## REGISTRATION FORM

Name (in Block Letters):

______________________________________

Designation:______________________________

Qualification______________________________

Institute/Organization:______________________

Postal Address:

______________________________________

______________________________________

______________________________________

City:________________Pin Code:____________

Mob.No:_________________________________

Email ID_________________________________

Please tick the appropriate choice for your accommodation requirement in the box given below:

Not required ☐

Accommodation required in the hostel ☐

Accommodation required in hotel ☐

**Registration Fee Payment Details**

Bank Name: __________________________

Payment details:________________________

Date: ______________ Amount: ___________

*Place* *Date* *Applicant's Signature*

## PATRON

**Dr. K. K. Shukla**
*Director,* MANIT Bhopal

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**Dr. B. Nagarajan**, Visiting Professor, IIT Kanpur
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**For online submission of application for the participation, use following google form link:**

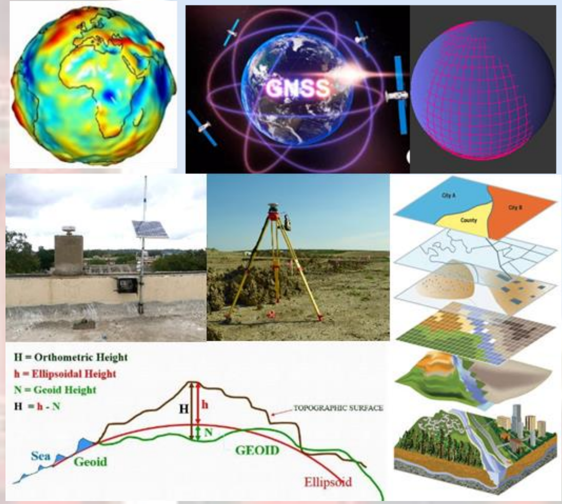
https://docs.google.com/forms/d/e/1FAIpQLSfyXPbLKaQrikeneqYyq9dmqvWJUbCWr8_V104sm_vD8eegig/viewform?usp=sf_link

*Short Term Training Program (STTP)*

on

# INTRODUCTION TO GEODESY AND ITS SIGNIFICANCE IN RS & GIS APPLICATIONS

*(10th to 14th June 2024)*




*Organized by*
**Civil Engineering Department**

**MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL-462003 (M.P.), INDIA**

*Under the DST funded project*

**REGIONAL CENTRE FOR GEODESY (RCG)**

विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

## BACKGROUND

Maps are required for the activities of different walks of life and these have an important role in the development and planning process. **Geodesy** is the science dealing with the measurements on the earth, and the Surveying Technology is a branch of it. In the present scenario, the satellite-based data from Remote Sensing **(RS)** technology and Global Navigation/ Positioning Satellite Systems **(GNSS/GPS)** are preferred due to their reliability, accuracy and temporal coverage. Also, various type maps are stored and analyzed in the digital form on computers by using Geographic Information System **(GIS)**. Because of above three-geospatial technologies namely, **RS, GIS** and **GNSS/GPS**, the Surveying technology has got new name; **Geoinformatics** or **Geomatics Engineering**.

Nowadays, the use of satellite-based mapping data in the GIS environment is very much in use for various applications like planning & execution of engineering projects, natural and manmade disaster mitigation, national security etc. In order to achieve full potential of presently available high-resolution **RS** data and geodetic level accuracy positioning from **GNSS,** proper understanding on the fundamentals of Geodesy is essential. This is due to fact that, knowledge of Geoid, Earth shape modeling, Global & Local datums, map projection, coordinate systems and related terminology and recent developments, is very much critical in the use of satellite-based mapping data.

Looking into the above-mentioned importance of Geodesy knowledge, **Govt. of India** has taken various initiatives for meeting the requirements of various group users like natural resource management, disaster mitigation, infrastructure development, defense and other sectors. The geospatial data policy has been formulated and documented and pioneer govt. agencies involved in the mapping/imaging fields like Survey of India **(SOI)** and Indian Space Research Organization **(ISRO)** are promoting the use of open-source data from their web portals like SOI Geoportal, CORS Web Application, Bhoonidhi & Bhuvan from **ISRO**.

## ABOUT THE SHORT-TERM TRAINING PROGRAM

In this program participants will get opportunity for getting theoretical knowledge on the fundamentals of Geodesy and its key aspects related to RS & GIS applications. Practical sessions will be held on the use of modern instrumentation like Differential Global Positioning System **(DGPS),** Continuously Operating Reference Stations **(CORS)** and GNSS data processing. Participants will also learn the use of open-sources data and techniques related to Geodesy. In this course, the resource persons will be from institute as well as reputed organizations & Main contents of this STTP are:

- *Basic concepts of Geodesy*
- *Current national and global scenario in the area of Geodesy research and opportunities*
- *Overview of national Geospatial data policy*
- *Earth shape modeling using Geoid and Ellipsoid model*
- *Global and Local datums and coordinate systems*
- *Map projection and its types*
- *GNSS principle, components, instrumentation and data collection methods*
- *DGPS Survey & CORS data processing.*
- *GNSS/GPS Survey field data collection*
- *Open-source data resources, software and techniques in Geodesy computations*
- *Important aspects of Geodesy for the use of RS and GIS data in different applications*

## REGISTRATION PROCEDURE AND FEE

In this STTP number of participants will be limited to around 30, hence selection will be done on first come first serve basis. Interested participants can submit their application along with the applicable registration fee payment proof, through email/post as well as Google form entry through link provided in this brochure. The course registration fee includes expenses on the participants' kit, working lunch and tea during program. Fee amount for different category participants and bank details for the payment are as given below:

| Category of Participants | Fee |
|---|---|
| Field Engineers & Industry Professionals | Rs. 3,500/- |
| Academic and research organizations | Rs. 3,000/- |
| Research Scholars/Students | Rs. 2,000/- |

**Bank Details:**

Bank name & branch: State Bank of India, MANIT Bhopal
Account Name: Director MANIT Bhopal
Account Number: 10020150107
IFSC Code: SBIN0001608
MICR Code: 462002014

## ACCOMODATION ARRANGEMENTS

Accommodation for the outside participants will be arranged in the institute boys/girls hostels on the payment basis and charges for the same will be around Rs. 500/- per day in addition to registration fee. Participants willing to stay in the hotels may indicate their choice accordingly on the registration form and they will be provided details of nearby hotels. Hotel accommodation charges will be in the range of Rs. 2,000 to 3,000 per day.

## ABOUT MANIT BHOPAL

The Maulana Azad National Institute of Technology (MANIT) was formerly known as Maulana Azad College of Technology (MACT) started in the year 1960. MANIT Bhopal is *an institute of national importance under the control of MHRD, Govt. of India.* The institute is located in the heart of Bhopal city at a distance of around 09 km from Bhopal railway station and twenty km from Bhopal Airport. Civil Engg. Deptt. is running UG course since the inception of the institute and presently seven PG programs are ongoing. The Surveying & Remote Sensing laboratory of the department is well equipped with the latest modern instruments and contributing research and consultancy services to various reputed agencies. Recently, Department of Science & Technology **(DST)** has funded the project for the establishment of **Regional Centre for Geodesy** in association with **NCG, IIT Kanpur** and other reputed institutes in India namely *IIT Bombay, IIT Dhanbad, IIST Trivandrum, MNNIT Allahabad & Anna University*.