

**Type of event:** Workshop

**Name of event:** ***“REMOTE SENSING AND GIS BASED DISASTER MITIGATION AND MANAGEMENT - Building resilient infrastructure, promoting sustainable industrialization and fostering innovation”***

**Coordinator Name, E-Mail, Number:**

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**Student coordinators**

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**Introduction**

Remote sensing provides us with a continuous and constant source of information about the Earth, and geographic information systems (GIS) are a methodology for handling all of this geographic data. The marriage of the two disciplines has allowed us to carry out large scale analyses of the Earth's surface and, at the same time, provide increasingly detailed knowledge on many planetary variables and improve our understanding of its functioning. These analyses are essential for decision-making on the sustainable management of natural resources, designing networks of protected areas, and addressing the threats of global change.

Taking the influence of technology into consideration, Workshop on ***“REMOTE SENSING AND GIS BASED DISASTER MITIGATION AND MANAGEMENT - Building resilient infrastructure, promoting sustainable industrialization and fostering innovation”*** is being organized as a part of **TechInvent-2021**, by the Department of Civil Engineering. This workshop will provide a platform for knowledge sharing and learning to all stakeholders in the field of Civil Engineering, transportation, Urban Planning, Disaster Management, Petroleum, and Geology etc. The objective of this workshop is to provide in depth knowledge of Remote Sensing and GIS for assessment of various types of Natural Hazards to the researchers and students.

## **Objectives of the workshop**

- To introduce the concept and benefits of Remote Sensing and GIS
- To present the different methodologies for handling geographic data
- To explore Opportunities and Challenges in Earth System Science Research in India
- To analyze the Urban Heat Island Impact Assessment
- To provide detailed information about the water resources and advances in the Ground water research

## **Outcomes of the workshop**

- To appreciate the significance and benefits of Remote Sensing and GIS for various impact assessments
- Students will become able to access various types of Natural Disasters through the Current Workshop
- They can perform well in the field of Transportation, Urban Planning, Disaster Management, Geology, Hydrology, Petroleum and Earth Sciences based on the skills which they will learn from the workshop
- Participants will learn about the evaluation of the impact assessments related to various natural disastrous phenomenon

## **Topics for the workshop**

- Introduction to GIS Using ArcGIS
- Polar research in India: A brief Review (Antarctic & Arctic)
- Earth System Science Research in India: Opportunities and Challenges
- Water Resources of Punjab, India
- Himalayan Geological Research: A perspective
- Urban Heat Island Impact Assessment
- Advances in Ground Water Research

## Keynote Speakers

| S. No. | Names                          | Profile   |
|--------|--------------------------------|---|
| 1.     | <b>Dr. Shailesh Nayak</b>      | <b>Director</b><br><b>National Institute of Advance Studies (NIAS) Bengaluru</b><br><b>Former Secretary, Ministry of Earth Sciences (MoES)</b>  |
| 2.     | <b>Prof. Dr. AK Saraf</b>      | <b>Professor</b><br><b>Department of Earth Sciences</b><br><b>Indian Institute of Technology, Roorkee</b>   |
| 3.     | <b>Dr. Prosun Bhattacharya</b> | <b>Professor of Groundwater Chemistry</b><br><b>KTH Royal Institute of Technology</b><br><b>Department of Sustainable Development, Environmental</b><br><b>Science and Engineering</b><br><b>KTH-International Groundwater Arsenic Research Group,</b><br><b>Sweden</b> |
| 4.     | <b>Dr. Thamban Meloth</b>      | <b>Scientist G</b><br><b>Department Name: Polar Sciences</b><br><b>National Centre for Polar and Ocean Research (NCPOR)</b><br><b>Goa, MoES</b>   |
| 5.     | <b>Dr. Ajanta Goswami</b>      | <b>Associate Professor</b><br><b>Department Of Earth Sciences</b><br><b>Joint Faculty - Coedmm</b><br><b>(Center Of Excellence In Disaster Mitigation &amp; Management)</b><br><b>Indian Institute Of Technology Roorkee</b>  |
| 6.     | <b>Sashikant Sahoo</b>         | <b>Scientist</b><br><b>Geology, Water Resources &amp; Geo-informatics Division</b><br><b>Punjab Remote Sensing Centre, Govt. of Punjab</b><br><b>(An ISO 9001:2015 Certified Organization)</b>  |

## Key dates

2<sup>nd</sup> September 2021- 3<sup>rd</sup> September 2021 (2 day workshop)

| 02.09.2021 (Thursday)   |                                      |  |  |  |                                      |   |
|---|--------------------------------------|--|--|--|--------------------------------------|---|
| MORNING SESSION (I)<br>11.00AM-11.30AM  |                                      | MORNING SESSION (II)<br>11:30AM – 01:00PM  | L<br>U<br>N<br>C<br>H<br>B<br>R<br>E<br>A<br>K | AFTERNOON SESSION (III)<br>02:00PM – 3:30PM  | T<br>E<br>A<br>B<br>R<br>E<br>A<br>K | EVENING SESSION (IV)<br>04:00PM-05:30PM   |
| Inauguration Session  |                                      | Earth System Science Research in India: Opportunities and Challenges<br><br>Dr. Shailesh Nayak,<br>Director<br><br>National Institute of Advance Studies (NIAS)<br>Bengaluru |  | Advances in Ground Water Research<br><br>Dr. Prosun Bhattacharya, KTH<br>Royal Institute of Technology, Sweden |                                      | Urban Heat Island Impact Assessment<br><br>Prof. Ajanta Goswami,<br>IIT Roorkee                       |
| 03.09.2021 (Friday)   |                                      |  |  |  |                                      |   |
| MORNING SESSION (I)<br>9:30AM – 11:00AM   | T<br>E<br>A<br>B<br>R<br>E<br>A<br>K | MORNING SESSION (II)<br>11:30AM – 01:00PM  | L<br>U<br>N<br>C<br>H<br>B<br>R<br>E<br>A<br>K | AFTERNOON SESSION (II)<br>02:00PM – 3:30PM   | T<br>E<br>A<br>B<br>R<br>E<br>A<br>K | EVENING SESSION (III)<br>04:00PM-05:30PM  |
| Himalayan Glaciological Research: A perspective<br><br>Prof. Ajanta Goswami,<br>IIT Roorkee |                                      | Rishi Ganga, Uttarakhand, India Coalescent Natural Disaster: A Geoinformatics Perspective<br><br>Prof. Dr. AK Saraf, IIT Roorkee   |  | Water Resources of Punjab, India<br><br>Mr. Sashikant Sahoo,<br>PRSC Ludhiana                                  |                                      | Polar research in India: A brief Review (Antarctic & Arctic)<br><br>Dr. Thamban Meloth,<br>NCPOR, Goa |
| <b>5.30PM-6.00 PM: ASSESSMENT &amp; FEEDBACK FOLLOWED BY VALEDICTORY FUNCTION</b>           |                                      |  |  |  |                                      |   |

## **Registration Process**

- The Google link will be shared for the participants to register for the conference including details like Name, Designation, Present Organization, Place.
- In the last hours of the workshop participants also ask to fill the feedback form for the betterment and learning.
- To fill the feedback form will be compulsory for the candidates to receive the workshop certificates.

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