper titled "Modelling of Weight & Wait well control method for dual string drilling: A Novelty Approach for safe water drilling" in SPTOrbit in December 2018 and also presented the same at Euro Science Conference on Petroleum Engineering & Natural Resources in December 2018.
- Jigarkumar Patel presented a paper titled "Membrane based Down hole Oil & Water saperator (DOWS): Alternative of Convention Hydrocyclone based DOWS" at Petrotech 2019 in February 2019.

- Harsh Patel presented a paper titled "Groundwater Hot-Springs
 Analysis of Bakreshwar And Tantaloi Geothermal Fields For Its
 Industrial Application" at International Conference on Thermal
 Engineering: Energy & Application in February 2019.
- Mayur P. Mungalpara and Anjan H. Chhatrala presented a paper titled "Fishbone Multilateral Stimulation Technology" at PETROTECH-2019 in February 2019.
- Udita Deota and Divya Shah presented a paper titled "Enhancing Cement Bond Strength Through Resin Adhered Sand Coating" at Indian Drilling and Exploration Conference (IDEC 2019) in June 2019.
- Vasu Kundariya, Udita Deota and Divya Shah presented a paper titled "Enhancing Cement Bond Strength Through Resin Adhered Casing" at Indian Drilling and Exploration Conference (IDEC 2019) in June 2019.
- Debajyoti Nayak, Manna Butani and Shivam Paliwal presented a
 paper titled "Solid Waste Management by Plasma Gasification" at
 Indian Drilling and Exploration Conference (IDEC 2019) in June 2019.



INDUSTRY ACADEMIA INTERACTION

SPT aims to expand the reach of networking by connecting the dots between the industry & academia. Topics related to course curriculum where students need a better clarity are addressed in expert lectures by industry stalwarts. Organizing Conclaves, Seminars, Workshops for students, faculties, industry participants while keeping pace with recent trends and technologies in Oil and Gas sector makes the participants aware of practices followed in industry and helps them in interacting and networking with stalwarts from industry and academics. This helps in overall development of students as well as faculty members. SPT has successfully organized many programs where participants were greatly benefitted. Some of the programs organized by SPT for industry-academia interaction are given below:



Workshop on Natural Gas Industries in India – Opportunities and Challenges (February 22, 2019)



MoU was signed between OIL India Ltd. and PDPU in the presence of Mr. Utpal Bora, CMD and Dr. P Chandrasekaran, Director (E&D) OIL India Ltd. (Padma Shri), President - Exploration & Production at Oilmax Energy



Lecture on 'Dynamics of Oil & Gas'- by Dr. Rabi Narayan Bastia



CEO Roundtable-India Towards Gas Based Economy (April 30, 2018)



Alumni Meet at Calgary with Prof. Subhash Shah and Director SPT



"Super 20" campaign students were sent to Sabarmati Gas Station for getting first hand field knowledge along with Director SPT, Mr. Vivek Ramalingam, Assistant Professor, SPT and Mr. Vineet Bagadia, Manager - Corporate Relations, PDPU



Distinguished lecture by Shri Vilas Tawde along with Director SPT and Petroleum Engineering Students







PROFESSIONAL BODIES & STUDENT CHAPTERS AT SPT



SOCIETY OF PETROLEUM ENGINEERS (PDPU SPE CHAPTER)

The Society of Petroleum Engineers (SPE) is a not-for-profit professional organization whose mission is to collect, disseminate, and exchange technical knowledge concerning the exploration, development and production of oil and gas resources and related technologies for the public benefit and to provide opportunities for professionals to enhance their technical and professional competence.

PDPU SPE Student Chapter was founded in 2007 and since its inception; the establishment has striven expeditiously to achieve the excellence and renown that it carries today. PDPU SPE Student Chapter has provided exposure to students in the oil and gas industry through guest lectures, panel discussions, exhibitions and workshops. They have hosted lecturers discussing "Challenges of Reservoir Studies", "Sand Control Completion" and "Exploration to Exploitation". PDPU SPE Chapter bears a plethora of events to its credit that were appreciated by the students and allied professionals who were part of the same.

Serving as a token of distinguished performance and appreciation, PDPU SPE Student Chapter stands the only SPE student chapter in India to have bagged four consecutive Gold Standard Awards from SPE International for four times in a row. The Gold Standard is a benchmark for exceptional performance in categories of membership, planning, education, professionalism, service, support and fundraising.



FEDERATION OF INDIAN PETROLEUM INDUSTRY (FIPI PDPU CHAPTER)

The FIPI chapter, being highly dedicated towards achieving excellence, has organized seminars, conventions and several other competitions where students can come up and showcase their talents. It is because of their industrious and sincere efforts that they are trusted and eulogized extensively as an important component of the School of Petroleum Technology.

Weekly discussion sessions on various matters of practical importance relating to the Energy sector are also regularly organized by FIPI. The chapter successful hosted the FIPI Students Meet in 2013 in PDPU which was attended by all other student chapters in India. This chapter was awarded the best student chapter of FIPI in 2012.



AAPG-PDPU CHAPTER

American Association Petroleum Geologists PDPU Chapter was founded in 2013. Despite being relatively new of all the extant student chapters in PDPU, AAPG has earned considerable encomium from students and faculty members. They are the fastest emerging chapter and have been creating benchmarks for other student chapters to match along.



EAGE



SPG / EAGE / SEG PDPU CHAPTER

Society of Petroleum Geophysicists (SPG) / European Association of Geoscientists and Engineers (EAGE) / Society of Exploration Geophysicists (SEG).

SPG, EAGE and SEG chapters of PDPU work in collaboration to facilitate the exchange of technical ideas and practical experience. They have been the names of great renown and have been working extensively for the best interests of its student members. They have striven to acquire the excellence with which they are associated invariably when it comes to organizing events and executing them efficiently.

The university chapters of these international societies help students connect to industry professionals affiliated to the field of Geophysics and Petro physics applied to the petroleum industry. They also serve the geosciences community with events aimed at disseminating information and providing networking opportunities, all with the purpose of advancing geophysics as a study area for aspiring engineers of tomorrow.

The student chapter received 180 new members this year. The Faculty mentors of this chapter are Dr. Uttam Kr. Bhui, Ms. Namrata Bist, Dr. R. Balasubramanian and Dr. Achinta Bera who provides valuable guidance for directing chapter activities.

INTERNATIONAL **EXPOSURE PROGRAM**

The International Exposure program enables students to not only develop technically but also enriches their linguistic and cultural knowledge. In terms of linguistic and cultural awareness, students emerge with a greater level of sensitivity and patience.

This in turn leads them to move from a fundamental understanding of the theoretical concepts to a more sophisticated interpretation and application based approach. Secondly, most students adapt to the practical challenges they encounter by finding mechanisms to help them cope with their new surroundings. Many students have shown concern about adjusting in the countries they planned to visit. Students also have some misconceptions about the nature of the people and the overall cultural aspects of the region. The exposure program helps the students to soak in the real essence of the cultural aspects in person and enables them to grow technically as well as spiritually.

TWO WEEKS OF CLASSES AT **CURTIN UNIVERSITY, DUBAI ON THE BELOW TOPICS**

- → Oil Economics & Regional Energy Strategy
- → Petroleum & Petrochemical Engineering
- → Renewable Energy
- → Engineering Management
- → Practical Applications of Petroleum Engineering
- → Personality Development
- → Project Management
- → Design Thinking
- → Business Communications
- → Entrepreneurship for Engineers





- → International Communication Skills workshop by Curtin University
- → Career Session with Regional Head, Schlumberger for Petroleum students
- → Masdar Sustainable City → Siemens

→ Apple

→ 3M Innovation Centre

→ Borouge Petrochemical

→ Schneider Electric Innovation Hub

→ Schlumberger Regional Head Session





RURAL INTERNSHIP

SPT students undergo a compulsory 3 week Rural Internship program at the end of the first year of engineering. The main objective of Rural Internship is to strengthen understanding on concepts of rural development with specific reference to the Indian context. Students are exposed to grassroots realities, in the rural setting, with a focus on participation in interventions by NGOs. This helps in making them understand and appreciate broader contexts of other stakeholders, like government agencies, donors and local self-governance institutions, while participating in existing field projects. This helps in the holistic development of a student and also makes them aware of the harsh climates and adversities they might be facing on the job.

The idea behind this program is to develop a sensitized workforce in energy sector who are socially concerned and willing to positively contribute to the society. The program enables the students to understand about the rural socioeconomic scenario and also helps them in facing challenging issues in existing systems and suggests possible solutions. It also helps to enhance other skills of students. i.e. observation skill, analytical skill, decision making skill, communication skill.





INDUSTRIAL ORIENTATION

SPT students undergo an industrial orientation program at the end of the second year which exposes students to various operations of oil and gas industry for enhancing their understanding about application of science and engineering principles studied in first two years of B.Tech program. The program is aimed at exposing students to upstream, midstream and downstream operations of oil and gas sector.





INDUSTRIAL TRAINING

SPT students are required to undergo 6 to 8 weeks of Industrial Training in the non-teaching period of the Third year of the B.Tech Program as partial requirement for the award of the degree. This training can be carried out either in Industry, at an R&D organization, or Schools of Technology/Departments of Universities. The objective of the training is to make the students industry ready and give them an experience of the real industrial scenarios and practices. An effective training/internship enables the students to prepare for interviews in line with the industry expectations. It also prepares them well to enter the industry at the end of their B.Tech program and grooms them as per industry standards.



RIG VISIT TO ABAN OFFSHORE

SPE PDPU Student Chapter had an opportunity to collaborate with ABAN and organize an offshore rig visit to the ABAN IV rig, Ratnagiri. 26 students from B.Tech and M.Tech, under the mentorship of Dr. R. K. Vij, Director, SPT and Dr. Bhawanisingh Desai, Faculty Advisor, SPE PDPU Student Chapter, were taken for the visit. The young minds were upskilled with the knowledge of offshore drilling operation. Drilling rig is an integrated system that drills wells. These drilling rigs play an indispensable role in the Petroleum Industry. Hence, complete knowledge about these structures is required for a successful exploration procedure. ABAN is the service provider of the Oil and Natural Gas Corporation (ONGC). The ABAN IV rig positioned in Ratnagiri belongs to the category of jack-up rigs. The rig had the capability of drilling up to a depth of 6000 ft. The students were briefed about all the equipment and power rooms placed on the drilling platform. Other components of the jack-up rig, such as the rotary table, crown block, drill floors along with them, the Drilling Mud circulation equipment, were also shown. The functions of Makeup and Break-Up Tongs, Degasser, and Transformers, were explained in detail. This was accompanied by a walkthrough of the procedure of utilizing saline water post its purification for daily usage at the rig. The main purpose of this visit was to acquaint the students with the offshore drilling operation and get hands-on experience about the workforce, their job profile and life on offshore.





CENTER OF EXCELLENCE GEOTHERMAL ENERGY

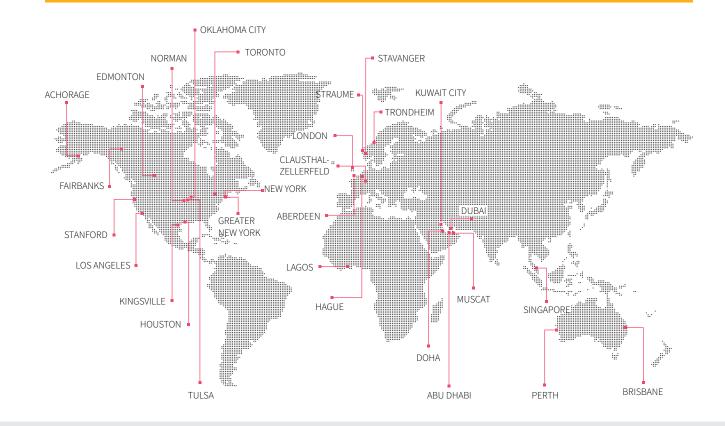
Geothermal Energy is being harnessed and used for domestic as well as commercial purpose in many parts of the world, such as Indonesia, Mexico, Philippines, New Zealand, Iceland, California (US). However, in India, the potential Geothermal Energy has not yet been tapped. As per the studies conducted by Geological Survey of India (GSI), Gujarat also has a potential of geothermal energy, which is yet to be explored.

In order to put Gujarat on unconventional energy basket in India, Government of Gujarat took an initiative of establishing a centre dedicated to research & development activities in the area of exploration and exploitation of geothermal energy. In this light, with the support of Government of Gujarat, PDPU established Centre of Excellence for Geothermal Energy (CEGE) on 10th of October, 2013.

CEGE is carrying out exhaustive research in the investigative studies for analysing the resource potential of various sites in Gujarat.

GLOBAL ALUMNI PRESENCE

The Alumni of PDPU have not only left their mark on the Indian industry but have also been successful in pursuing their dreams abroad. With a strong and growing presence of PDPU alumni in some of the top notch companies & institutes of the world the PDPU community is on its way to making their presence felt across the global industry.



COMPANY NAME	CITY	COUNTRY
Accenture	Brisbane	Australia
Centrica Energy	Stavanger	Norway
Topeka Capital Markets, Inc.	New York	USA
Halliburton Overseas Ltd	Kuwait City	Kuwait
Keppel Offshore And Marine Technology Center	Singapore	Singapore
Nabors Arabia Co. Ltd.	Muscat	Oman
Norshore	Straume	Norway
Petroleum Development Oman	Muscat	Oman
United Arab Bank	Dubai	UAE
Halliburton	Houston	USA
SEEPCO	Lagos	Nigeria
Occidental Petroleum Corporation	Houston	USA
Warwick Energy Group	Oklahoma City	USA
Jindal Pipes Ltd	Singapore	Singapore
Neal Adam Services	Houston	USA
Onsite CO2, LLC	Houston	USA
Roth Capital Partners	Houston	USA
L&T Hydrocarbon	Abu Dhabi	UAE
RFID PASS	Houston	USA
Pangea, Inc.	Achorage	USA
ConocoPhillips	Houston	USA

UNIVERSITY NAME

- · Arizona State University
- Clausthal University of Technology
- Memorial University
- Norwegian University of Science and Technology
- · Rice University
- Robert Gordon University
- · Stanford University
- Stevens Institute of Technology
- TAMU Kingsville
- TU Delft
- University of Oklahoma
- University College London
- · University of Alaska
- University of Alaska Fairbanks
- University of Alberta
- University of Calgary
- University of Houston
- University of Oklahoma
- University of South California
- University of Southern California
- University of Tulsa
- University of Western Australia



INFRASTRUCTURE

Wellness Centre

A nutritious diet and a good workout helps students to combat academic stress. School of Petroleum Technology has set up a state of- the-art wellness centre equipped with cardio & weight training equipment and facilitates student workouts under the expert supervision of a certified trainer.

The wellness centre can look after the needs of more than 50 students per session and is functional throughout the day.

As a part of its wellness initiative, the university also provides an expansive playground for outdoor games, such as football, cricket and practice courts for basketball, volleyball and badminton.

Cafeteria & Food Court

School of Petroleum Technology has ensured that the students enjoy a healthy diet charted out by a dietician, which is wholesome and nutritious. The food court also provides refreshments throughout the day. The cafeteria is attractively laid out and offers students and eco-friendly environment to relax while deliberating on their academic and personal lives and collectively address the attendant challenges.







Hostel Facility

Our in-campus residential facilities offer furnished hostel rooms on a twin occupancy basis. This is an optional facility offered to B.Tech students. Separate hostels are provided for female students. There are seven fully functional hostel blocks which are Wi-Fi enabled and are well-designed to meet the needs of the students. These include emergency medical facilities, a doctor on call, 24x7 access to computer labs and a well equipped and comfortable lounge to facilitate group activities.

Library

Library and Information Centre is the heart of the school and aims to provide an ideal ambience for both creation & dissemination of knowledge, information, insights & intellect in all its academic programs. The centre has utilized Information Technology extensively to ensure that resources are accessible from anywhere at any time. The Library holds a collection of printed as well as electronic resources which include books, journals, databases, CDs/DVDs, e-journals, reports, case studies, conference proceedings, training manuals, etc

Other Facilities

- → Medical Facility + 24 hours Ambulance
- → Bank + 24 hours ATM
- → Stationery and General Store
- → Medical Store
- → Travel Booking Office



CAREER DEVELOPMENT CELL

The Career Development Cell (CDC) handles all the internship and placements for graduates and post-graduate students at Pandit Deendayal Petroleum University (PDPU).

The Career Development Cell is well equipped to support all placement procedures including Pre-Placement Talk, interviews and group discussions.

Facilities available at Career Development Cell:

- → Auditorium and lecture theaters for Pre-Placement Talk
- → Well equipped rooms for interviews and group discussions
- → Computer labs for conducting online test
- → Requisite infrastructure for pooled recruitment drives

The placement policies and other related activities are handled by team of experienced Professionals, Professor-in-Charge along with Students' - Placement Committee. The process of coordination with recruiters is handled by the Career Development Cell. The companies are encouraged to communicate with Manager - CDC for initial discussions and subsequent communication for placement procedures.

CAMPUS RECRUITMENT REQUEST FORM

(TO BE FILLED BY COMPANIES)

NAME OF THE COMPANY :			
ADDRESS:			
CITY:	STATE:	PIN :	
TEL. NO. (WITH STD CODE) :			
FAX :	E-MAIL :		
COMPANY WEBSITE :			
REQUIREMENTS / CRITERIA:			
S. NO COURSE	TOTAL NO. OF STUDENTS THE COMPANY WISHES TO RECRUIT	PREFERRED INTEREST AREAS	ANY OTHER INFORMATION
1 B.TECH PETROLEUM ENGINEERING			
CAMPUS RECRUITMENT PROCESS:			
☐ PRE-PLACEMENT TALK (PPT)	☐ WRITTEN TEST	GROUP DISCUSSI	ON
☐ PERSONAL INTERVIEW	☐ ANY OTHERS		
CONTACT PERSON:			
NAME :			
DESIGNATION :			
TEL. NO. (WITH STD CODE) (O):		MOBILE NO	
TAV.		E MAIL .	

SIGNATURE OF COMPANY OFFICIAL

PLACEMENTS @ PDPU -AT A GLANCE

The placement initiatives of PDPU for all of its batches attracted a good number of companies from Energy & Infrastructure, Oil & Gas and other sectors. Most of our students managed to bag substantial job profiles at prestigious organizations along the entire energy value chain. PDPU has received accolades and good industry vibes, both in terms of alumni performance and the curriculum structure. Since its inception, following companies have participated in Placements Season:















































































































Off. Koba - Gandhinagar Highway, Raisan, Gandhinagar - 382 007, Gujarat, India.

Career Development Cell

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