

Agriculture Applications through Space-based Observations

Organisation and Objective

Space Applications Centre (SAC) is one of the major centers of the Indian Space Research Organisation (ISRO) located in Ahmedabad, Gujarat. SAC focuses on the design of space-born instruments for ISRO missions, development and operationalisation of applications of space technology for national development. SAC designs and develops all transponders for the INSAT and GSAT series of communication and navigation satellites and optical and microwave sensors for remote sensing satellites. The applications encompass communication, broadcasting, navigation, disaster monitoring, meteorology, oceanography, environment monitoring and natural resources survey.

Earth, Ocean, Atmosphere, Planetary Sciences and Applications Area (EPSA) cover activities in the fields of Agriculture, RS & GIS, Land applications, Planetary Science, Physical Oceanography, Satellite Meteorology, Environment Including Terrestrial, Coastal and Marine environment, Marine and Water Resources, Climate change and Urban planning etc. The activities are carried out under a number of programmes linked to Indian Earth Observations.

This is ISRO's initiative to support Graduate and Post graduate students, professionals from academics and researchers across the country to pursue research in the field of Earth Eco systems research using earth observation satellite systems. Data from our Indian Remote sensing satellite missions like Resourcesat-1/2/2A, RISAT, INSAT-3D/3DR and data from other missions will be made accessible.

Training on Agriculture Applications through Space-based Observations

Space Applications Centre, Ahmedabad, is organising a training programme on 'Agriculture Applications through Space-based Observations' for Indian Participants under TREES initiative. This programme aims to provide theoretical basis and hands-on experience to the participants of this programme. The programme will help in capacity building for understanding of Remote sensing utilisation of satellite data for agricultural applications. The course will cover (a) interesting lectures by eminent scientists and (b) demonstration/practicals. Lectures will comprise of Introduction to Optical, Thermal, Microwave remote sensing, overview of agricultural applications, Digital Image Processing for crop monitoring, Biophysical parameter retrieval & yield modeling, Agrometeorological & Horticultural applications, Crop insurance studies, Advanced technique for crop inventory through Artificial Intelligence & Machine Learning techniques.

Details of The Training Program

The training programme consists of lectures by eminent scientists working in related fields in ISRO in the forenoon followed by hands-on session with satellite data in the afternoon. Participation certificates will be provided after completion of the training.

Date	15-17, November 2021
No. of participants	50 (maximum)
Target Group	State/Central Government officials, Scientists, Research Scholars, Teachers and Faculties affiliated to recognized Universities and Research Institutions working in field of Remote Sensing, GIS and other relevant fields like Information Technology.
Prerequisite	Basic knowledge of computer applications and information technology..

Only 50 participants can be accommodated for the training programme. If more number of applications are received, the selection will be made on the basis of applicant's background experiences and qualifications.

Interested persons may send filled-in application form on or **before October 31, 2021**, scan it and E-mail only (no hard copy please) to **trees@sac.isro.gov.in**

Dr. S.P. Vyas

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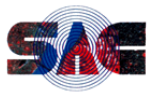
For further details please visit our website

<https://sac.gov.in/>
<https://mosdac.gov.in/>
<https://vedas.sac.gov.in/>

Schedule for the TREES training module

Agriculture Applications through Space-based Observations

Time	Day-1 (15 November, 2021- Monday)	
10:00-10:15	Inauguration	
10:20-11:00	Overview of Agricultural applications	Dr B K Bhattacharya
11:05-12:00	Fundamentals of Optical and Thermal remote sensing for crop monitoring	Dr Mehul R Pandya
12:05-13:00	Introduction to digital image processing	Shri Mukesh Kumar
14:00-17:00	Practical Demonstration: Preprocessing of RS data, Atmospheric Correction, Basics of crop classification	Shri Ayan Das Shri Mukesh Kumar
Time	Day-2 (16 November, 2021- Tuesday)	
09:30-10:15	Basics of crop inventory and classification	Smt Nita Bhagia
10:20-11:05	Biophysical parameters retrieval & Agrometeorology applications	Dr Rahul Nigam
11:10-11:55	Fundamentals of microwave remote sensing for crop monitoring	Dr Saroj Maity
12:00-12:45	Advance techniques- AI/ML for agricultural applications	Shri Ayan Das
14:00-17:00	Practical Demonstration: Crop classification	Shri Mukesh Kumar Shri Ayan Das
Time	Day-3 (17 November, 2021- Wednesday)	
09:30-10:15	Crop yield modelling using satellite data	Dr Rojalin Tripathy
10:20-11:05	Horticultural and Crop insurance applications	Shri K N Chaudhari
11:10-11:55	Fodder crop assessment	Dr Sujay Dutta
12:00-12:45	Crop physiological processes using measurements and remote sensing observations	Dr Nikhil Lele
12:50-13:30	Remote sensing of crop residue burning and forest fire	Dr C P Singh
14:30-15:15	Practical Demonstration: Yield modelling using Google Earth Engine	Shri Ayan Das Shri Mukesh Kumar
15:20-16:00	Feedback and Question-Answer Session	



Space Applications Centre-ISRO, Ahmedabad
Application for Web Based - TREES training on
Agriculture Applications through Space-based Observations



(15-17 November 2021)

(Last Date-31 October 2021)-web based/Online

(Please type or write in CAPITAL Letters)

Name : _____

Date of Birth (DD/MM/YYYY) : _____

Gender (Male/Female) : _____

Contact Information : _____
(include Email, Phone, Fax details)

E-mail _____

Mobile _____

Designation with Name of Institute : _____

Educational Qualification _____

Have you applied/ attended any other SAC Training programmes. _____
(Tick) TREES, SMART, HRD/SAC or any other?

Research Interest *(Mention your publications on Remote Sensing and GIS applications)* _____

Justify your Selection for the Training Programme *(specify your experience in GIS, Remote Sensing data handling, software used and intended future applications)** _____
(Attach separate sheet if required)*

Signature of the Applicant with date _____

Recommendation from Head of the Department / Institution with seal if possible- (Optional) _____

Affix Recent
Passport Size
Photograph

Send Scanned Signed Copy by e-mail only: trees@sac.isro.gov.in