

Experts will be delivering lectures and hands-on tutorials based on the following questions:

1. Why and how does “a beyond eye capability of the sensors in the space” benefit to disaster risk reduction?
2. How does “an **integration of ecosystem protection with developmental planning ensure resilience to disaster and climate change?**” Integration of ecosystem protection with developmental planning ensure resilience to disaster and climate change
3. How to use temporal **remote sensed data in simulation models for climate change prediction, climate extremes and related hazards?** (Need and importance of Space Based Information system for Eco-DRR)
4. How should the disaster managers leverage potential of space-based information in Eco-DRR? (**Applications of Space Based Information in simulation models for climate change prediction, climate extremes and related hazards**)

Contact:

Organizing Team

1. IIT Roorkee

- a. **Dr. Mahua Mukherjee,**
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2. UN-SPIDER

- a. **Dr. Shirish Ravan,**
Head, UN-SPIDER Beijing Office, United Nations Office for Outer Space Affairs, Vienna
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Registration link: <https://tinyurl.com/itw2019-india>

Last date of registration: 23:59:59 IST, 31 August, 2019

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UNITED NATIONS
Office for Outer Space Affairs



IIT ROORKEE



CoEDMM , IIT ROORKEE
25 – 29 NOVEMBER, 2019

INDIA-
INTERNATIONAL TRAINING COURSE

on
**Space-based Information System for Ecosystem-based
Disaster Risk Reduction (Eco-DRR)**

INDIA - INTERNATIONAL TRAINING COURSE

In last two decades, Asia has experienced numerous disasters caused by geologic and hydro-meteorological hazards impacting human settlements, both rural and urban. There is a paradigm shift in Disaster management and the emphasis is on Disaster Risk Reduction (DRR). Gradual recognition to ecosystem based DRR as efficient risk reduction tool is bringing development focus on blue-green infrastructure for settlements. "United Nations Platform for Space-based Information for Disaster Management and Emergency Response – (UN-SPIDER)" as a United Nations programme, is ensuring that all countries and international and regional organizations have access to and develop the capacity to use all types of space-based information to support the full disaster management cycle.

The Centre of Excellence in Disaster Mitigation and Management (CoEDMM), Indian Institute of Technology Roorkee, India is the first multidisciplinary and education centre of Disaster Mitigation and Management in India. It was established on March 27, 2006 with the aim of conducting the educational program, cutting edge research and training on disasters, vulnerability and their mitigation.

As a capacity building approach to address increasing risk environment the UN-SPIDER and CoEDMM will collaborate and work as technical inter-institutional team to conduct a five-day Training Course for Young Scientists including Research Scholars from disaster related institutes / agencies and government agencies in India and Asia. The training will take place at CoEDMM, IIT Roorkee, Roorkee in India from 25 – 29 November 2019.

Host Institution:

Centre of Excellence in Disaster Mitigation and Management, Indian Institute of Technology Roorkee (CoEDMM, IIT Roorkee), Roorkee India

Target Group:

Around 30 Young Research Scholars / Scientists / Officials who are engaged in disaster-related studies / researches in academic / research institutions, disaster management agencies and stakeholder departments will be selected. Approximately 10 participants from South Asia and 10 from different parts of India will be targeted in addition to 10 participants from the host institute (IIT Roorkee) so as to have multi-cultural interactions to enrich nature-based DRR approach. Basic knowledge of remote sensing and GIS is required.

- * Maximum age of 35 years
- * Women are encouraged to apply
- * Young Research Scholars / Scientists / Officials from South and South East Asia
- * Medium of instruction will be English only

Registration FEE: INR 10,000.00 (UNOOSA is not associated with this registration fee)
Limited Fellowships may be available to cover Travel or Registration for Participants

Title of training:

Space-based Information System for Ecosystem-based Disaster Risk Reduction (Eco-DRR)

Training Experts:

The training programme will be led by experts of UN-SPIDER, Delta State University, USA, and CoEDMM, IIT Roorkee, India.

- **Mr. Talbot Brooks**, Director, Delta State University, USA
Email: tbrooks@deltastate.edu
- **Dr. A Senthil Kumar**, Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP) Dehradun
Email: cssteap@iirs.gov.in, cssteapun@gmail.com
- **Mr. Anshuman Saikia**, Regional programme support coordinator, Asia at International Union for Conservation of Nature
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Training profile:

Due to unprecedented urbanization and inadequate understanding of the connection between ecosystems and human settlements, we were facing recent disasters like floods in Kerala State of India in 2018. This reminded a situation in 2011 when Bangkok got unprecedented floods resulting in over 800 deaths and economic loss of 46.5 billion. Manmade disasters like an incident of a dam collapse in Lao PDR in 2018 emphasize the resilient development. In order to strengthen any developmental process, risk sensitive planning is advisable. Eco-DRR is an emerging resilience concept which had been ignored for last few decades.

The training will be focusing on remotely sensed image analysis techniques for health monitoring of existing ecosystems and potential of space-based information in Eco-DRR that can be leveraged by Disaster Managers. **Major learning points will be - Basics of DRR, fundamentals of Earth observation techniques, Geo-intelligence and crisis managements, Urban flood modelling, Emergency management, Urban hazard assessments including urban heat island, heat waves, heat stress, Surface and canopy layer atmospheric change, Potential area identification for intervention through layered data integration, Scenario generation through strategic selection of feasible Blue-Green Infrastructure (BGI); and simulation of scenario to show effectiveness of BGI as an instrument for DRR.** The participants can leverage potentials of BGI to improve risk and manage the sustainable development. Well managed and networked ecosystems will develop resilience in a changing climate.