

Department of Earth Sciences Indian Institute of Technology, Kanpur



Placement Brochure
2018-19



About us

The Indian Institute of Technology Kanpur created a new Department of Earth Sciences in February 2014 with the aim of establishing an interdisciplinary Earth Sciences teaching and research programme of contemporary relevance.

Objectives

- ❑ Integration of quantitative approaches and techniques across various earth systems and application of geological, geophysical, and other related analytical methods.
- ❑ Training students and developing an aptitude for conjunctive use of field, experimental, analytical, and numerical approaches.
- ❑ Providing high quality industry and research oriented manpower in various fields of Earth Sciences.

Head of Department's message

Welcome to the Department of Earth Sciences at IIT Kanpur. We are one of the youngest department in the country, established in 2014, with a vision to carry out interdisciplinary Earth Science teaching and research of contemporary relevance. In this endeavor, we are currently offering a diversity of Earth science courses at all academic levels.

Our M. Tech. program in Geological Technology focuses on Applied Earth sciences, Geophysics, Earth surface processes, climate change, River science, Natural hazards, Structural geology and tectonics, Isotope geochemistry and Planetary sciences.

Faculty Members

- ❑ **Javed N. Malik, Professor & Head, PhD, M. S. University of Baroda (Active Tectonics and Paleoseismology, Geomorphology, Paleo tsunami).**
- ❑ **Rajiv Sinha, Professor, PhD, University of Cambridge, UK (River Science - River Morphology and Dynamics, Flood Hazards, Morphology-ecology Linkages, Remote Sensing and GIS Applications, Climate Change and Paleoclimate Reconstruction).**
- ❑ **Debajyoti Paul, Associate Professor, PhD, Cornell University, USA (Geochemistry, Mantle Dynamics, Paleoclimate Reconstruction).**
- ❑ **Santanu Misra, Assistant Professor, PhD, Jadavpur University, India (Structural Geology and Tectonics, Experimental Rock Deformation and Rock Physics).**
- ❑ **Indra S. Sen, Assistant Professor, PhD, Florida International University, USA (Radiogenic and Stable Isotope Geochemistry, Non-Traditional Stable Isotopes, Petroleum Exploration with Geochemical Tools, Anthropocene and Deformation Mechanisms & Microstructure of rocks).**
- ❑ **Dibakar Ghosal, Assistant Professor, PhD, IPGP, France (Exploration Seismology, Poroelastic attribute analysis, Modeling and Inversion, Subduction Tectonics).**

Faculty Members

- ❑ **Animesh Mandal**, Assistant Professor, PhD, IIT Kharagpur, India (Exploration Geophysics, Modeling and Joint inversion, Geophysical data processing/enhancement)
- ❑ **Deepak Dhingra**, Assistant Professor, PhD, Brown University, USA (Planetary Vis-NIR Remote Sensing, Lunar Geology, Characterization of Enceladus plume, Impact cratering).
- ❑ **Nibir Mandal**, Adjunct Professor, PhD, Jadavpur University, India (Structural Geology, Solid Earth Geophysics and Tectonics).
- ❑ **Sachchida Nand Tripathi**, Adjunct Professor, PhD, Reading University, UK (Atmospheric Science).
- ❑ **S. K. Tandon**, Distinguished Honorary Professor, PhD, University of Delhi, India (River Science - Human Transformations of River Systems, Fluvial sedimentology, Paleoclimate).

Awards and Recognition

- ❑ Prof. Javed N. Malik, Recipient, National Geoscience Award, Ministry of Mines (2016).
- ❑ Prof. Rajiv Sinha Elected Fellow, National Academy of Sciences, India (2016).
- ❑ Dr. Santanu Misra, Recipient, Swarna Jayanti Fellowship, DST (2015-16).
- ❑ Dr. Indra Sen Recipient, Young Scientist Award, Ministry of Mines, Govt. of India (2014).

M.Tech Courses

- ❑ Mathematics for Earth Sciences
- ❑ Advanced Structural Geology
- ❑ Remote Sensing and its application in Geo-resource evaluation
- ❑ Igneous and Metamorphic Petrology
- ❑ Solid Earth Geophysics
- ❑ Geophysical Methods
- ❑ Instrumentation in Earth Sciences
- ❑ Active Tectonics and Paleoseismology
- ❑ Experimental rock deformation and rock mechanics
- ❑ Communication in Earth Sciences
- ❑ Geology and Geochemistry of Petroleum

Research Areas

- ▶ Earth's Surface Processes
 - ❑ Geology and Mantle Dynamics
 - ❑ Paleoclimate Reconstruction
 - ❑ Hydrocarbon Exploration
 - ❑ River Science
 - ❑ Exploration Geophysics
 - ❑ Structural Geology and Active Tectonics
 - ❑ Planetary Science and Remote sensing.

Laboratory Facilities

- ❑ Atomic Absorption Spectrometer[AAS].
- ❑ Inductively coupled plasma- Mass Spectrometer[ICP-MS].
- ❑ X-ray Diffractometer.
- ❑ Nutrient Analyzer
- ❑ Scanning Electron Microscope (SEM)
- ❑ Optical Microscopes & imaging system
- ❑ Bartington Magnetic Susceptibility Meter - Field probe, dual frequency meter
- ❑ Core archive and Analysis Facility
- ❑ Thin section preparation unit
- ❑ Metal-free Clean Lab
- ❑ OSL Laboratory
- ❑ X ray Fluorescence (XRF)
- ❑ Vibrating Sample Magnetometer (VSM)
- ❑ Isotope-ratio mass spectrometer (IRMS)
- ❑ Electron Microprobe

Laboratory Facilities

- ▶ Terrain Mapping
 - ❑ Unmanned Airborne Vehicle (UAV)
 - ❑ Total Station + RTK
 - ❑ Kinematic Differential GPS
 - ❑ Permanent GPS stations
 - ❑ Image Rover
 - ❑ LIDAR Terrestrial Scanner
- ▶ River Surveys
 - ❑ Inflatable boat and engine
 - ❑ Acoustic Doppler Current Profiler (ADCP)
 - ❑ Echo-Sounder
 - ❑ Hydrobios Gravity Corer
 - ❑ Sediment Dredger

Laboratory Facilities

- ▶ Geophysics Lab
 - ❑ Resistivity profiling (SYSCAL)
 - ❑ Well-logger
 - ❑ Magnetometer
 - ❑ Digital Gravimeter
 - ❑ Remotely Acquisition Unit (RAU)
 - ❑ Very Low Frequency Electromagnetic Inst. (T-VLF)
 - ❑ GPR
 - ❑ Portable Seismograph (MASW)

Contact Us

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“The secrets of this earth are not for all men to see, but only for those who will seek them”

-Ayn Rand