



SERB
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ACCELERATE
राष्ट्रपूजा

कार्यशाला (High - End Workshop)



Exploring Magnetotelluric Data Insights: Workshop on Data Preparation, Analysis, Processing, and 3D Inversion Strategies



1-7 JULY 2024



IIPET Visakhapatnam

ORGANIZED BY

INDIAN INSTITUTE OF PETROLEUM AND ENERGY
VISAKHAPATNAM



About IIPE

Indian Institute of Petroleum and Energy (IIPE) Visakhapatnam was established by an Act of Parliament under the Ministry of Petroleum and Natural Gas (MoPNG) and declared as an Institute of National Importance. The Institute also aims to produce skilled human resources to meet the quantitative and qualitative gap in the Petroleum & Energy sectors and to boost the research activities needed for the growth of these sectors by nurturing and promoting the quality and excellence in education and research in various areas of petroleum and energy.



About the Department

The Department of Petroleum Engineering and Earth Sciences was started in 2016 with the mission to provide skilled and highly qualified engineers in the field of Petroleum Engineering and Earth Sciences. The department currently offers a 4-year B.Tech program in Petroleum Engineering, a 2-year M.Sc. program in Applied Geology, and a PhD program in Petroleum Engineering and Earth Sciences.

About the Workshop

'KARYASHALA' is aimed to provide hands-on experience to the students primarily from universities, colleges, private academic institutions, and newly established institutes in handling/ troubleshooting of high-end scientific instruments and such skill development on themes required for research work. Under the Accelerate Vigyan scheme, 'KARYASHALA' aims to boost Research & Development in the country by enabling and grooming potential PG and Ph.D. level students by developing dedicated research skills in selected areas/ disciplines/ fields through High-End orientation workshops.



Who can attend?

Applicants pursuing PG/Ph.D programs in Geophysics, Exploration Geophysics, Applied Geophysics, and other related programs are eligible to register. The workshop has a participation limit of 25 and will be selected on their profile and first come basis. Merely applying does not confirm the selection for workshop.

NOTE

The applicants need to produce a letter of authentication from their Supervisor/ Head of the department/Head of the Institute indicating their association with the institute and "No Objection Certificate (NOC)" for allowing their student to undergo training in the workshop, if selected.



KEY TOPICS TO BE COVERED DURING THE WORKSHOP

01

INTRODUCTION TO MAGNETOTELLURICS

- Basic principles of MT
- Importance and applications in geophysics.

02

DATA PREPARATION

- Data acquisition techniques
- Quality control and pre-processing steps



03

DATA ANALYSIS

- Time series analysis
- Frequency-domain transformations
- Identification of noise and signal components



04

DATA PROCESSING

- Filtering and smoothing techniques
- Impedance tensor estimation
- Dimensionality analysis



Data Processing

05

3D INVERSION STRATEGIES

- Introduction to inversion theory
- Implementing 3D inversion models
- Case studies and practical applications



06

SOFTWARE AND TOOLS

- Overview of popular MT data software
- Hands-on sessions with industry-standard tools





IMPORTANT INFORMATION

01

TRAVEL SUPPORT

Participants will be provided travel support (Train 3AC/Sleeper class/Bus fare as per GOI norms) to attend the workshop. (For reimbursement participants need to submit a copy of the ticket).

02

ACCOMMODATION AND FOOD

Free accommodation and food will be provided to all the selected participants during the workshop.

03

IMPORTANT

- Total numbers of seats are limited to 25.
- There is no registration fees.
- Shortlisted candidates will be informed by E-mail.
- Certificates will be awarded based on the assessment test conducted at the end of the workshop. Participants who attend all sessions and score at least 60% marks will only receive a certificate.

04

IMPORTANT DATES

- Registration Opens: 31 May 2024
- Last date for Registration: 10 June 2024
- Notification of Selection: 15 June 2024
- Workshop Period: 01 to 07 July 2024





PATRON



PROF. SHALIVAHAN
DIRECTOR



1-7
JULY
2024

ORGANIZERS



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