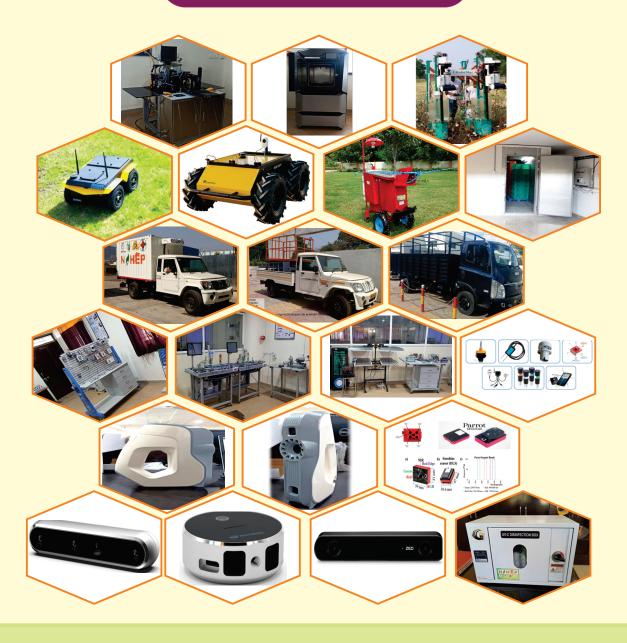National Agriculture Higher Education Project
Centre of Excellence : Digital Farming Solutions for Enhancing Productivity by
Robots, Drones and AGV's (DFSRDA)

Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani (M.S.) INDIA

One Month Hands on Training
on
"Precision Agriculture by Advance Digital Technologies"

01st to 30th December 2021

Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani (MS) INDIA

About University

Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani established in 1972 on Land Grant pattern at Parbhani to fulfill the regional aspirations of fields, undertake research and facilitate technology transfer in marathwada region of Maharashtra.

Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV) Parbhani, is one of the prestigious agricultural universities in India. Since its inception, it has gained recognition as an universal national digital technology innovative organization in the term of education and research in agriculture. Applications in agriculture research and facilitates agriculture technology transfer in marathwada region of Maharashtra .

About Project

The Centre of excellence for Digital Farming solutions for Enhancing Productivity by Robots, Drones and AGV's (DFSRDA) Under Center for Advanced Agricultural Science and Technology (CAAST) is being implemented in Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra under world bank Sponsored National Agricultural Higher Education Project (NAHEP) of Indian Council of Agricultural Research (ICAR), New Delhi, Government of India, Since 2019. The main objective of this center is to train PG/PhD students and faculties about advances in science and technology. The project is proposed on 50:50 cost sharing basis between the World Bank and the Government of India, implemented at VNMKV, Parbhani. Overall, the project aims to establish an advanced basic engineering hardware and software setup such as Mechatronics, CAD/CAM/CAE, 3-D Printers and Instrumentation Laboratories for Agribots, Agri-drones and Agri-AGVs., so that a holistic model can be developed to raise the standard of current agricultural education system that provides more jobs and is entrepreneurship oriented and on par with the global agriculture education standards.

As a part of this project, Centre of excellence for Digital Farming solutions for Enhancing Productivity by Robots, Drones and AGV's (DFSRDA), VNMKV, Parbhani is organizing One Month Hands on Training on "Precision Agriculture by Advance Digital Technologies"

Training Background

The NAHEP-CAAST DFSRDA-VNMKV, Parbhani centre is integrated by three interdisciplinary research divisions such as Agribots, Agri-Drones and Agri-AGV's based on four applicant portfolios and Instrumentation Cell:

1. Climate-based Digital Knowledge Support Centre. (CDKS)
2. Seed/Seedling Processing and Nursery Automation Centre. (SSPN)
3. Smart Portable Machinery Centre. (SPM)
4. Food Processing Automation Centre. (FPA)
5. Instrumentation Cell (IC)

The main aim of organizing this one month hands on training to develop basic skill in the various application of "Advance Digital Technologies" for enhancing productivity by Robots, Drones and AGV's.

This training will introduce the PG/Ph.D students to the state - of - the - art concepts and practices of Fundamentals and Working of Camera and Sensors; Fundamentals and working with 3D Scanner and 3D Printing Machine; Introduction to smart portable machines and its scope of applications; CAD/CAE /CAM/ Ansys; Construction and Working of Grafting Robot and Experimentation; Polyhouse Automation, Hydroponics; Food Processing Automation; Hydraulic and Pneumatic Lab, Mechatronic Lab.

Objectives

1. Establish an advanced basic engineering hardware and software setup such as Mechatronics, CAD/CAM/CAE, 3-D Printers and Instrumentation Laboratories for Agribots, Agri-drones and Agri-AGVs.
2. Strengthen the present PG and PhD courses in all disciplines by offering three elective course work such as Robotics , Drones or AGVs.
3. Develop case studies / Projects of Agribots, Agri-drones, Agri-AGVs applications in agriculture.
4. Enhance the of PG/Ph.D student of VNMKV by academic and thematic research.

Target Audience

Any PG, Ph.D. Students of Agricultural and allied sciences such as Agronomy, Horticulture, Agril. Meteorology, Agril. Entomology, Plant Pathology, Soil Science and Agril. Chemistry, Animal Husbandry and Dairy Science, Agril. Botany, Extension Education, Agril. Economics, Irrigation and Drainage Engg., Soil Water Conservation Engg., Process and Food Engg., Farm Power and Machinery Engg., Renewable Energy Sources, Food Technology, Community Science and Agril. Biotechnology of Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani and other Agricultural University are eligible to register and are requested to take advantage of the training.

Registration

Duration of Training :
01st to 30th December, 2021

Registration Fee (Non Refundable):
Training Fee:
For VNMKV Students : No fees
For Other than VNMKV : Rs.1000/-

Account Detailes :
Account Name   : Comptroller, Vasantrao Naik Marathwada Krishi Vidyapeeth
Account Number   : 38639565001
Bank Branch   : State Bank of India, Branch: MKV, Parbhani (MS) India.
IFSC Code   : SBIN0020317
MICR Code   : 431002203

or use QR code provided here.

SCAN & PAY

Important Dates :

PG, Ph.D Students of Vasantrao Naik Krishi Vidyapeeth, Parbhani are eligible to register and are requested to take advantage of the One Month Hands on Training on "Precision Agriculture by Advance Digital Technologies" from the 01st to 30th December, 2021 by following all guidelines of COVID-19.

Link for Registration : https://bit.ly/3csKKaJ
QR code for Registration :

Last date of registration : November, 29, 2021
upto 05 PM

The list of selected candidates will be displayed on the (https://nahep.vnmkv.org.in/) date : 30th November 2021

Important Note :

No accommodation will be provided for the participants.

One Month Hands on Training
on
"Precision Agriculture by Advance Digital Technologies"
01st to 30th December, 2021 Time : 11.00 Hrs

Patrons

Dr. A. S. Dhawan
Vice-Chancellor
VNMKV, Parbhani

Dr. R. C. Agrawal
National Director
NAHEP, ICAR, New Delhi

Chief Convenors

Dr. D. N. Gokhale
DI & Dean F/A
VNMKV, Parbhani

Dr. Prabhat Kumar
National Co-ordinator
NAHEP, ICAR, New Delhi

Convenor

Dr. G.U. Shinde
Principal Investigator
NAHEP-CAAST-DFSRDA
VNMKV, Parbhani

Organizing Secretary

Er. Khemchand Kapgate
RA (Agri-Bots),
NAHEP-CAAST-DFSRDA,
VNMKV, Parbhani

Er. Ravikumar Kalloji
RA (Agri-AGVs),
NAHEP-CAAST-DFSRDA,
VNMKV, Parbhani

Co-Organizing Secretary

Dr. Aniket Waikar
SRF (CDKS)
NAHEP-VNMKV, Parbhani
M. 9421864320

Dr. Avinash Kakade
SRF (FPA)
NAHEP-VNMKV, Parbhani
M. 8087520720

Dr. Hemant Rokade
SRF (SSPN)
NAHEP-VNMKV, Parbhani
M. 9881775095

National Agriculture Higher Education Project
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One Month Hands on Training
on
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01st to 30th December 2021

Training Schedule

Syllabus for One Month Hands on Training on "Precision Agriculture by Advance Digital Technologies" from 01st to 30th December 2021

Week No.	Name of chapter and content	Time
1	**CDKS Portfolio** • Fundamentals and Working of Camera and Sensors • Water resources development and management • Field Trials and data collection • Data Analysis and calculating vegetation indices • Fundamentals and working with 3D Scanner and 3D Printing Machine	**Daily** **Session I- 11 Am to 1 Pm** **Session II- 3 to 5 Pm**
2	**SPM Portfolio** • Introduction to smart portable machines and its scope of applications • Theory of machine design & Computer Aided Design • Computer aided engineering by ANSYS workbench 2021 • AGV Field trial demonstration by using smart digital camera & sensors • Introduction, Construction and Working of Jackal and Husky Robots	**Daily** **Session I- 11 Am to 1 Pm** **Session II- 3 to 5 Pm**
3	**SSPN Portfolio** • Introduction to Robotic Grafting • Construction and Working of Grafting Robot and Experimentation • Introduction, Construction, and Working of Refrigerated Van and Cold Storage Unit • Basics of Polyhouse Automation • Basics and Introduction to Hydroponics	**Daily** **Session I- 11 Am to 1 Pm** **Session II- 3 to 5 Pm**
4	**FPA Portfolio** • Mushroom cultivation and their by-products • Food Texture Analysis • Food Colour Analysis • Packing technology	**Daily** **Session I- 11 Am to 1 Pm** **Session II- 3 to 5 Pm**
5	**IC Portfolio** • Introduction and Working on Hydraulic and Pneumatic Lab • Introduction and Working on Mechatronic and Automation Lab	**Daily** **Session I- 11 Am to 1 Pm** **Session II- 3 to 5 Pm**

NAHEP CAAST DRSRDA VNMKV, PARBHANI
AGRIBOTS DIVISION

NAHEP - CAAST DFSRDA, VNMKV, PARBHANI
AGRI-AGVs DIVISION

NAHEP - CAAST DRSRDA, VNMKV, PARBHANI
SSPN PORTFOLIO

Seed Production Cycle

NAHEP - CAAST DRSRDA, VNMKV, PARBHANI
AGRIDRONE DIVISION

NAHEP - CAAST DRSRDA, VNMKV, PARBHANI
CDKS PORTFOLIO

Agriculture IoT

NAHEP - CAAST DRSRDA, VNMKV, PARBHANI
FPA PORTFOLIO

HALDI GRINDING PLANT

NAHEP - CAAST DRSRDA, VNMKV, PARBHANI
SPM PORTFOLIO