

**Proceedings of the Training Program on  
Hyperspectral Remote Sensing and Spectroradiometry Instruments Roles  
in Climate Smart Agriculture Development  
14<sup>th</sup> - 15<sup>th</sup> June, 2019**



**About the Training:**

India is the fastest growing country in the world in terms of population and currently its population is above 17.74 % of the total world population. There is a need to increased production and productivity to meet the food demand of constantly growing population. Climate Smart Agriculture (CSA) is “agriculture that sustainably increases productivity, enhances resilience (adaptation), reduces/ removes GHGs (mitigation) where possible, and enhances achievement of national food security and development goals (FAO 2013). In the present scenario of changing climatic satiation agriculture extension play a major role in dissemination of demand driven agricultural technologies for the farmers at individual or organizational levels. Now a days Remote sensing play a significant role in crop classification, crop monitoring and yield assessment. The use of remote sensing is necessary in the field of agronomical research purpose because they are highly vulnerable to variation in soil, climate and other physico-chemical changes. The monitoring of agricultural production system follows strong seasonal patterns in relation to the biological life cycle of crops. In this direction, Center for Advanced Agricultural Science and technology for

Climate Smart Agriculture and Water Management, MPKV, Rahuri organized two day training programme on “**Hyperspectral Remote Sensing and Spectroradiometry Instruments: Role in Climate Smart Agriculture Development**” on 11-12th June, 2019 at Seminar Hall, Dr. ASCAE&T, MPKV, Rahuri with the following objectives,

- To acquire skills in advance techniques such as hyper spectral Remote sensing application, Spectro-radiometer and Spectral library creation in Climate smart agriculture development.
- To introduce the hyper-spectral Remote Sensing and application will be used for climate smart, agriculture development and water resource management.

### **Participants:**

Approximately 100 participants (M.Sc., M.Tech and PhD Students and Faculties from other Universities) in agriculture and allied disciplines.

### **Proceedings of the Training:**

Dr. A. L. Pharande, Dean(F/A) Director of Instruction, MPKV, Rahuri and the Chief Guest of the inaugural ceremony while inaugurating the training program and briefing the importance of the Hyperspectral Remote Sensing and Spectroradiometer Instruments: role in climate smart agriculture development.



**Dr. A. L. Pharande, Dean (F/A), MPKV, Rahuri and the Chief Guest,  
Training programme delivered inaugurating speech**

Dr. S. D. Goarantiwar, Principal Investigator, CAAST –CSAWM, MPKV, Rahuri the Guest of Honor, explained the various ongoing activities of the CAAST –CSAWM project, while

expressing the need of the training program and also emphasized the benefit of the Hyperspectral Remote sensing application in precision agriculture.

Earlier Dr. S.A.Kadam, Assistant Professor Training Organizing secretary, CAAST – CSAWM, MPKV, Rahuri introduced the dignitaries and delegates of the training program.



**Dr. S.A. Kadam, Assistant Professor introduced the dignitaries**

Dr. D.D. Pawar, Associate Dean, Dr.ASCAE&T, MPKV, Rahuri , Dr. Vijay Bhagat, Associate Professor Department of Geography, Agasti Arts, Commerce and Dadasaheb Rupwate Science College, Akole, District-Ahmednagar, Maharashtra (India), Dr. Amol D. Vibhute, Assistant Professor School of Computational Sciences, Punyashlok Ahilyadevi Holkar Solapur University, Solapur, (MS), India, and Dr. M. G. Shinde,Head of IFD-IWM,Co-Principal Investigator & DDO, CAAST –CSAWM, MPKV, Rahuri proposed a formal vote of thanks for the inaugural session.

**First Day**

**Lecture -1**



The first theory lecture began with a briefing on overview of Hyperspectral imaging, acquisition techniques for hyperspectral imaging, software used and its application for climate smart agriculture and water management. Dr. Vijay Bhagat, Associate Professor, Department of Geography, Agasti Arts, Commerce and Dadasaheb Rupwate Science College, Akole, District-Ahmednagar, Maharashtra (India). He has explained the Introduction of Hyperspectral Remote Sensing, What is Hyperspectral Imaging? How does Hyperspectral Imaging work? Hyperspectral data collection, Acquisition Techniques for Hyperspectral Imaging advantages and disadvantages, Software's used and its Applications.



**Dr. Vijay Bhagat, Associate Professor delivered lecture**

## **Lecture -2**

In the second lecture Dr. Amol D. Vibhute, Assistant Professor, School of Computational Sciences given the brief explanation of Hyperspectral Remote Sensing and Its Data Processing for climate smart agriculture and water management theory cum practically.





**Dr. Bhaskar Gaikwad, Scientist (FMPE), delivered lecture**

#### **Lecture -4**

Dr. S.K. Chaudhari, Assistant Director General, Soil Water Management, ICAR, New Delhi has explained the Emerging issues of soil & water management in agricultural system and scope of hyperspectral remote sensing.



**Dr. S.K. Chaudhari, Assistant Director General, delivered lecture**



## Valedictory session:

The valedictory session illuminated the training with the graceful presence of Dr. S.K. Chaudhari, Assistant Director General, Soil Water Management, ICAR, New Delhi, Dr. D.D. Pawar, Associate Dean, Dr. ASCAE&T, MPKV, Rahuri, Dr. S. D. Gorantiwar, Principal Investigator, CAAST –CSAWM, MPKV, Rahuri, Dr. M. G. Shinde, Head of IFD-IWM, Co-Principal Investigator & DDO, CAAST –CSAWM, MPKV, Rahuri as the Chief Guest. While speaking on the occasion Dr. Gorantiwar expressed how best all can benefit of the training on Hyperspectral Remote Sensing and Spectroradiometer Instruments role in climate smart agriculture and water management. Dr. S.A.Kadam, Assistant Professor, Training Organizing secretary, CAAST –CSAWM, MPKV, Rahuri has given the advice to the participants must to be apply the Hyperspectral Remote Sensing application in precision agriculture and water resource management. Dr. P.S. Bodake, Chief Scientist and Account and Finance Officer, CAAST –CSAWM, MPKV, Rahuri. The training concluded with Dr. S.A.Kadam, Assistant Professor and proposed vote of thanks Dr. M.G.Shinde, Co-Principal Investigator, CAAST –CSAWM, MPKV, Rahuri



**Valedictory session  
Certificate awarded to the participants**