सीएसआईआर - राष्ट्रीय भूभौतिकीय अनुसंधान संस्थान
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्)
उप्पल मार्ग, हैदराबाद, तेलंगाणा, भारत – 500007

CSIR - National Geophysical Research Institute
(Council of Scientific & Industrial Research)
Uppal Road, Hyderabad, Telangana, India - 500007

प्रशिक्षण कार्यक्रम
(सीएसआईआर की एकीकृत कौशल पहल)

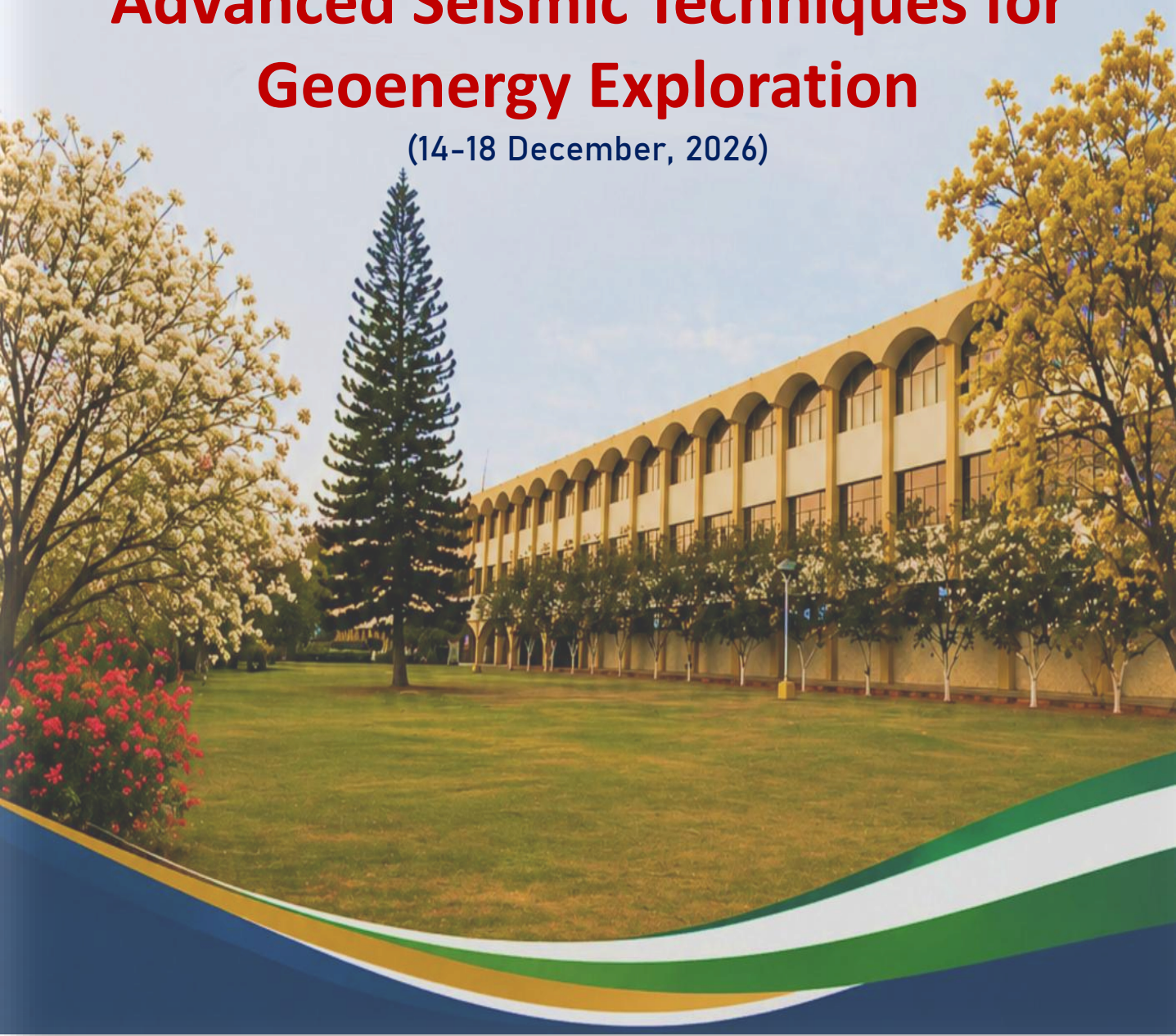
Training Program
(CSIR-Integrated Skill Initiative)



CSIR Integrated Skill Initiative

Advanced Seismic Techniques for Geoenergy Exploration

(14-18 December, 2026)



About CSIR-NGRI

The CSIR-National Geophysical Research Institute (CSIR-NGRI), a constituent research laboratory of the Council of Scientific & Industrial Research (CSIR) was established in 1961 with the mission to carry out research in multidisciplinary areas of the highly complex structure and processes of the Earth system and its extensively interlinked subsystems. NGRI has the mandate to conduct research for public-good science to enable government agencies, public and private sector stakeholders to make informed decisions about use of geo-resources sustainably and improve preparedness and resilience to natural hazards.

As a close understanding of Earth processes and its intersections with the growth and development of the human society only can secure the future, it is our vision to develop the knowledge base of Earth system processes and apply it to produce strategies to minimize loss of life and property from natural disaster as well as manage water, energy, and mineral resources for enhancing the quality of life.

The research activities fall broadly under three themes: **Geodynamics**, which revolve round investigating and modeling fundamental aspects of the Earth system and processes, **Earthquake Hazards**, which encompass features on the surface and subsurface of crust which may potentially endanger lives and properties through catastrophes like earthquakes and landslides as well as deterioration in pollution levels of groundwater and soil, changes in climatic conditions and associated environmental issues. The theme **Natural Resources** comprise of implementation of techniques to identify primary geo-resources, which are the pillars of human civilization and fount of economic growth like groundwater, hydrocarbons as well as alternate energy sources and minerals.

The Institute is structured into seven major R&D Groups and twenty one Activities, which include expertise in a variety of geophysical, geochemical, geological techniques like Seismology, Magnetotellurics, GPS, Paleo-seismology, Structural geology, Controlled Source Seismics, Gravity and Magnetics, Geochemistry, Geochronology, Paleomagnetism, Planetary, Polar Geophysics, Geomagnetism, Airborne geophysics, Shallow subsurface geophysics and Rock Mechanics, Hydrochemistry, Paleo-environmental studies and Modeling and simulation of Earth processes.

1. About the Training Program

The seismic method uses controlled sound or shock waves to produce high-resolution maps of underground rock layers and structures. All seismic systems require three components: a source (either user-generated or naturally occurring vibrations), sensors and cabling to detect the seismic waves as they move through the subsurface (geophones on land, hydrophones in water) and an instrument (seismograph) to record that motion for later analysis. Seismic methods are highly useful for bedrock detection, lithological characterization, earthquake-resilience studies, identification of cavities, fractures, and fault zones, as well as groundwater, mineral and petroleum prospecting. The course bridges the gap between seismic data acquisition and georesource exploration through a blend of theoretical lectures, case studies, seismic field data collection, and hands-on (practical) sessions. This program is specifically tailored for professionals, students and researchers seeking to bridge the gap between academic theory and industrial application. Throughout the course, you will master the deployment of controlled seismic sources to image the subsurface and learn to decode the signatures of vital georesources.

Mastering Seismic Techniques for Precision Imaging: This course will focus on:

- Principles of wave generation, propagation, and the physics of the seismic response.
- Instrumentation Ecosystem (OBS, Geophones, etc.) & Strategic Survey Design.
- Data Processing Pipeline (Advanced workflows for noise suppression, velocity analysis, stacking, migration, seismic inversion, etc.)
- Practical Labs & Case Synthesis: The Expert Workflow

Methods of Instruction:

All instruction is rigorously aligned with real-world field conditions, ensuring your training is grounded in practical reality rather than just textbooks. These mastered workflows are designed for immediate application to the complex challenges faced by the modern energy and mineral industries.

Faculty:

The training will be conducted by leading experts from NGRI and other reputed universities, all with extensive experience in the field

Selection Procedure:

Selection will be on a first-come, first-served basis, subject to seat availability.

Sponsorship:

Established academic institutions/Government organizations/ industrial sectors are welcome to sponsor candidates of their interest.

Duration : 5 Days
Mode of Training Course : Offline
Number of Seats : 30
Certification : A certificate will be issued to the participants for the successful completion of the course

Venue: CSIR- National Geophysical Research Institute, Uppal Road, Hyderabad - 500007

2. Eligibility

This program is designed for individuals aiming to build advanced competencies, spanning from foundational knowledge of Deep Seismic Sounding (DSS) for geoenergy exploration to cutting-edge techniques in subsurface imaging and mapping, with a strong emphasis on practical applications.

The candidates will also benefit from:

- ✓ Comprehensive course material, tutorials, interactive sessions and reference resources
- ✓ A career-defining experience at India's top Geophysics Institutes

Educational Qualifications:

A Master's (M. Sc. / M. Sc. (Tech.) / M. Tech) and/or PhD degree in Geophysics/ Applied Geophysics / Earth Sciences / Geological Technology / Physics, or sponsored candidates from established academic institutions/ Government organizations/ industrial sectors.

Nationality: Indian

3. Technical Requirements

Participants will be trained on the importance and applications of seismic methods, followed by hands-on exercises using both commercial software and open-source codes. Therefore, they are requested to bring their own laptops with adequate computational capacity.

4. Required Documents

The interested candidates may apply through the online link given below: (https://www.ngri.res.in/cms/skill-development.php) and has to upload the following documents in the application form:

1. Proof of age (SSC/Aadhar Card/Pan Card)
2. A copy of the last examination passed
3. ID proof (College/ Institute/ Employer) & Address proof (Aadhar Card)
4. No Objection Certificate (NOC) from the Institution / Employer
5. Self Declaration form (for those candidates who are currently not pursuing any higher degree or are unemployed/not getting any fellowship).

5. Important Dates

Duration: 14-18 December, 2026

Last Date for Applying: 20 November, 2026

6. Charges

Course Fee:

- Rs. 1500/- +18% GST= 1770/- (for those who are pursuing the Bachelor's/Master's degree)
- Rs. 3,000/- + 18% GST = 3540/- (for those candidates who completed their Master's or pursuing Ph.D or working as Project Assistant/Associate/Senior Project Associate)
- Rs. 6,000/- + 18% GST = 7080/- (for those candidates who have completed their Doctorate degree or pursuing Post Doctorate or Faculty or Industry sponsored)
- Course fee includes Training Fee, Course Material, Working Lunch, Tea, Snacks and Yoga Classes. It should be paid online by the candidate at the time of submitting the application form.

Food:

Breakfast and dinner will be available at nominal rates in the CSIR-NGRI Campus and will be payable by the participants.

Accommodation Charges:

- **CSIR-NGRI Guest House (twin sharing basis):** ₹600/- per head per day for the first 6 days, ₹1200/- per head per day from the 7th day onwards.
- **Skills Development Quarters (twin sharing basis):** ₹100/- per head per day.
- **Staff Quarters/Research Scholars' Hostel (twin sharing basis):** ₹50/- per head per day.

7. Training Coordinator(s)

Dr. Biswajit Mandal, Scientist - F
Email: bmandal.ngri@csir.res.in
Contact Details: 040-2701 2702 (O) / +917569764219

Dr. Damodara Nara, Scientist - D
Email: naradamu.ngri@csir.res.in
Contact Details: 040-2701 2765 (O) / +919553653654

8. Extra Curriculum Activities

- Yoga Classes with expert Trainer
- Quiz Competition/Running/Cultural Programs (Dance/Singing)

9. Program Management Committee

Nodal Officer: Dr. Abhey Ram Bansal, Scientist - G
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Dr. Satendra Singh, Sr. Technical Officer
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Office Contact: 040-2701 2325/2810

10. Chairman

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11. Visit Us

https://www.ngri.res.in/cms/skill-development.php

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