



International Symposium



Robotics in Agriculture

December 20-21, 2023

 Grand Maratha, Four Points By Sheraton Hotel and Serviced Apartments, Viman Nagar, Pune, Maharashtra 411014, India.

 <http://mpkv-cff2023.in/>
<https://www.mpkv-caast.ac.in/>



NHEP



Importance of Symposium

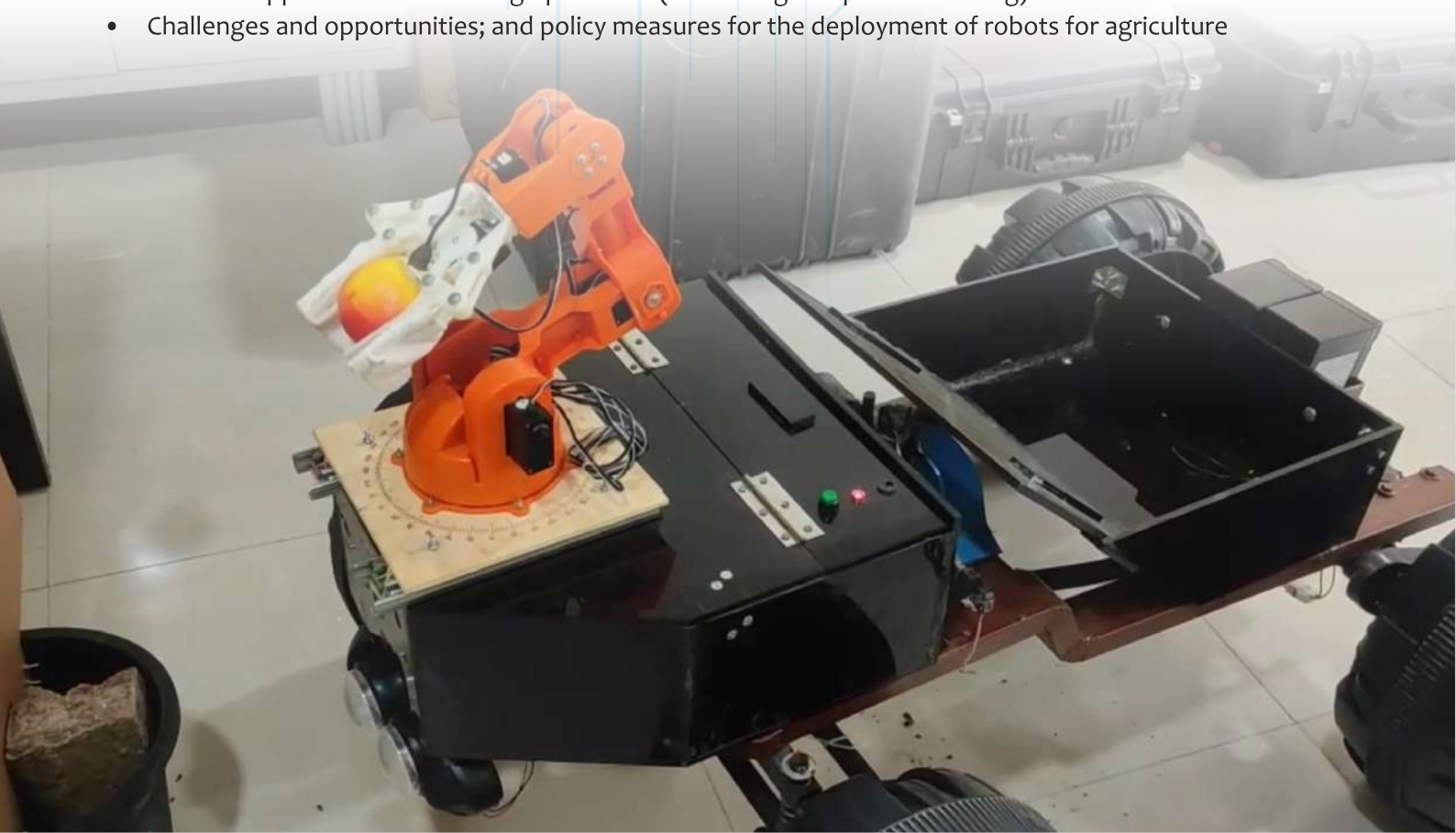
Robots are mechanical or electromechanical systems that are capable of performing tasks autonomously or semi-autonomously. Robots have a wide range of applications across various industries and sectors. The example includes: Manufacturing and Production, Healthcare and Medical, Logistics and Warehousing, Construction, Surveys, Mining and Exploration, Defense and Security, Space Exploration, Environmental Monitoring and Management, Energy Utilities, Entertainment and Leisure; and Food and Beverage. The use of robots leads to increased efficiency, cost savings, improved safety, and a more sustainable and technologically advanced approach to a wide range of tasks and processes. Additionally, robots can often perform the tasks in environments that may be hazardous or inaccessible to humans. The robots have the potential to perform various farming operations such as seeding, planting, weeding, spraying, and harvesting; and in turn can improve significantly the efficiency, productivity, and sustainability of farming practices. Lot of research and development efforts are currently aimed at creating robots that are versatile, adaptable, and capable of performing increasingly complex farming tasks. In order to make the students, researchers, practitioners, farmers and industries aware about the advances in robotics technologies; and bring them on one platform to deliberate about the possibilities of application of robotics in Indian agriculture the **“International Symposium on Robotics in Agriculture”** is organized with following specific objectives.

Objectives

1. To educate farmers, researchers, industries and students about the latest advancements in agricultural robotics and their potential benefits.
2. To provide a platform to meet, share ideas, and explore potential collaborations.
3. To demonstrate cutting-edge agriculture robotic systems and technologies through exhibits, and presentations.
4. To deliberate on challenges and concerns related to the adoption of robotics in agriculture, and potential solutions.
5. To deliberate on measures necessary to ensure the safe and responsible deployment of agricultural robots.

Themes

- Artificial intelligence, machine learning and computer vision for agricultural robotics
- Robotics applications for farming operations (pre-harvesting)
- Robotics applications for farming operations (harvesting and post harvesting)
- Challenges and opportunities; and policy measures for the deployment of robots for agriculture



Programme and Technical Sessions

Date: 20 December, 2023

0830 to 0945 h	Breakfast and Networking
1000 to 1100 h	Inauguration
1100 to 1130 h	Hi-tea, Networking break
1130 to 1300 h	Key Note Session-I (Digital Technologies for Agriculture)
1300 to 1400 h	Lunch break
1400 to 1530 h	Technical Session-I (Artificial intelligence, machine learning and computer vision for agricultural robotics) Theme Presentations (by invited experts) Presentations of accepted research and practioners papers
1530 to 1600 h	Poster presentation, Networking and hi-tea
1600 to 1730 h	Technical Session-II (Robotics applications for farming operations (pre-harvesting)) Theme Presentations (by invited experts) Presentations of accepted research and practioners papers

Date: 21 December, 2023

0930 to 1100 h	Technical Session-III (Challenges and opportunities; and policy measures for the deployment of robots) Theme Presentations (by invited experts) Presentations of accepted research and practioners papers
1100 to 1130 h	Poster presentation, Networking and hi-tea
1130 to 1300 h	Technical Session-IV (Robotics applications for farming operations (harvesting and post harvesting)) Theme Presentations (by invited experts) Presentations of accepted research and practioners papers
1300 to 1400 h	Lunch
1400 to 1530 h	Key Note Session-II (Digital Technologies for Agriculture)
1530 to 1600 h	Hi-tea, Networking
1600 to 1730 h	Concluding Session



Call for Papers

Category of papers

The papers are invited on one or more themes of the Symposium in following categories from:

- **Academician, Scientists and Researchers:** The research papers based on the development of process and technologies of AI and ML and Robotics.
- **Entrepreneurs, Start-ups, Practioners and Industries:** The practioners/ description papers based on the developed and under-development products and processes.
- **Students:** The papers on the development of the concepts, framework.
- **Others:** The papers on challenges, issues, regulatory framework and policies.

Acceptance of the Papers and Form of the Presentations

The papers submitted for the Symposium will be entered through the peered review process and depending on the comments from the reviewers, the accepted papers will be considered for the **“Oral”** or **“Poster”** presentations.

The Submission of the Papers

- **The format:** The formats of the papers to be submitted in various categories are available at <https://mpkv-cff2023.in/Home/israg/6>
- The papers in the prescribed format need to be uploaded at <https://mpkv-cff2023.in/Home/israg/6> and/or emailed to info@mpkv-cff2023.in



Publication of the Papers

All the papers accepted in various categories and presentation forms will be published in the Symposium Proceedings after due modifications by the authors/presenters as per the comments received during the presentations. The selected papers from all the categories accepted for oral presentations will also be published in the **“Journal of Agricultural Research and Technology”** jointly published by all the four agricultural universities in the State of Maharashtra after processing thorough the review process of the journal.

Awards

The poster presentations of the scientists/faculties and practioners; and the oral and poster presentations of the students will be evaluated by the International and National Experts and the selected oral and poster papers will be awarded in various categories.

Key Dates

- **Registration**
 - With normal registration fees: **8 December, 2023**
 - With late registration fees: **15 December, 2023**
- **No on-spot registration**
 - The registration will be closed once the prescribed numbers of delegates have registered.
- **Paper submissions**
 - Last date of submission of papers: **8 December, 2023**
 - Communication regarding the final acceptance: **12 December, 2023**
- **The dates of the Symposium**
 - 20-21 December, 2023**



Registration

Registration Fees

For participation only

- **Registration fee for the participants other than students: Rs. 10000/-** and late registration fee (i.e. registration after 15 December, 2023): **Rs. 15000/-**
- **Registration fee for the students: Rs. 4000/-** and late registration fee (i.e. registration after 15 December, 2023): **Rs. 6000/-**

For participation with paper presentation

- Registration fee for the presenting author of the paper accepted for the **oral presentation** (however registration is mandatory): **Rs. 3000/-**
- Registration fee for the presenting author of the paper accepted for the **poster presentation** (however registration is mandatory): **Rs. 5000/-**
- Registration fee for presenting author (**if student**) of the paper accepted for the **oral and/or poster presentation** (however registration is mandatory): **Rs. 500/-**
- Registration fee for the authors whose submitted papers have not been accepted for oral or poster presentation and desire to participate: **Rs. 10000/-** and if student: **Rs. 4000/-**

Mode of Payment

Online and links will be available during the Registration Process.

Registration includes

- Access to the Inaugural and Closing Programs, Key Note Sessions and Technical Sessions
- Access to other parallel Symposia (depending on availability of seats)
- Opportunity for networking with National and International Experts, Industries, Start-ups, Entrepreneurs, Students and Farmers
- Registration kit with the specified literature
- Snacks/Lunch during the Symposium

[Click here to](#)

Register

Click here for Registration

Accommodation

Limited accommodations are available in the guest houses of NCL (CSIR), IITM, IMD, IE(I), NIV, ICAR-NRCs, University of Pune and Govt. guest houses on first-come first-serve and payment basis. The participants can contact them directly or indicate the requirement during the registration process (while submitting the application form). Accommodation will not be available at MPKV Guest houses in Pune. There are plenty of hotels in Pune and especially near the venue of the Symposium. The participants are advised to book these hotels, if required, in advance. The list of the hotels along-with the contacts and the tariffs is available at the Symposium Website.



Organizers

About CAAST-CSAWM

The project entitled "**Center for Advanced Agricultural Science and Technology (CAAST) on Climate Smart Agriculture and Water Management (CSAWM)**" is being implemented in Mahatma Phule Krishi Vidyapeeth (An Agricultural University), Rahuri, Maharashtra under World Bank Sponsored National Agricultural Higher Education Project (NAHEP) of Indian Council of Agricultural Research (ICAR), New Delhi, Government of India, Since 2018. The major objectives of CAAST-CSAWM project are;

- To develop the capacity amongst the faculties and scientists for the development and adoption of Precision Farming, Climate Smart Agriculture and Water Management Technologies
- To start a one-year Post-Graduate Diploma in "Climate Smart Agriculture and Water Management" for developing human resources to create entrepreneurship and enhance employability in the public sectors and private industries, strengthen the current M.Sc., M. Tech. and Ph.D. programme (for their research projects, and make provision for the prospective beginner/middle-level faculties/researchers for Post Doctorate studies in precision water management, precision climate-smart agriculture and Geoinformatic
- To develop an integrated system including RS/GIS and GPS tools, modelling and SDSS tools using unmanned aerial system (UAS aka. drone) and sensor-based technologies, mobile applications and their applications climate-smart and precision agriculture and water management
- To conduct end-to-end capacity building through on-the-job training and case study-based learning; enhance the employment and placement rate; and business and entrepreneurship opportunities
- To develop the capacity amongst the faculties and students of MPKV Rahuri and other Agricultural Universities and related organizations for the development and adoption of the precise Climate Smart Agriculture and Water Management technologies as well as to conduct on-the-job training and case study based learning to enhance the employment and placement rate; and business and entrepreneurship opportunities.

With this background, CAAST-CSAWM, MPKV, Rahuri is organising International Symposium on "**Robotics for Agriculture**" during **20-21 December, 2023 at Pune.**

[Click here to know more about CAAST-CSAWM](#)

Organizing Committee

- **Patrons**
Dr. Prashantkumar Patil, Hon'ble Vice Chancellor, Mahatma Phule Krishi Vidyapeeth, Rahuri
Dr. R.C. Agrawal, Deputy Director General (Edu.) and National Director, ICAR-NAHEP, New Delhi
- **Convenors**
Dr. Sunil Gorantiwar, Director of Research; Head (Ag. Engg.) & Principal Investigator (CAAST-CSAWM), MPKV Rahuri
Dr. Anuradha Agrawal, National Coordinator (CAAST), ICAR-NAHEP, New Delhi
- **Co-Convenor**
Dr. Mukund Shinde, Professor (SWCE) and Co-Principal Investigator (CAAST-CSAWM), MPKV Rahuri
- **Organizing Secretary**
Dr. Avdhoot Walunj, Assistant Professor (Mechanical), Dr. ASCAET, MPKV Rahuri (+91-9403188542)
- **Joint Organizing Secretary**
Dr. Sangram Dhumal, Associate Professor (Horticulture), CoA, Kolhapur (MPKV Rahuri) (+91-7666393110)
- **Co-Ordinators**
Mr. Sagar Majik, Research Associate (CAAST) (+91-8975560694); **Er. Shubham Singh**, Sr. Research Fellow (ICAR-IWMI) and **Dr. Devarsh Bhanu**, Research Associate (CAAST), MPKV Rahuri

For updates, visit: <http://mpkv-cff2023.in/>

World Bank Aided
ICAR- National Agricultural Higher Education Project (NAHEP)
Centre for Advanced Agricultural Science and Technology
for Climate Smart Agriculture and Water Management
(CAAST-CSAWM)

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