Background and Objectives

The Division of Agricultural Physics, Indian Agricultural Research Institute, New Delhi is organizing a short course on "**Hyperspectral Remote Sensing for Agriculture**" sponsored by Department of Science & Technology, Govt. of India, during **Feb 18 to 27, 2013** for the teachers, scientists, engineers, research personnel of State Agricultural Universities, ICAR Institutes and Govt. / Semi Govt. Organizations.

Multispectral remote sensing data have been potentially explored in India for various applications. A major limitation of multispectral broadband remote sensing products is that they use average spectral information over broadband widths resulting in loss of critical information available in specific narrow bands. The narrow spectral channels that constitute hyperspectral sensors enable the detection of small spectral features that might otherwise be masked within the broader bands of multi-spectral scanner systems. However, use of hyperspectral remote sensing is still in nascent stage. Keeping in view, recent rapid advances in imaging spectroscopy and opportunities for unique applications hitherto thought to be infeasible using broad-band remote sensing, a the short course under the aegis of DST-NRDMS initiative on hyperspectral remote sensing has been designed to develop trained human resource on hyperspectral remote sensing and its application in agriculture.

Curriculum

A series of lectures and practicals will cover principles and applications of Hyperspectral Remote Sensing. This includes a detailed theoretical knowledge on hyperspectral remote sensing (both in optical and thermal range), soil and vegetation spectrometry, imaging spectrometry, protocol of spectral signature collection both in field and laboratory conditions, Bidirectional Reflectance (BRDF), radiative transfer modelling, pre-processing of hyperspectral data and its classification algorithms, applications of hyperspectral remote sensing for retrieval of soil and plant parameters, plant stress monitoring etc. The theoretical knowledge will be supported by adequate hands on exposure on spectral signature collection and their analysis, hyperspectral image processing – pre processing, classification, spectral unmixing and spectral matching, estimation of soil and plant parameters through empirical and radiative transfer modelling.

Faculty

The majority of the faculty is in-house, drawn from the Division of Agricultural Physics and other Divisions of IARI, for delivering lectures and conducting practicals. Guest faculties comprising of experts from SAC, ADRIN-ISRO, IIRS, IITs, *etc*. will also deliver lectures on their specific area of specialization and present recent case studies on hyperspectral remote sensing applications.

Facilities

The Division has been working for more than four decades on Remote Sensing and its various applications in Agriculture through joint research programmes with ISRO and funding from ICAR, DST and Ministry of Environment & Forest. The Division has sophisticated RS & GIS laboratory equipped with state-of-the-art hardwares and softwares. The hyperspectral remote sensing laboratory of the division is well equipped with spectroradiometer, FTIR and many other facilities for hyperspectral remote sensing research.

Eligibility

Teachers, Scientists, Engineers, Research Personnel of State Agricultural Universities, ICAR Institutes or Govt. / Semi Govt. Institutes, policy makers and academicians in the field of Agriculture and Forestry are eligible for participation. **Good working knowledge on multispectral remote sensing and digital image processing is mandatory.** The total number of participants shall be limited to a maximum of 25.

Financial Support

Selected participants shall be provided shortest route train or bus fare as per eligibility and free lodging and boarding as per ICAR norms at IARI Guest House / Trainee's Hostel. No registration fee will be charged for the course. The financial support for the short course is provided by the Department of Science & Technology, Govt. of India.

How to apply

The application for participation may be sent in prescribed proforma, duly forwarded by the competitive authority of the Institute / University where the candidate is employed. Applicants may send an advance copy of their application, but their selection will be subject to receiving their original application along with recommendation from their employer. Completed applications in all respect should be sent to the Course Director/Co-ordinator on or before **Feb 05, 2013** at the following address:

Dr. Rabi N. Sahoo / Dr. Sanatan Pradhan
Course Director Course Coordinator

Division of Agricultural Physics,
Indian Agricultural Research Institute,
Pusa Campus, New Delhi – 110012

Phone: +91-11- 25841178, 25848853, 25843014
+91 -11-25733888 Ext 4822
Fax: 011-2584 2321, 2584 3014
Email: hyperagri.iari@gmail.com
rnsahoo@iari.res.in

Website: http://www.iari.res.in

Important Dates

Last date for receiving
application proforma : Feb 05, 2013

Intimation of selection : Feb 08, 2013

Commencement of course: Feb 18, 2013

Application Proforma
Hyperspectral Remote Sensing for Agriculture (HYPERAGRI-2013)
(Feb 18 to 27, 2013)

1. Full Name (in block letters) :
2. Designation :
3. Basic Pay and Scale :
4. Date of Birth :
5 Sex (Male/Female) :
6. Affiliation :
7. Address for Correspondence :
(including Phone, Fax & E-mail*)

(*compulsory as acceptance will be sent by E-mail)

8. Educational Qualifications :

Degree	Major Subjects	Year	Division / Class	University / Institute
Bachelor				
Masters				
Ph.D.				
Other				

9. Working experience in Multispectral Remote sensing and Digital Image Processing (Yes/No):
10. RS Trainings Attended :
11. Current area of Research / Project :
12. Does your current Research / Project needs Hyperspectral Remote Sensing :

Signature of Applicant

Date:
Place:

16. Certificate and Recommendation by the forwarding authority :

It is certified that the information provided above is verified from the records and found correct. The applicant is recommended & nominated for attending the DST funded short course on Hyperspectral Remote Sensing for Agriculture at IARI, New Delhi.

Date: Signature with seal
Place: of the Authority

Announcement

SHORT COURSE ON

HYPERSPECTRAL REMOTE SENSING FOR AGRICULTURE
(HYPERAGRI-2013)

Feb 18 to 27, 2013

ORGANIZED BY

DIVISION OF AGRICULTURAL PHYSICS,
INDIAN AGRICULTURAL RESEARCH INSTITUTE,
NEW DELHI – 110 012, INDIA

SPONSORED BY

DEPARTMENT OF SCIENCE & TECHNOLOGY,
MINISTRY OF SCIENCE AND TECHNOLOGY,
GOVERNMENT OF INDIA

DIVISION OF AGRICULTURAL PHYSICS,
INDIAN AGRICULTURAL RESEARCH INSTITUTE,
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