



**SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)**

**Accredited with 'A' grade by NAAC and Approved by AICTE**

**Jeppiaar Nagar, Rajiv Gandhi Road, Chennai-600119, Tamil Nadu, India**



**Two weeks online certificate course  
on**

## **“Geospatial Technology in Agricultural Resource Management”**

**Date: September 1-15, 2021**



**Organized by**

**Centre for Climate Change Studies &  
Centre for Remote Sensing and Geo informatics  
Sathyabama Institute of Science and Technology**



**In association with  
Indian Society of Remote Sensing,  
Chennai Chapter**

## **Background:**

Recent years have witnessed frequent changes in climatic patterns affecting agricultural crop production and productivity. The extreme weather events like heat and cold wave, drought, flood, change in rainfall pattern, sea water intrusion, soil and land degradation, ground water level, and pest outbreaks have been major constraints in food production and food security. Crop modeling studies have highlighted that change in climatic conditions will reduce crop yield potential in many tropical and subtropical regions of the world.

Geospatial technologies play a key role in climate smart agriculture with their core applications like mapping, measuring, modeling, and forecasting the changes in natural phenomena or human induced changes. Geospatial tools such as Geographic Information Systems (GIS) and Remote Sensing (RS) and the Global Positioning System (GPS) for storing and analyzing spatial data can help us make better decisions in agriculture, land development, environmental protection and restoration.

Specifically these decision making tools can be used in the context of agriculture in assessment of crop area extent, water resource management, identification of pest attacks and diseases, yield assessment studies, land suitability assessment and precision agriculture. The course on “Geospatial technologies for agriculture resource management” is specifically designed to teach agri. students and researchers the use of GIS and RS and how it can be functionally employed in precise tracking and fine tuning of agriculture crop production and productivity for developing a sustainable agriculture system.

## **Objectives:**

- Understand the basic concepts of Remote Sensing (Optical, Hyper spectral and Microwave)
- GIS, Image Processing and GPS
- Understand GIS and RS applications in disease/pest and stress management
- Understand digital image processing techniques in agriculture resource management
- Understand precision and sustainable farming using GIS and RS for crop management
- Expose participants in GIS and RS applications in water management in agriculture
- Participatory approach - SDSS & WEB GIS in Agricultural Resource Management

## Course contents:

- Introduction to Remote Sensing (Aerial, Satellite, Hyperspectral, Microwave)
- Fundamentals of GIS and GPS
- Principles of digital image processing
- RS and GIS for soil studies (soil type mapping, soil moisture, etc.,)
- RS and GIS for land resources (land use/land cover type, land suitability assessment)
- RS and GIS for agricultural drought monitoring and assessment
- RS and GIS for crop inventory (crop inventory, crop yield assessment and forecasting)
- RS and GIS applications in disease and stress management
- RS and GIS applications in land use and pest management
- RS and GIS for precision and sustainable agriculture
- RS and GIS for waste land assessment and management
- SDSS & WEBGIS in agriculture resource management

## Who can apply?

Scientists, Lifescience faculties, agricultural experts, policy makers, environmentalist, agronomist, entomologist, pathologist, farm managers, soil specialist, NGO/consultants, farmers, agri. graduates and post graduates and research scholars.

## Requirements:

Basic mapping concepts and domain knowledge is required. Participants will be working on their own laptops, Prior knowledge on GIS is not mandatory.

## Date and Duration:

Two weeks online program (15days)

**01 Sep- 15 Sep 2021**

Time: **02 hrs daily** (10.00 am to 12 noon)

## Application and Registration:

Participants should apply through online mode using the link provided. The online applications will be scrutinized and the selected participants will be informed only through mail. Selected participants will be provided with the payment link details. After completion of payment, participants must share their transaction details in order to get the zoom link and id.

Participants are requested to apply through the link below

<https://forms.gle/yTMv2P8XpBrYdNz39>

Students, research scholars farming community	500/-
Scientists and academicians	750/-
Entrepreneurs, farm managers, extension workers, NGOs	750/-
Industries	1000/-

## Important dates:

Last date for online application	Aug 21, 2021
Intimation of selected candidates	Aug 25, 2021
Confirmation of participation with registration fee	Aug 27, 2021

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