



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



CSIR Integrated Skill Initiative

प्रशिक्षण कार्यक्रम
(सीएसआईआर की एक एकीकृत कौशल पहल)

Training Program

(CSIR-Integrated Skill Initiative)

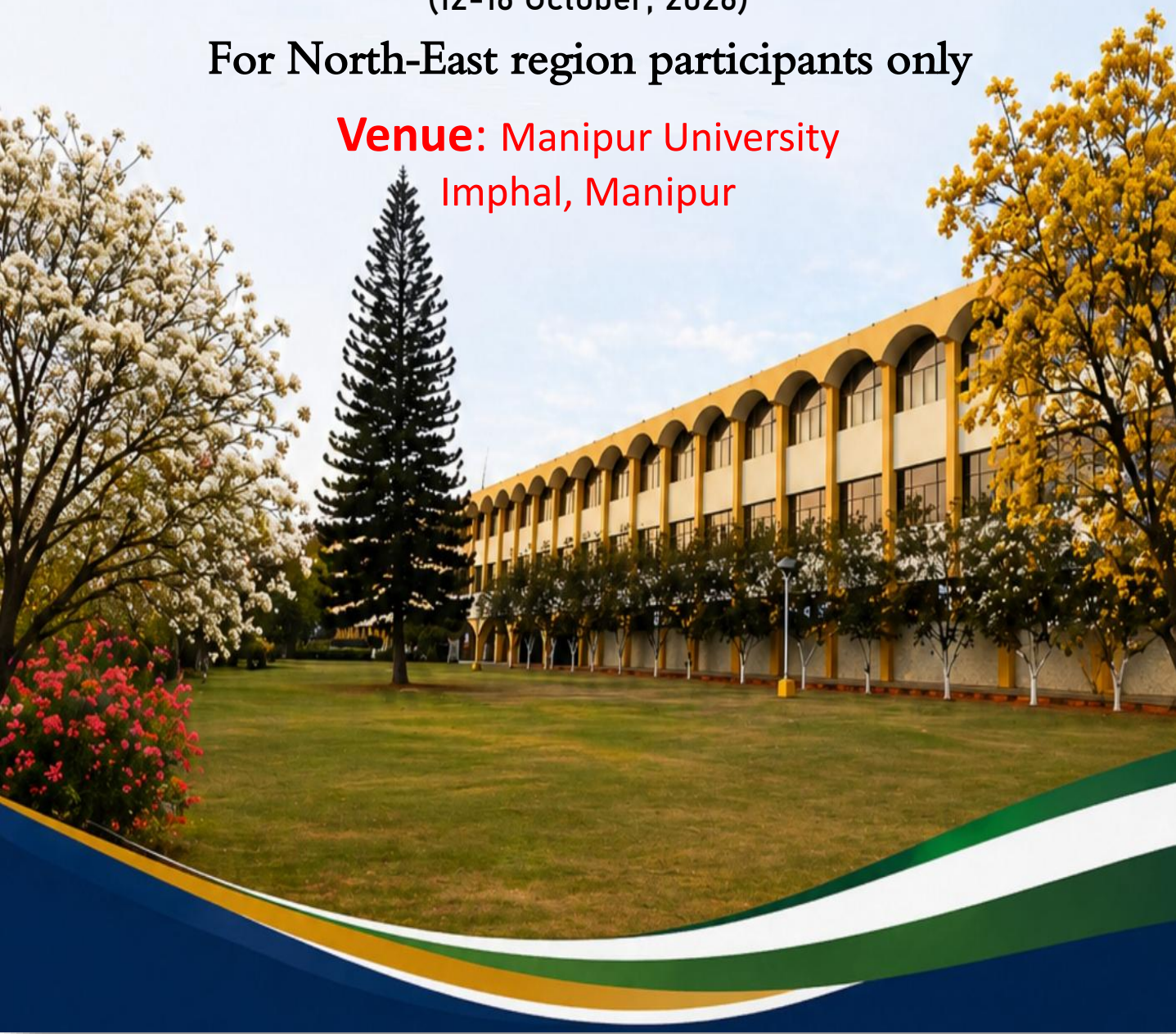


Seismic Hazards

(12-16 October, 2026)

For North-East region participants only

Venue: Manipur University
Imphal, Manipur





About CSIR-NGRI



The **CSIR–National Geophysical Research Institute (CSIR–NGRI)**, a premier constituent laboratory of the **Council of Scientific & Industrial Research (CSIR)**, was established in **1961** to undertake multidisciplinary research on the structure, composition, evolution, and dynamics of the Earth system and its interconnected subsystems. The Institute is committed to generating public-good science that enables government agencies, and public and private sector stakeholders to make informed decisions on the sustainable utilization of geo-resources while strengthening preparedness and resilience against natural hazards.

CSIR–NGRI's research is organized under three major themes: **Geodynamics**, which investigates the fundamental processes governing the Earth system; **Earthquake Hazards**, which focuses on earthquakes, active tectonics, crustal deformation, landslides, and related environmental challenges; and **Natural Resources**, which addresses the exploration and sustainable management of groundwater, hydrocarbons, minerals, and alternative energy resources through advanced geophysical, geological, and geochemical techniques.

Under the Earthquake Hazards programme, CSIR–NGRI has made significant contributions to seismic hazard studies across India through earthquake monitoring, seismotectonic investigations, active fault mapping, paleoseismology, crustal deformation studies, and seismic hazard assessment. To continuously monitor seismic activity and improve the understanding of seismogenic processes in Northeast India, CSIR–NGRI established an Extension Centre at Tezpur, Assam, in 1988, to monitor seismic activity of the region. During the 2010s, CSIR–NGRI deployed 35 broadband seismic stations across the Arunachal Himalaya in two phases. Currently, the institute operates several broadband and strong-motion seismic stations along the Kopili Fault. The high-quality data generated from these networks have enabled precise earthquake detection, hypocentral location, imaging of crustal and mantle structures, active fault characterization, and seismic hazard assessment, providing valuable insights into earthquake source processes and the tectonic evolution of the India–Eurasia collision zone and the Indo–Burma subduction system.

The Institute is organized into seven R&D Groups and twenty-one research activities, with expertise spanning Seismology, Magnetotellurics, GPS and Geodesy, Paleoseismology, Structural Geology, Controlled Source Seismics, Gravity and Magnetism, Geochemistry, Geochronology, Paleomagnetism, Planetary and Polar Geophysics, Geomagnetism, Airborne Geophysics, Shallow Subsurface Geophysics, Rock Mechanics, Hydrochemistry, Paleo-environmental Studies, and Earth Process Modelling and Simulation. Through its multidisciplinary research and state-of-the-art observational capabilities, CSIR–NGRI continues to advance Earth science while delivering scientific solutions for disaster risk reduction, sustainable resource management, and national development.



1. About Manipur University

The legacy of Manipur University began on June 5, 1980, when it was initially established as the State University under the Manipur University Act 1980. Initially, the main objective of the University was to provide higher education and to give affiliation to the colleges within the state. Subsequently, it became a Central University through the Manipur University Act 2005, passed by the Parliament on October 13, 2005. Manipur University is a well-known public central university in Imphal, Manipur, India and aims at promoting quality higher education, academic development, and research in the northeast of India. The University is playing a major role in shaping the future of academics, strengthening educational infrastructure, and contributing to a myriad of growth in different levels and aspects of the local society and environment. The campus is located about 7 km away from Imphal at Canchipur, an area that is historically known for housing the old palace site associated with the ruler Maharaja Gambhir Singh in the 19th century and spans over 287.53 acres. The campus provides a green and peaceful environment supporting research and study. At present, the University has 9 Schools of Studies under which 47 Departments and 7 Centres of Studies are operating. The total student strength is more than 7000. Around 119 colleges are affiliated with the University, including 3 medical colleges of national and regional importance. The University has several undergraduate, postgraduate, and doctoral programs in fields of humanities, natural sciences, social sciences, and engineering. The Manipur Institute of Technology, or MIT, operates under the School of Engineering, a constituent college of the University. The University plays a significant role in the academic, social, and economic development by promoting and conducting various cultural programs, conferences, seminars, and workshops for the advancement of knowledge and research. Many distinguished alumni of Manipur University, who are of national and international fame, have carried the legacy forward. The main vision and mission of the University are to educate the youth of the region and make them responsible so that they can contribute to the overall development of the nation.

2. About the Earth Sciences Department

The Department of Earth Sciences, established in 1984, offers M.Sc. and Ph.D. programs in Earth Sciences. The department has developed into a well-equipped academic and research unit with modern laboratories and teaching facilities. Its research activities focus on key areas of Earth System Sciences, including earthquake monitoring, geochemistry, geochronology, petrology, crustal evolution, tectonics, geomorphology, remote sensing, sedimentology, palaeontology and geohydrology. Graduates from the department have been employed by national organisations, such as the Geological Survey of India, through recruitment by the Union Public Service Commission.

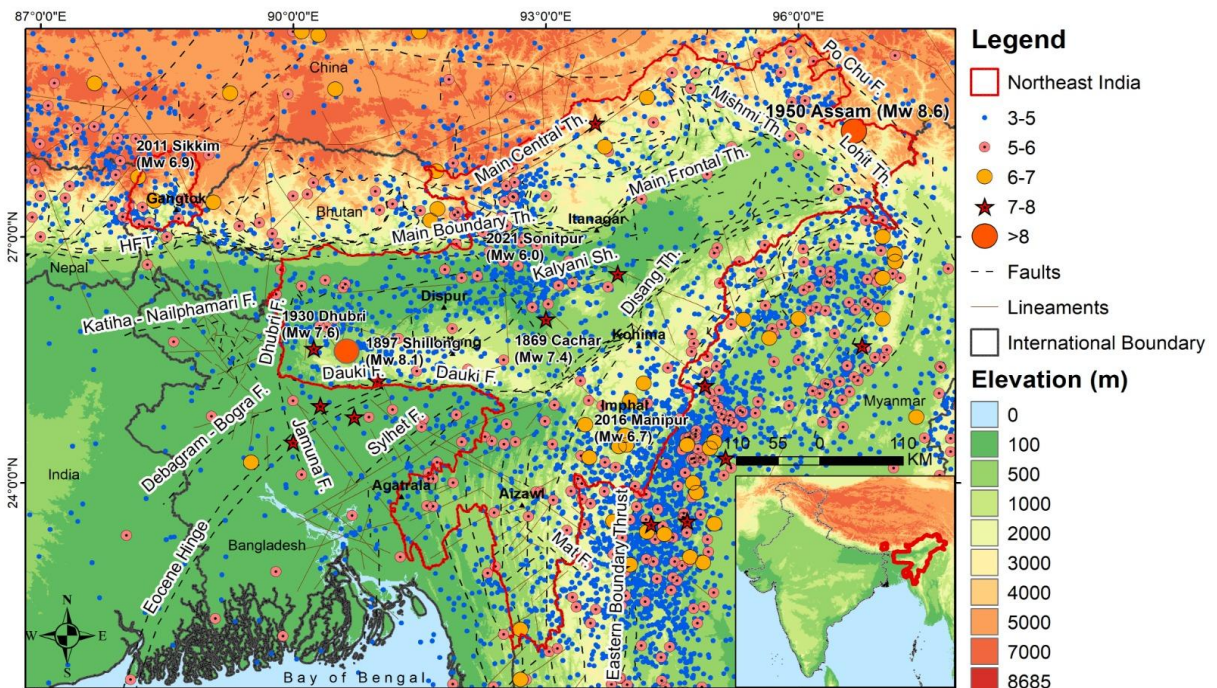
Venue: Manipur University, Indo Myanmar Road, Canchipur, Imphal, Manipur-795003



<https://maps.app.goo.gl/AoNzv5jWqsdmJ3NTA>

3. About the Training Program

Northeast India is one of the most seismically active region in the world due to the convergence of the Indo-Eurasian plate. Due to this convergence, the Northeast India is experiencing collision in the north and subduction in the east, resulting several devastating earthquakes, including the 1897 Shillong earthquake (Mw 8.1), the 1950 Assam earthquake (Mw 8.6) and the 1988 Indo-Burma earthquake (Mw 7.3). The occurrence of frequent small-to-moderate earthquakes highlights the high seismic potential of the region. The diverse tectonic settings oblige unique challenges for understanding earthquake processes and assessing seismic hazards. Advancing scientific knowledge of active tectonics, crustal deformation, and earthquake occurrence is therefore essential for improving seismic hazard assessment, disaster preparedness, and the resilience of critical infrastructure across the Northeast India. This Training Program is designed to introduce the fundamental concepts of seismology, seismic hazard assessment, and emerging Artificial Intelligence and Machine Learning (AI/ML) applications in a simple and practical manner. Participants will learn about earthquakes, seismic waves, earthquake monitoring, source mechanisms, ground-motion characteristics, and methods used to evaluate seismic hazards. The program also provides hands-on training in softwares like SEISAN/Seismic Analysis Code(SAC), Python programming and ObsPy framework for acquiring, pre-processing, visualizing, and analyzing seismic waveform data. Also, participants will get an exposure on application of AI/ML in earthquake detection, classification, and event characterization through lectures, discussions, and practical sessions.



Seismotectonic map illustrating the epicenters and major tectonic features of Northeast India

About the Training Program

Methods of Instruction

The Training Program is intended for students, researchers, engineers, faculty members, and professionals interested in earthquake science. It aims to enhance awareness, improve technical knowledge, and encourage the use of scientific information for building a safer and more resilient society.

Faculty

The training will be conducted at Manipur Central University by experts and leading seismologists from CSIR-NGRI, Hyderabad.

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

4. Eligibility

The Program targets individuals who desire to acquire high-level skills to understand the core components of Seismic Hazards and to emphasize its importance applications in real life domain using various types of data sets.

Educational Qualifications:

M.Sc. or Ph.D. (pursuing/completed in any science stream) /early career scientists /working professionals/ Scientist working in Govt. of India R&D institutions etc.. Preference will be given to the students with Earth System Science background.

Nationality: Indian (Participants will be only from North-East region).

5. Benefits for Participants

- Develop a strong foundation in seismology, including seismic waves, source mechanisms, ground motion, and seismic hazard assessment.
- Gain hands-on skills in seismic data analysis using SEISAN, SAC, Python, and ObsPy for waveform acquisition, processing, visualization, and interpretation.
- Receive direct mentorship from leading domain experts and develop practical research & analytical skills through seismic datasets, computational exercises, and case studies.
- Enhance academic and professional capabilities for research and career opportunities in seismology, geophysics, seismic hazard assessment, and AI/ML-based earthquake studies.
- Learn the application of AI/ML in advanced seismology, including earthquake detection, classification, seismic phase identification, and event characterization.

6. Technical Requirements

Participants will be trained about importance and applications of Seismic Hazards followed by Hands-on Exercises and Group Strategy Simulations; therefore, they are requested to bring their own laptops with good computational power.

7. Required Documents

The interested candidates may apply through 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 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 unemployed/not getting any fellowship).

8. Important Dates

Duration: 12-16 October, 2026

Last Date for Applying: 20 September, 2026

9. Charges

Course Fee:

- Rs. 500/- +18% GST= 590/- (for those who are pursuing the Bachelor's/Master's degree)
- Rs. 1,000/- + 18% GST = 1180/- (for those candidates who completed their Master's or pursuing Ph.D. or working as Project Assistant/Associate/Senior Project Associate)
- Rs. 2,000/- + 18% GST = 2360/- (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 and Snacks. It should be paid online by the candidate at the time of submitting the application form.

Food

Working Breakfast, Lunch and Dinner will be provided to all the participants.

Accommodation

- **Accommodation will be arranged at Manipur University Campus only on sharing basis.**

10. Training Coordinator

Dr. Abhey Ram Bansal, Scientist - G

Email: arb.ngri@csir.res.in

Contact Details: 040-2701 2810 (Office)

11. Extra Curriculum Activities

Quiz Competition/Running/Cultural Programs (Dance/Singing)

12. Faculty from CSIR-NGRI

- Dr. Prakash Kumar, Director
- Dr. Abhey Ram Bansal, Scientist-G
- Dr. Shashidhar D, Scientist-E
- Dr Nitin Sharma, Scientist-D
- Dr. Sunil Roy, Scientist-D
- Dr Pavan Kumar Vengala, Scientist-D

13. Program Management Committee at Manipur university

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Email: hod.earthsc@manipuruniv.ac.in

Prof. Maibam Bidyananda
Dept. of Earth Sciences

14. Training Coordinator at Manipur University

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Assistant Professor, Manipur University
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15. Local Organizing Committee at Manipur university

- Dr. L. Gopeshwar Singh, Associate Professor
- Dr. Y. Rajesh Singh, Assistant Professor
- Dr. Sarda Maibam, Assistant Professor
- Dr. K. Radhapiyari, Assistant Professor
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Dept. of Earth Sciences, Manipur University

16. Program Management Committee

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18. Visit Us



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