IARI-NRM-Precision Agriculture
ONLINE TRAINING ON

Emerging Technologies in Precision Agriculture: Sensors, Remote Sensing, Drones and Artificial Intelligence

TRAINING DURATION | 8 DAYS | 14 – 21 DECEMBER 2026



About the Training Programme

The training is designed to provide a comprehensive understanding of modern digital agriculture technologies and their applications in sustainable crop production. The programme combines expert lectures with hands-on demonstrations covering satellite remote sensing, crop modelling, UAV-based data acquisition, drone analytics, variable rate technologies, precision irrigation, agrometeorological decision support, and drone-based precision spraying. Participants will gain practical exposure through virtual laboratory visits, live drone demonstrations, sensor-based monitoring, and discussions on AI-enabled decision support systems for smart farming. The programme aims to strengthen technical skills, promote interdisciplinary learning, and build capacity in precision agriculture for addressing emerging challenges in agricultural productivity, resource-use efficiency and climate resilience.

Division of Agricultural Physics

ICAR-Indian Agricultural Research Institute, New Delhi - 110012

Schedule of the training

Date	Key Talk / Lecture Title	Speaker / Expert
14 Dec 2026 (Monday)	Inauguration and Overview of the Training Programme	
	Inaugural lecture: Green Technologies for Precision Agriculture	**Dr Ch. Srinivasa Rao**, Director, ICAR-IARI, New Delhi
	Digital and Precision Agriculture: Integrating Sensors, Drones, AI and IoT for Smart Farming	**Dr Rabi N Sahoo**, Pr. Scientist, ICAR-IARI, New Delhi
15 Dec 2026 (Tuesday)	Multi-Sensor Satellite Remote Sensing for Agricultural Resource Monitoring and Management	**Dr Rajkumar Dhakar**, Sr. Scientist, ICAR-IARI, New Delhi
	Remote Sensing and Crop Modelling for Weather-Smart Precision Agriculture	**Dr Vinay K Sehgal**, Pr. Scientist, ICAR-IARI, New Delhi
	Smart Agronomic Management through Digital and Precision Agriculture Technologies	**Dr Pravin K Upadhyay**, Sr. Scientist, Agronomy, ICAR-IARI, New Delhi
16 Dec 2026 (Wednesday)	Virtual visit of Drone, Big Data Analytics and 5G Laboratory	**Dr Rajeev Ranjan**, Sr. Scientist & **Dr Rabi N Sahoo**, Pr. Scientist, ICAR-IARI, New Delhi
	Live Demonstration of UAV data Acquisition (RGB, Multispectral and Thermal Sensors) and Drone Data Analytics	
	Sensor-, AI/ML- and Deep Learning-Based Detection and Management of Biotic Stress in Crops	**Dr Joydeep Mukherjee** Pr. Scientist, ICAR-IARI, New Delhi
17 Dec 2026 (Thursday)	Variable Rate Technologies (VRT) for Efficient Nutrient and Weed Management	**Dr Dileep Kumar Kushwaha**, Sr. Scientist, ICAR-IARI, New Delhi
	Digital Soil Mapping and AI-Driven Soil Intelligence for Precision Agriculture	**Dr Nirmal Kumar**, Sr. Scientist, ICAR-NBSSLUP, Nagpur
	Precision Nutrient Management and Site-Specific Fertilizer Application Using Emerging Technologies	**Dr Nishant K Sinha**, Sr. Scientist, ICAR-IISS, Bhopal
18 Dec 2026 (Friday)	Precision Agriculture and Agrometeorological Decision Support for Climate-Resilient Crop Production	**Dr Subash N Pillai**, Head, Ag. Physics, ICAR-IARI, New Delhi
	Advances in Precision Irrigation: From Soil Moisture Sensors to Decision Support Systems	**Dr Monalisha Pramanik**, Sr. Scientist, ICAR-IARI, New Delhi
	Understanding Soil Variability to Smart Management for Sustainable Agriculture	**Dr Pragati Maity Pramanik**, Pr. Scientist, ICAR-IARI, New Delhi
19 Dec 2026 (Saturday)	Drone-Based Precision Agriculture: Thermal Sensing for Water Stress Monitoring and Precision Spraying in Field Crops	**Dr Rajeev Ranjan**, Sr. Scientist, ICAR-IARI, New Delhi
	Emerging Technologies for Enhanced Resource Use Efficiency in Agriculture	**Dr Anchal Das**, Pr. Scientist, ICAR-IARI, New Delhi
	Agromet Advisories for Precision Agriculture under a changing climate	**Dr Ananta Vashisht**, Professor, Ag. Physics, ICAR-IARI, New Delhi
20 Dec 2026 (Sunday)	Holiday	
21 Dec 2026 (Monday)	Nanotechnology for Precision Nutrient Management and Climate-Resilient Crop Production	**Dr Achchhelal Yadav**, Pr. Scientist, ICAR-IARI, New Delhi
	Nanosensors in Food and Agriculture: Emerging Tools for Precision Agriculture	**Dr Monika Kundu**, Sr. Scientist, ICAR-IARI, New Delhi
	Participant Interaction, Feedback, and Valedictory Programme	

Participation Details

Target Participants

- Scientists, Faculty Members, Subject Matter Specialists and Extension Professionals from ICAR Institutes, Agricultural Universities, KVKs and Government Organisations
- UG/PG Students, PhD Scholars and Young Researchers

MODE	SESSION TIMINGS	REGISTRATION FEE
Virtual (Zoom Platform)	02:30 PM - 05:30 PM (IST)	Rs 1500

Selection Criteria

There are limited seats and participants will be selected on a first-come, first-served basis and preference will be given to those working in core subject areas

Registration link:
https://forms.gle/XS7uaqknrYfy52eS9

Scan me to register!

Bank Account Details

A/C Holder: Director, ICAR-IARI
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IFSC: CNRB0019029
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Expected Learning Outcomes

- Digital and precision agriculture technologies
- Satellite remote sensing and crop modelling
- UAV data acquisition and analytics
- Variable rate and nutrient management
- Precision irrigation and water management
- Drone-based precision spraying techniques
- Climate-smart agricultural practices
- AI-driven agricultural decision support systems

Patronage & Course Team

CHIEF PATRON

Dr Ch. Srinivasa Rao

Director & Vice-Chancellor
ICAR-IARI, New Delhi

CO-PATRON

Dr Viswanathan C

Joint Director (Research)
ICAR-IARI, New Delhi

COURSE DIRECTOR

Dr Subash N Pillai
Head, Division of Agricultural Physics, ICAR-IARI
New Delhi
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COURSE COORDINATORS

Dr Rajeev Ranjan
Dr Rajkumar Dhakar
Dr. Rabi N Sahoo
Division of Agricultural Physics, ICAR-IARI, New Delhi

