ISRO Disaster Management Support (DMS)- Capacity Building Programme

ISRO's Disaster Management Support (DMS) programme has been actively supporting the central and state governments by providing operational services during pre-disaster, post-disaster time frames, including experimental forecasts, using space systems. Capacity Building (CB) in space technology for disaster management under ISRO DMS programme has been identified as a key element to motivate the participants to develop innovative methods, tools, data products, and services in the field of disaster management using space technology. DMS-CB programme is a unique effortfunded by ISRO initiated, to fulfil the CB requirements in the country.

CORE COMMITTEE

Chief Patron

Professor T.N. Singh

Director, IIT Patna

Patron

Dr. Amit Kumar Verma,

Head, DCEE, IIT Patna

Course Coordinators

Dr. Akshar Tripathi
(akshar@iitp.ac.in)
&
Dr. Vishal Deshpande
(deshpande@iitp.ac.in)
Assistant Professor(s), Department of Civil & Environmental Engineering (DCEE), IIT Patna

Website:

www.iitp.ac.in

Registration Link (Last Date- **24/01/2024**)-

https://forms.gle/UchEm3eFCSXZjKH17

One-Day in-person awareness course on SAR Interferometry (InSAR) for Disaster Management

Sponsored by

ISRO Disaster Management Support Programme

Duration of course-01 Day

3rd February 2024, Saturday

Organized by

Department of Civil & Environmental Engineering, Indian Institute of Technology (IIT) Patna, Bihta, Bihar-801106

ABOUT IIT PATNA

Indian Institute of Technology Patna is one of the new IITs established by an Act of the Indian Parliament on August 06, 2008. Patna which was known as Patliputra has been a center of knowledge and has been attracting visitors and scholars from many parts of the world such as China, Indonesia, Japan, Korea, Sri Lanka, among others. This has been a land of visionaries. Some of the legends from this region include Lord Gautam Buddha, Lord Mahavir, Guru Gobind Singh, the famous astronomer Aryabhatta and the first President of India, Dr. Rajendra Prasad. IIT Patna has ten departments. These are Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Chemical and Biochemical Engineering, Civil & Environmental Engineering, Metallurgical and Materials Engineering, Chemistry, Physics, Mathematics and Humanities & Social Science departments. The Institute has developed modern facilities that are fully equipped with the state-of-the-art facilities (equipment software and machines).

ABOUT COURSE

The topic of disaster management becomes more crucial for a state like Bihar where there is widespread poverty and infrastructure shortage and history of disastrous events like earthquake in the past. Moreover, the state witnesses annual floods in monsoon months that lead to widespread loss of life and property. Thus, it becomes important for IIT Patna to create awareness on the latest technical developments in the field of disaster management and mitigation. Synthetic Aperture RADAR (SAR) remote sensing is one such technology that is being used extensively for mapping and management of disaster events such as landslides, surface displacement, flood mapping, glacial velocity mapping and many more. SAR Interferometry (InSAR) is a powerful technique that the researchers and policy makers need to be aquainted with to deal with the disaster events in terms of planning and mapping the vulnerable and damaged areas, in a timely and cost-effective manner. This course shall be a First of its Kind awareness course on InSAR ever conducted in the state of Bihar and would open new doors of skill development and research for the region.

MAJOR TAKEAWAYS

The course shall develop an insight on the latest cutting-edge technology for disaster and post disaster relief planning using SAR Interferometry. It shall give awareness and exposure to the attendees on monitoring surface displacement events using InSAR and development of real-time monitoring database systems in near future. It shall also help town planners to identify the potential zones of surface subsidence with InSAR and carry out planning activities accordingly.

WHO CAN APPLY?

Faculty members of Universities/Colleges and other academic and research institutions, Scientist, Administrators, professional engineers, and young researchers (M. Tech/ME, PhD students) from government and private organizations should benefit from these courses depending upon their level of exposure in this technology area. Apart from the researchers, professionals from government organizations will be benefited from the proposed course.

LIMITED SEATS

Seats are limited to **40** participants on first cum first serve basis. **TA/DA will be paid to the selected participants of the course as per the approved norms.**

SELECTION OF PARTICIPANTS

Selection of participants will be based on their work experience and/or present status of their research with a copy of the Registration certificate/ID card, a synopsis/note on their research work.

PROGRAMME OUTCOMES

01 Understand the concept of Disaster Risk Assessment, Reduction and Management at global scenario.

02 Understand the potential of SAR dataset for disaster preparedness.

03 Visualize spatiotemporal behavior of deformation using SAR interferometry (InSAR).

04 Utilize InSAR derived 1D LOS displacement time-series for detection of precursors.

05 Evaluate InSAR in time-of-failure forecasting.

IMPORTANT INFORMATION

Last date of registration : Jan 24, 2024

Date of notification of selection: Jan 25, 2024

Mode of Conduct: Offline

No. of Seats: 40

Registration Fees: Nil

Contact
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