National Geospatial Programme, Department of Science and Technology (DST), Govt. of India

The Department of Science and Technology (DST) has identified Geodesy as a pivotal domain crucial for national development. As a result, DST has launched the National Centre for Geodesy (NCG) at IIT Kanpur with the objective of cultivating highly skilled technical professionals and advancing geodetic infrastructure. NCG's mission is to foster a proficient workforce and provide cutting-edge facilities within the local context. Functioning as the primary hub at IIT Kanpur, NCG extends its reach by establishing Regional Centres of Geodesy (RCGs) at other institutes. The Institute of Remote Sensing (IRS) serves as an RCG, actively engaging in the organization of training and research programs in Geodesy to cater to the evolving infrastructure needs essential for nation-building.



Chief Patron

Dr. R. Velraj, Vice-Chancellor, Anna University, Chennai

Patron

Dr. J. Prakash, Registrar, Anna University, Chennai

Co-Patrons

Dr. K. Eswarakumar, Dean, CEG and Dr. K. P. Jaya, HoD, Civil Engineering

Course coordinators

Dr. R. Vidhya, Professor & Director, IRS and Dr. K. Srinivasa Raju, Professor, IRS

> Website https://irs.annauniv.edu/irs/

Registration Link https://forms.gle/3jJUXxoEiN5kjWjb9

Or Scan the below QR code to register



Last date of registration: 9th August 2024



Short-Term Training Program on **Exploration of Geodetic Measurement Techniques**

Sponsored by



DEPARTMENT OF TECHNOLOGY

National Geospatial Programme (NGP), **Department of Science & Technology**, Govt. of India

> 19th to 24th August 2024 Organized by



Regional Centre for Geodesy (RCG), **Institute of Remote Sensing**, Anna University, Chennai, Tamil Nadu

About Anna University

Established in 1794 as a School of Survey, College of Engineering Guindy (CEG) at present has 17 Departments and 17 Research Centres where research programs are offered. Throughout its history, CEG has championed innovation, evident in achievements like the launch of the microsatellite ANUSAT, showcasing its commitment to cutting-edge research and technological advancement.

By ensuring close ties with industry, excellent research practices, and extra-curricular options, the institution advances the progression of the student's quest for knowledge. The faculty along with the excellent student population makes the campus one of the best places to study in the nation. Anna University offers 29 UG and 90 PG Programmes in various disciplines in the University Departments and 41 UG and 57 PG programmes in Affiliated Institutions.

About IRS

The Institute of Remote Sensing (IRS) was established in 1982 by Anna University with the funds provided by the Government of Tamil Nadu. IRS is also functioning as State Remote Sensing Application Centre for the Government of Tamil Nadu. Over the years, the infrastructural facilities have been gradually built-up using development grants mainly from Ministry of Human Resources Development, University Grants Commission, Federal Republic of Germany, Government of India and Department of Agriculture of Government of Tamil Nadu.

At present, the Institute is rated as one of the best in the country in the areas of Remote Sensing, Geographical Information System and Large-scale Mapping. The Institute functions as an autonomous unit of Anna University, governed by an executive committee headed by the Vice- Chancellor and other members from premier research institutions, Govt. organization and Industries. As an externally assisted project, Federal Republic of Germany has provided assistance worth 7 million DM towards equipment, exchange of staff and for conducting a 4-year engineering Under-Graduate program, B.E. (Geoinformatics). The Institute has various laboratories equipped with sophisticated instruments and machinery. The Royal Norwegian Embassy as a part of Indo Norwegian Institutional Cooperation Programme has supported the institute to a tune of 1.1 crores for selected research projects and infrastructure development.

Objectives of RCG

- Organizing outreach activities
- Capacity building
- Conducting state-of-the-art R&D activities
- Acting as the Regional Resource Centre for extensive support (laboratory, equipment, training, library, SW, etc.) to students, researchers and state government departments

About this Program

This six-day program is meticulously crafted to provide a valuable learning opportunity for faculty members & budding researchers aiming to bolster their grasp of the theoretical underpinnings and processing methodologies of Geodesy. Serving as a dynamic platform, the event will facilitate the exchange of insights, needs, and obstacles encountered in applying and advancing Geodesy.

By nurturing a basic understanding of Geodesy among the participants, this training program endeavours to help them realize the effectiveness of using geodetic techniques in climate change, environmental monitoring, geological & geophysical studies, and to bolster forthcoming initiatives in geodetic research & teaching.

Major Topics of Discussion

- Introduction to Geodesy: Principles & Practices
- · Advanced Land Surveying techniques with hands-on training
- Fundamentals of Satellite Geodesy & GNSS positioning
- Techniques and Applications of GNSS and Differential Positioning
- Demo & hands-on training on Post-processing of Static GNSS Survey data using Trimble Business Centre (TBC) software.
- Physical Geodesy: Reference Systems, Frames, and Modern Applications
- GNSS based CORS network and its establishment
- Demonstration & hands-on training on the usage of GAMIT / GLOBK software for precise processing of IGS network data
- Evolution and fundamentals of Gravity Measurement Techniques in Physical Geodesy
- Methods in Satellite-Based Geodesy with respect to Orbit Determination and Tracking
- Latest Perspectives in Gravimetry and Space Geodetic Data Analysis
- Marine Geoid Mapping and its Applications

Target Audience

Faculty members or research scholars enrolled under the Department of Civil Engineering at any academic institution.

Seat Limitation

Seats are limited to **20 (Twenty)** participants. Selection of participants will be based on their work experience and/or present status of their research with a copy of their Ph.D Registration certificate / Research scholar or Faculty member ID card.

Important Information

Last date of registration : August 9, 2024 Date of notification of selection: August 13, 2024

Mode of Conduct: Offline

No. of Seats: 20

Registration Fee: Nil







REGIONAL CENTRE FOR GEODESY INSTITUTE OF REMOTE SENSING ANNA UNIVERSITY, CHENNAI



PROGRAM SCHEDULE OF SHORT-TERM TRAINING PROGRAM BASED ON Exploration of Geodetic Measurement Techniques

DATE	08:30 to 09:30	09:30 to 11:00	11:00 to 11:15	11:15 to 12:45	12:45 to 14:00	14:00 to 15:30	15:30 to 15:45	15:45 to 17:00
19-08-2024 (Monday)	INAUGURATIO N EVENT	Introduction to Geodesy: Principles and Practices (NM)	TEA BREAK	Total Station Surveying (BK)		Demonstration on Total Station Surveying (BK)	TEA BREAK	Hands-on training for Total Station Surveying (BK)
20-08-2024 (Tuesday)		Fundamentals of Satellite Geodesy and GNSS Positioning (NM)		Techniques and Applications of GNSS and Differential Positioning (NM)	LUNCH	Demonstration on Static & RTK GNSS Surveying (NM)		Hands-on training for Static & RTK GNSS surveying (NM)
21-08-2024 (Wednesday)		Physical Geodesy: Reference Systems, Frames, and Modern Applications (NM)		GNSS based CORS network and its establishment (TD)		Demonstration on installation of GAMIT/GLOBK software, its utility and on the usage of basic commands of this software (NM)		Hands-on training for installing GAMIT/GLOBK software, and on the usage of basic commands of this software (NM)
22-08-2024 (Thursday)		Evolution of Gravity Measurement Techniques in Physical Geodesy (NM)		Fundamentals of Geodetic Measurement Techniques: Coordinates and Gravity Field Quantities (NM)		Demonstration on Semi- automated processing of GNSS data using GAMIT / GLOBK software package (NM)		Hands-on training for Semi- automated processing of GNSS data using GAMIT / GLOBK software package (NM)
23-08-2024 (Friday)		Methods in Satellite-Based Geodesy: Orbit Determination and Tracking (NM)		Latest Perspectives in Gravimetry and Space Geodetic Data Analysis (NM)		Demonstration on development of local geoid model (NM)		Hands-on training for development of local geoid model (NM)
24-08-2024 (Saturday)		Marine Geoid Mapping and Applications: Insights from Satellite Altimetry and Sea Surface Topography (NM)		Demo on Post-processing of Static GNSS Survey data (NM)		Hands-on training for Post- processing of Static GNSS Survey data (NM)		Discussion & Valedictory

RCG Staff Members:

NM - Dr. R. Nambi Manavalan, Research Associate-II TD - Mr. T. Dhivahar, Junior Research Fellow BK - Mr. B. Kailasanathan, Skilled Employee Venue: Conference Hall, Institute of Remote Sensing (IRS), Anna University Chennai

DIRECTOR, IRS