



**NAHEP**



**Centre for Advanced Agricultural Sciences and Technology**

**Skill Development to Use Spatial Data for Natural  
Resources Management in Agriculture**

**Hands-on Training on Remote sensing and GIS Software**

**(09-11-2022 to 29-11-2022)**



**NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT  
COLLEGE OF AGRICULTURAL ENGINEERING,  
JAWAHARLAL NEHRU KRISHIVISHWA VIDYALAYA  
JABALPUR, MP, 482004**

**Project website: [www.nahep-jnkvv.org](http://www.nahep-jnkvv.org)**

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Honorable Vice-Chancellor, JNKVV, Jabalpur

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## **Training Coordinator**

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## **About Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur**

Jawaharlal Nehru Krishi Vishwavidyalaya established on October 2, 1964, is a forerunner university located in Jabalpur, Madhya Pradesh. The university is awarded Sardar Ballabh Bhai Patel Outstanding University Award for the year 2018 by the Indian Council of Agricultural Research, New Delhi. The university has various constituent colleges, Agricultural Research Stations, and Krishi Vigyan Kendra's. The University offers Bachelor's, Master's, and Doctoral degrees in the Faculty of Agriculture and the Faculty of Agricultural Engineering. The University also offers diploma courses of two years in "Seed Production" and "Nursery Management" at Horticulture Vocational Education Institute, Garhakota, Sagar, MP.

## **About NAHEP**

NAHEP is designed to strengthen the national agricultural education system in India with overall objective to provide more relevant and high-quality education to agricultural students. This programme has been promoting efficiency and competitiveness through changes in working mechanism of agricultural universities, raising the teaching and research standards through improved research and teaching infrastructure and enhanced faculty competency and commitments, and making agricultural education more attractive to talented students. There are four key components under NAHEP, namely; Institutional Development Plan (IDP), Centers for Advanced Agricultural Sciences and Technology (CAAST), ICAR to support excellence in agricultural universities (AUs), and ICAR Innovation Grants to AUs

## **Skill Development to use Spatial Data for Natural Resource Management in Agriculture**

### **Objectives:**

- To build basic capacity for using RS & GIS techniques applied for betterment of Natural Resource Management particularly in Agriculture and allied sectors.
- To identify appropriate techniques for integration of spatial and ground data to realize problems related to land, water and vegetation.
- To develop user friendly spatial data products using identified technologies for policymakers, researchers, field workers and farmers.

## About the 21 Days Hands-on training on RS & GIS using QGIS

The offline training is intended to cover the basics of RS & GIS as well as empowering participants to efficiently do the hands-on on RS & GIS software's and prepare the important thematic maps in relevance to Agriculture and Natural resource management, which can be very useful for various research and planning purposes.

### Address for Correspondence

**Dr. Sourabh Nema, Research Associate, NAHEP**

**Dr. Sumit Kakade, Senior Research Associate, NAHEP**

**Er. Anjali Patel, , Young Professional, NAHEP**

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### Participants

University Teachers/Faculty Members/Scientists/PG & PhD students are invited to participate in this off-line training program. This training program will help them to apply RS and GIS applications in different Agriculture disciplines.

### Registration Details:

**The candidates have to make the registration on below link:**

<https://forms.gle/PVziQyeZyDHbzeoR6>

**The registration link will be closed by 5.00 pm at 01.11.2022**

#### **Please Note:**

- Nomination letter from Head of the institution/Department is required from interested candidates at the time of registration
- Training seats are limited, participants list will be finalized by project
- Second class fare for To-Fro journey will be provided to participants. For any participant entitled for higher class travel then maximum up to AC-II fare will be provided.
- Free accommodation at university guest house will be provided for outstation candidates

### Training Venue:

Capacity building Lab, NAHEP CAAST, College of Agricultural Engineering, JNKVV, Jabalpur, MP, 482004



**Training Title: "21 Days- Hands on Training on Remote sensing and GIS Software"**

**21 Days Training Program Schedule (09-11-2022 to 29-11-2022)**

Date	10.30–11.45 AM	12.00 PM– 1.30 PM	3.00-5.30 PM
09-11-2022	Registration and Inauguration Pre Assessment	Basics of Remote Sensing and its application in agriculture <b>Dr. R.K. Nema</b>	Introduction to GIS <b>Dr. S.K. Sharma</b>
10-11-2022	Satellites, Sensors, and Resolution <b>Er. Anjali Patel</b>	An introduction to different Geoportals (Earth explorer, Bhuvan, Copernicus ESA, etc.). <b>Dr. Sourabh Nema</b>	Special Lecture <b>Dr. P S Tiwari</b> <b>IIRS Dehradun</b>
11-11-2022	Georeferencing of Map in GIS software <b>Dr. PS Pawar</b>	Generation of vector features such as Point, Line, and Polygon, <b>Dr. PS Pawar</b>	Practice Session
12-11-2022	Process to fill data in the attribute table and area calculation. <b>Dr. PS Pawar</b>	GIS vector operations <b>Dr. PS Pawar</b>	Practice Session
13-11-2022	Practical Assignment	Practical Assignment	Practical Assignment
14-11-2022	Introduction to Image processing <b>Dr. Umakant Rawat</b>	Downloading process of satellite images <b>Dr. Sumit Kakade</b>	Practice Session
15-11-2022	Layer stacking of different bands <b>Mr. Om Prakash Prajapati</b>	Layer stacking of different bands <b>Mr. Om Prakash Prajapati</b>	Practice Session
16-11-2022	Mosaicing of Satellite Image <b>Er. Anjali Patel</b>	Subset satellite data with AOI (Area Of Interest) <b>Dr. Sumit Kakade</b>	Practice Session
17-11-2022	Lecture on Introduction to Land Use Land Cover Classification <b>Dr. Sourabh Nema</b>	Land use Land cover classification (process) <b>Dr. Umakant Rawat</b>	Practice Session
18-11-2022	Land use Land cover classification (process) <b>Dr. Umakant Rawat</b>	Land use Land cover classification (process) <b>Dr. Umakant Rawat</b>	Practice Session
19-11-2022	Land use Land cover classification (Recoding) <b>Dr. Umakant Rawat</b>	Area calculation of classified data and Accuracy assessment <b>Dr. Devendra Vasht</b>	Practice Session
20-11-2022	Field Visit for GPS survey <b>Er. Alok Rajpoot, Er. Krishna Singh, Er. Rachit Nema</b>	Field Visit for GPS survey <b>Er. Alok Rajpoot, Er. Krishna Singh, Er. Rachit Nema</b>	Field Visit for GPS survey <b>Er. Alok Rajpoot, Er. Krishna Singh, Er. Rachit Nema</b>
21-11-2022	Introduction to Crop Map Classification <b>Dr. Devendra Vasht</b>	Crop Map Classification <b>Dr. Devendra Vasht</b>	Practice Session
22-11-2022	Crop Map Classification <b>Dr. Devendra Vasht</b>	Crop Map Classification <b>Dr. Devendra Vasht</b>	Practice Session
23-11-2022	Creation of Map layout in GIS software <b>Er. Aniket Rajput</b>	Creation of Map layout in GIS software <b>Er. Aniket Rajput</b>	Practice Session
24-11-2022	Introduction to Proximal Remote Sensing in Agriculture <b>Dr. Shiv Ramakrishna</b>	Different instrument used for spectral measurement in field <b>Dr. Shiv Ramakrishna, Dr. Sumit kakade, Om Prakash Prajapati</b>	Field visit & Practical <b>Dr. Shiv Ramakrishna, Dr. Sumit kakade, Om Prakash Prajapati</b>
25-11-2022	Introduction to Crop Yield Estimation using RS & GIS <b>Er. Anjali Patel</b>	Crop Yield Estimation <b>Er. Anjali Patel</b>	Practice Session
26-11-2022	DEM data processing <b>Er. Aniket Rajput</b>	Thematic map preparation (Elevation, Slope, Aspect, contour generation) <b>Er. Aniket Rajput</b>	Practice Session
27-11-2022	Practical Assignment	Practical Assignment	Practical Assignment
28-11-2022	Project work	Project work	Project work
29-11-2022	Post Assessment	Project presentation	Feedback and valedictory

**Morning Tea Time : 11.45 AM -12.00 PM**  
**Lunch Time : 01:30 PM - 03.00 PM**  
**Evening Tea Time : 04.00 PM - 04.15 PM**