Short Course
on
Advanced SAR Techniques & Data Analysis for Hazard Mapping, Monitoring and Impact Assessment
September 28-October 09, 2026

Organized By

Indian Institute of Remote Sensing
Indian Space Research Organisation
Department of Space, Govt. of India, Dehradun
www.iirs.gov.in

Background

The increasing frequency and complexity of natural hazards demand timely, reliable, and quantitative Earth observation for effective disaster risk reduction. Spaceborne Synthetic Aperture Radar (SAR), with its all-weather, day-and-night imaging capability, has emerged as a critical technology for observing hazard processes and their impacts. Advances in multi-frequency SAR missions, interferometry, polarimetry, tomography, and persistent-scatterer techniques enable detailed characterization of surface deformation, terrain instability, cryospheric changes, vegetation disturbance, and earthquake-induced damage, while this course provides advanced understanding of SAR techniques and data analysis for their integration with geospatial methods in hazard mapping, monitoring, and impact assessment.

About IIRS

Indian Institute of Remote Sensing (IIRS) is a premier institute with a primary aim of building capacity in Remote Sensing and Geoinformatics technologies and their applications through training & education, research, and outreach programmes since its inception in 1966. IIRS is a Unit of the Indian Space Research Organisation (ISRO), Department of Space, Government of India. IIRS also hosts the headquarters of the Centre for Space Science & Technology Education in Asia and the Pacific (CSSTEAP), which is affiliated with the United Nations.

Objective of the course

To provide advanced knowledge of spaceborne SAR techniques and data analysis methods for accurate hazard mapping, monitoring, and impact assessment.

Target Participants

The course is designed for working professionals and disaster management practitioners. Preference will be given to professionals from Government departments and public sector organizations. Research scholars and students are also encouraged to apply if they meet the eligibility criteria mentioned in the course calendar.

Course Content

Course will broadly cover the following topics:

- Advanced SAR Data Processing and Analysis
- SAR Backscatter Analysis for Hazard Characterization
- InSAR and DInSAR for Deformation Monitoring
- PolSAR and PolInSAR for Target Characterization
- PSInSAR for Multi-temporal Deformation Monitoring
- SAR-based Hazard Mapping, Monitoring and Impact Assessment
- Practical Applications and Case Studies

Number of seats & Eligibility

Twenty-five (25) participants will be selected for the course. Refer to the Course Calendar for details on the essential qualifications required to apply, available on the IIRS website at https://admissions.iirs.gov.in/coursecalender

Accommodation

The lodging and boarding facilities will be provided to the selected candidates at IIRS. Local candidates will be considered for hostel accommodation only if available. No accommodation will be provided to the accompanying person/ children. Indian cuisine is served in the hostel mess.

How To Apply

Complete the online application form available on the IIRS website at https://admissions.iirs.gov.in
Incomplete applications will not be considered for selection. The last date to apply for the course is August 09, 2026 (17:30 hrs.).

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