Background

Surveying techniques, Remote Sensing and Geographical Information System (GIS) offers a copious opportunity for monitoring natural resources at different scales. The retrieved information helps to decision makers to formulate relevant policies for effective management of natural resources (e.g. forest, agriculture, water, soil, natural hazards, etc.). Over the decades, natural resources are under tremendous pressure due to human activity and its interaction. It accentuates the occurrence and intensity of natural extreme events, causes enormous damage in our geo-environment as well as losses of human lives and properties. With the availability of satellite data from different sensors (e.g. optical, thermal, microwave) of various platforms (e.g. space-borne, SAR, UAV, LiDAR) with a wide range of resolutions have made Geospatial technologies as, perhaps, the best source of data for large scale applications in the field of ecology, atmospheric and marine sciences, meteorology, agriculture, forestry, demography, healthcare, disaster management, military forces, law enforcement, logistics and transportation, and many others.

The Remote Sensing based measurement with integration of geospatial pathways and surveying methods bridged the earth surface data and science to unfold the complex geo-environmental processes and their causalities. The repository of geospatial data cube has been rapidly expanding, from an array of sources e.g. satellite sensors, SAR, UAVs or drones and camera etc. to monitor the earth surface, subsurface and atmosphere. Along with data volume, the efficiency of data processing, analysing and visualizing platforms are getting more optimized and sophisticated to handle a large volume (big data) of data over planetary and long temporal scale. The fusion of advance statistical modelling, machine learning (ML) and deep learning (DL) tools bestowed another height to advance the geospatial researches.

The focus of this summer training program is to strengthen the bridge between the utility of surveying techniques, data processing and its application in different field of study. A demonstration will be provided on theoretical aspects on resistivity meter, LiDAR, Drone its processing and analysis using software like R-CRAN, Google Earth Engine and Python. The motive of the training is to make the Industry, students and research scholar familiar with the upcoming techniques and datasets that can be utilized for their future research purposes. This will help for bridging Government, Industry, and Academia toward Innovation and Sustainable Solutions.

Patron—Prof. Kshiti Bhushan Das, Hon'ble Vice Chancellor, Central University of Jharkhand, Ranchi

Organizing Committee:
Chairman– Prof. Manoj Kumar, Dean SNRM, CUJ
Prof. A.C. Pandey, Chairman-ISG Ranchi Chapter

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Dr. Somnath Rudra, Associate Professor & Head, Dept. of Geography

Dr. Anurag Linda, Associate Professor, DEVS

One Week Summer Training Program

on

Advanced Surveying with Resistivity meter, LiDAR, Drone and Geoprocessing Tools

8–12 July 2025

Organized Jointly by:

Department of Geoinformatics, Central University of Jharkhand, Ranchi &

Indian Society of Geomatics (ISG)-Ranchi Chapter &

Vigyan Bharati Jharkhand

Themes

- Resistivity Surveying and Post Processing
- LiDAR Surveying and Post Processing
- Drone Surveying and Post Processing
- GEE and R-CRAN for Big Spatial Data Analytics
- Python Programming and Geoprocessing

Objectives

a) To address the technical skills required for Geospatial technologies and Big Data Analytics for Natural Resources Application, Disaster Management, and Climate Change.

b) To train the young minds to learn the latest modern surveying techniques for better governance and societal benefit through Earth Observation Satellite Data and Big Data Systems.

c) Resistivity meter, UAV and LIDAR surveying and applications

Working modality for the Training Program

The 5 days summer training will cover field based surveying demonstration on recent development of surveying methods and big spatial data analytics. The motive of the training session is to focus the skill development in the domain of remote sensing and big data analytics for various application on environmental, human and climate change. Master students and research scholars will be given preference.

Participants & Eligibility

The Training Program expects to bring around 50 participants from various regional, national, and international public and private organizations, academic and research institutions including:

- Students and Researchers involved in the use of Earth observation and Data Processing.
- Faculty and scientist from academic and research institutions, decision-makers from government agencies (Remote Sensing Centres, Space Application Centers, Ministry of Environment-Forest and Climate Change, Water resources, Disaster management etc.)
- Representatives of the private sector involved with Space and Earth observation, disaster management, environmental monitoring, etc.)

Eligibility Criteria:

- Candidates must hold a Bachelor's degree or equivalent qualification with basic working knowledge in Remote Sensing and GIS. Furthermore, ongoing Master/Ph.D. students in Geoinformatics are highly encouraged to opt this benefit.
- Selection of applicants is subject to fulfillment of the minimum eligibility criteria and domain of work in relevant areas, including programming skills.

Languages: English

Venue: Academic Building-I, Room no: G18 & 324, Department of Geoinformatics, Central University of Jharkhand, Cheri-Manatu, Ranchi-835222, Jharkhand

Important Dates

Submission of online Application Ends- **30 June 2025**

Contact & Queries: Dr. Bikash Ranjan Parida
geoinfo.conference@gmail.com

Registration

The registration fee is ₹ 750 /- for students and Ph.D. Scholars and ₹ 1250/- for others. Certificate will be provided for registered participants. A field tour (local) will be organized for the participants. Pay registration fee to the given PNB Bank account.

Bank A/C Number: 7277000100006806

A/C Name: INDIAN SOCIETY OF GEOMATICS-RANCHI CHAPTER; IFSC Code: PUNB0727700

Address: Punjab National Bank (PNB) at Manatu, Ranchi-835222

How To Apply: Fill this Google form:
https://forms.gle/F5oAfMWk3gkmWJk97

HOW TO REACH

By Air

Birsa Munda airport at Ranchi city, Jharkhand, India is 29 Kms away from the University. It takes around 45 minutes by a taxi to reach the university.

By Train

Ranchi railway station is 19 Kms away from the university and it takes approximately 40 minutes to reach the venue via taxi. Hatia railway station is around 25 Kms from the university and it takes approximately 40 minutes to reach the venue via taxi.

By Roadways

The National Highway (NH) 60A and NH 2 connect Ranchi with Kolkata and NH 33 and NH 99 connects it with Patna. The university is located in Cheri-Manatu village connected with the NH via Ranchi Ring road.