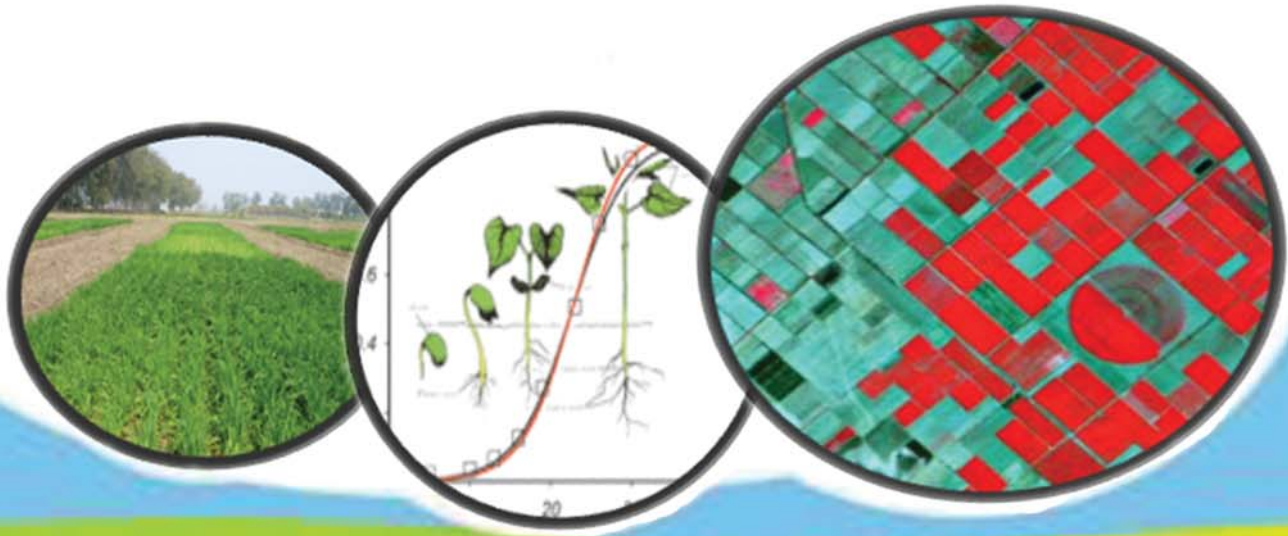


# **Training Program on**

**Linking Geo-Spatial Technologies and Agricultural System  
Models to Assess Impact of Climate Change on  
Natural Resource Management**

**24 October to 02 November 2018**



**Course Director  
Dr. Monoranjan Mohanty**

**Course Co-Directors  
Dr. Nishant K. Sinha  
Dr. J. Somasundaram  
Dr. Ashok K Patra**



**ICAR-Indian Institute of Soil Science  
Nabi Bagh, Berasia Road, Bhopal  
Pradesh, India, 462038**

## About the course:

Crop growth models simulate the relationship between plants and the environment to predict the expected yield for applications such as crop management and agronomic decision-making, as well as to study the potential impacts of climate change on food security. Agricultural systems operate at several spatial and temporal scales. For example, they can be analysed at field, farm, regional or global scales and over hours, days or whole seasons. Moving between scales requires scaling biophysical processes such as growth and yield as well as farm management practices such as irrigation and fertilizer application. A major limitation of crop growth models is the lack of spatial information on the actual conditions of each field or region. However, geo-information technologies such as remote sensing and geographical information system (GIS) can provide the missing spatial information required by crop models for improved yield prediction. Remote sensing collects geographical information systematically for large areas at low cost, and solves some degree of uncertainty pertaining to spatial information on the crop parameters that are used by crop modelling. There are several ways of incorporating remote sensing data with crop growth models. The first is an indirect approach where remote sensing data is assimilated with a simulation model, either by calibrating the model or in a feedback loop used to adjust the model. The other methods are integrating remote sensing data in crop growth models by forcing or re-calibration. Keeping this in backdrop, the training program is conceptualized with following activities:

## Programme activities:

- Introduction to crop simulation modelling
- Minimum dataset and information requirements of the crop models
- Parameterization and validation of simulation models
- Simulating water and nutrient limited production systems
- Modelling soil organic carbon dynamics in crops and cropping systems
- Assessing climate change effects on natural resources using simulation models
- Geospatial technologies and its application in Agriculture
- Linking remote sensing and crop model for regional application.

## Registration form

### Application form for participation in training program

1. Full name (In block letters):.....
2. Designation:.....
3. Present employer and address:.....
4. Address to which reply should be sent:.....  
Postal address with Pincode:.....  
Phone/ Mobile No.:.....  
Fax No.:.....  
E-mail:.....
5. Date of Birth:.....
6. Sex (Male/Female):.....
7. Education Qualification:.....
8. Relevant area of interest: .....

### Recommendation of the forwarding Institution

Signature of the participant

Date:.....

Place:.....

### Contact Us:

#### Dr. Monoranjan Mohanty

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Note: Only working lunch will be provided during the training period to the participants. All other charges such as TA, Guest-house, Breakfast and Dinner shall be borne by the participants.