

The Faculty



Prof. Sudhanshu Panda
GIS/Environmental Science
Institute for Environmental Spatial
Analysis
University of North Georgia

His area of expertise are Geospatial Technology, Model Development and Automation, Soil Erosion & Conservation, Climate Change Impacts on Environmental Management, Watershed management, Precision Agriculture & Site Specific Crop/Forage/Forest Management, WebGIS-based Decision Support System Development, Artificial Intelligence, and Sensing Technology



Prof. Subashisa Dutta
Department of Civil
Engineering,
IIT Guwahati.

His major research interest includes Hillslope Hydrology, Distributed Hydrological Modelling, Flood Inundation Modelling, Geo-spatial Technology, Bank Erosion, 2D/3D River Flow and Sediment Transport Modelling, River Bank Protection and Stormwater Drainage Design, Morphological Assessment and Hydrodynamics of Braided Rivers.

Convenors Details

Professor Subashisa Dutta,
Department of Civil Engineering,
IIT Guwahati, Assam, India-781039
E-mail id – subashisa@iitg.ac.in
Ph no. - +91-9435104598

About IIT Guwahati

Indian Institute of Technology Guwahati, the sixth member of the IIT fraternity, was established in 1994. The academic programme of IIT Guwahati commenced in 1995. Within a short period of time, IIT Guwahati has been able to build up world class infrastructure for carrying out advanced research and has been equipped with state-of-the-art scientific and engineering instruments. Indian Institute of Technology Guwahati's campus is on a sprawling 285 hectares plot of land on the north bank of the river Brahmaputra around 20 kms. from the heart of the city. With the majestic Brahmaputra on one side, and with hills and vast open spaces on others, the campus provides an ideal setting for learning.

About Civil Department

Department of Civil Engineering at IIT Guwahati was established in 1997 and has continually upgraded itself in terms of academic programs and research infrastructure including state-of-the-art laboratories. The department attracts the finest young and dynamic faculty members and the best of the students for its Bachelors, Masters and Doctoral programs. Students are exposed to well-defined academic programs along with a host of sports, cultural and organizational activities in a vibrant and beautiful campus of IIT Guwahati.

About GIAN

The Government of India has approved a new initiative titled Global Initiative of Academic Networks (GIAN) in Higher Education, which aims to tap into the international talent pool of scientists and entrepreneurs to encourage their engagement with institutes of Higher Education in India in order to augment the country's existing academic resources, accelerate the pace of top notch reform, and enhance India's scientific and technical capacity to global excellence.

A Short-Term Course on Spatial Data Science for Disaster Management

Organised by



Department of Civil Engineering,
Indian Institute of Technology,
Guwahati, Assam-781039

'An online event under'



Spatial Data Science in Disaster Management

Increased natural geohazards are a norm lately due to climate change impact. Its growing frequency has become a menace to human habitation across the globe. The economic loss and human casualties due to these natural disasters are significantly increasing in the world and especially in developing countries like India. Effective disaster risk reduction and proactive management decision support can be achieved with the application of geospatial technology for all the phases of disaster management, including vulnerability assessment, preparedness, prevention, mitigation, education, response, and relief. First, we need to model and map spatial disaster vulnerability with geospatial dataset in GIS platforms. Thus, effective proactive mitigation measures would be possible. The geospatial model with advanced geo-visualization will explain the spatial-temporal extent of the disaster, help develop a decision support for interactive management for rescue, evacuation, sheltering, and rehabilitation. Post disaster reconstruction and future disaster reduction measures could be undertaken with spatial engineering support.

In the last two decades, spatial data science has given a new platform in which we model problems geographically, derive results by computer processing, and then explore and examine those results. This type of spatial data science has proven to be highly effective for evaluating the geographic suitability of certain locations for specific purposes, estimating and predicting outcomes, interpreting and understanding change, detecting important patterns hidden in the information, and much more.



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Why to participate?

Considering the importance of spatial data science and disaster management, this course will have a series of lectures and tutorials on it with a few case studies. The topics include Basic Geospatial Technology, Geo-processing and Model Building, Network Analysis, Spatial Analysis of Geo-hazards, Spatial Analysis of Geo-hazards, Environmental planning process, Delphi approach in suitability, GIS system design for disaster management, Geospatial technology in public service decision making and global health care, drought management and also watershed management. In this course, integrate multi-disciplinary approaches on relating human(social) and environmental response to the disaster management concept will be introduced.

Key Objectives

- Exposing participants to recent advancement of spatial data science
- Building in confidence and capability amongst the participants in the application of spatial data mining tools and techniques available on Geo-hazards and their use.
- Demonstrate case studies and live projects on management of large scale natural disasters like flood, drought, forest fire and cyclones.
- Enhancing the capability of the participants to integrate multi-disciplinary approaches on relating human(social) and environmental response to the disaster management concept



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Who can attend?

- Executives, engineers and researchers from manufacturing, service and government organizations including R&D laboratories.
- Students at all levels (BTech/MSc/MTech/PhD) or Faculty from reputed academic institutions and technical institutions.

Registration Details

Registration fee:

- Participants from abroad- US \$100
- Industry/Research Organizations- Rs 4000
- Academic Institutions- Students: Rs 200, Faculty; Rs 2000

How to apply?

- The applicant must register online
- Selected candidate will be informed through email.
- Selection will be based on 'First-come, First-served' basis.

Important Dates

- Last date for online registration:
- Intimation of selected candidate:
- Short-term Course dates: **3rd Jan 22 to 14th Jan 22**
- Time for Workshop- 9 am to 12 pm(Weekdays)**

