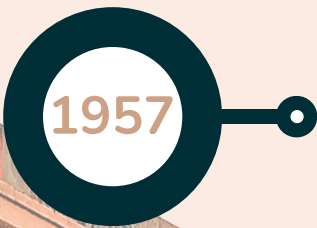




DEPARTMENT OF APPLIED GEOPHYSICS

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.



Department of
Applied
Geophysics
was established

DOMAINS OF STUDY

- Seismic Data Acquisition
- Processing & Interpretation
- Earthquake Seismology
- Well Logging
- Physical and Structural Geology
- Gravity and Magnetic methods
- Geoelectromagnetic methods
- Remote sensing
- Economic Geology and Indian Mineral Deposits
- Mathematical Functional Analysis
- Geophysical Signal Processing
- Reservoir Characterisation
- Geophysical Prospecting
- Oceanography

LABORATORIES - UG, PG

- Inversion Lab
- Seismic Data Processing
- Rock Physics
- Remote Sensing and GIS
- Coal Geophysics
- Fluid Dynamics Simulation

Courses	Strength
M.Tech	9
MSc. Tech	41
Integrated M.Tech	15
Ph.D	52

PLACEMENTS & INTERNSHIPS

24+ LPA **12+ LPA**
Max. CTC Median CTC

35k / mo
Median Stipend during Internship

Core Companies



Research & Development

Meet our HOD



PROF. SANJIT KUMAR PAUL

(Professor)

17-08-2022 - Present



B.Sc. in Mathematics (Hons) - The University of Burdwan (1997)

M.Sc. Tech. in Applied Geophysics - BHU (2001)

Ph.D. - IIT Kharagpur (2009)

Primary Areas of Research

Remote Sensing And GIS, Geotechnical Study, MASW, ERT, SRT, IP, GPR, Satellite Gravity And Magnetic, Near-surface Geophysics, Archeological Geophysics, Mining Geophysics, Mineral Exploration, Hazard-environmental Geophysics

Achievements

- 21 PhD supervised
- 6 Research projects Completed with a total cost of Rs. 442.55 Lakh
- 23 Consultancy projects completed (Rs.196.06 Lakh as PI; Rs.79.61 Lakh as Co-PI)

Ongoing & Completed Departmental Research

- Integrated non-invasive geophysical, archeological, and biogeochemical characterization of Itkhouri heritage sites in the Mohane River Valley. DST (TDT)(SHRI) [Department of Science & Technology {Technology Development & Transfer (Science & Heritage Research Initiative)}]. DST/TDT/SHRI-16/2021(C &G), dated 08.02.2022. The project cost Rs. 1,25,92,682.00. Sanction date: 08.02.2022. DST(TDT)(SHRI)(327)/2021-2022/888/AGP.
- Development of guidelines for delineation of water-stressed areas and designing of environmentally friendly water storage structure for meeting the water needs in mining areas. Project No. CIL(20)/2021-2022/845/ESE. Project cost Rs.1,07,84,000.00, Coal India Limited, Ministry of Coal Sanction date: 10.01.2022
- Rejuvenation of existing waterbodies and identification of suitable locations for storing surface water for sustainable water supply in Dhanbad Municipal Corporation Area. Rs.820000.00, IIT(ISM)/2022 2023/905/INSTITUTE. Sanction date: 18.07.2022
- CBM resource estimation and feasibility study of field development using fully-integrated Geocellular model approach coupled with AI/ML algorithms in the Damodar River Valley, Godavari, Mahanadi, Satpura and Rajmahal Basin, India; Sanctioned Authority: Director General of Hydrocarbon (DGH), Government of India (Sanctioned: 2022; Sanctioned Amount: Rs. 12,96,050.00/-)
- Development of Field scale reservoir simulation model of Raniganj CBM field of Essar Oil & Gas Exploration and Production Ltd. (EOGEPL) ongoing as co-PI with Petroleum Engineering department: (Sanctioned: 2021-2022; Sanctioned Amount: Rs. 22,76,923/- (excluding Tax))
- Study of hazards due to mining-induced sub-surface cavities and waterlogged areas in inaccessible old workings in underground coal mines using geophysical technique. Project No. CIL(16)/2020 2021/792/AGP(CMPDI/B&PRO/MT-173). Project cost Rs.19996000.00, Coal India Limited, Ministry of Coal.
- Geological and Geotechnical Studies for Jangi-Thopal, Hydroelectric Project, SJVN/2020-2021/745/AGP; SJVN Ltd, Govt. of India, Rs.35,40,000.00 Lakh. Saction date: 03.12.2020.
- To augment the postgraduate teaching and research facilities in the Department of Applied Geophysics. DST sanctioned letter No. SR/FST/ES-1/2017/12, 16-01-2018. Rs.198.00 Lakhs. DST-FIST(197)/2018/580/Institute. Department of Science & Technology. Sanction date: 16.01.2018
- Delineation of the Administrative Boundary of the Banki River, Garhwa District, Jharkhand: An 5 Implication in Restoration and Conservation of the Ganga River Basin. IIT(ISM)/2021-2022/826/INSTITUTE. Rs. 21,00,000.00; 20.9.2021
- FMP Project: Field-scale simulation study and production forecasting for a part of Sohagpur West CBM Block of Reliance Industries Limited (Industrial Consultancy) completed as co-PI with the Petroleum Engineering department. (Sanctioned: 2019-2020; Sanctioned Amount: Rs. 28,02,946/- (excluding Tax)).

Students & Alumnis

Active Student Run Societies



Guest Talks by the Societies

- SEG: Guest Talk by Dr. Taner Arpaci, Reservoir Geophysicist, QI Group, Türkiye Petrolleri. On 'Reservoir Characterisation'.
- SPG: Interactive webinar on Placement Talks with SANJEEV RAJPUT
- EAGE: Career Counselling Session by Asmita Mahanta (Global Practice Lead, BHP)

Alumni Network

- Avik Majumder, Senior Project Manager at Fugro
- Dr. Amit Ray, Chief Geophysicist & Head - Seismic AI Research, Telestro Energy
- Dr. Abir Banerjee, Sr. Geophysicist (W) Interpretation group, ONGC Bokaro
- Dr. Kalachand Sain, Director, Wadia Institute of Himalayan Geology-DST, Dehradun
- Debashis Chatterjee, General Manager at ONGC
- Dr. Prakash Kumar, Director of CSIR-National Geophysical Research Institute

GATE Results

GATE 2024

- Soumitra kar (PhD) AIR-3
- Swapnil Kumar Goyel (MSc Tech) AIR-30
- Ayush Kumar Namdeo (MSc Tech) AIR-56

GATE 2023

- Shirshendu Ghosh (MSc Tech) AIR-3
- Adil Mirda (MSc Tech) AIR-4
- Deepak Singh (MSc Tech) AIR-5
- Sanju Hazra (MSc Tech) AIR-7
- Kesari Maurya (MSc Tech) AIR-12
- Anup Kumar Singh (MSc Tech) AIR-17
- Anuj Srivastava (MSc Tech) AIR-20

Foreign University Collaborations



QUEEN'S
UNIVERSITY
BELFAST

Potential Opportunities for research internships with faculty members

- Subsurface Resource Characterization Group (sRCg), IIT(ISM) Dhanbad Dr Partha Pratim Mandal, partham@iitism.ac.in, +918879331804
- Earthquake Seismology, Seismic Hazard Investigations Dr Mohit Agrawal, mohit@iitism.ac.in, 3262235957
- Exploration Seismic, Reservoir Geophysics, Conventional & Unconventional Hydrocarbon, CBM, Ground Penetrating Radar (GPR) Prof. SAURABH DATTA GUPTA, saurabh@iitism.ac.in,