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**DIVISION OF AGRICULTURAL PHYSICS  
INDIAN AGRICULTURAL RESEARCH INSTITUTE  
NEW DELHI - 110 012 (INDIA)**



**Dr. Prameela Krishnan**  
**Head**

Phones : +91-11- 2584 1178/ 8853/3014

Fax: +91-11-2584 2321/3014

E mail: prameelakrishnan@yahoo.com

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**Sub:** Announcement of fifteenth IIRS Outreach Programme on "**Basics of Remote Sensing, GIS & GNSS**", schedule to be conducted during August 10-November 27, 2015.

Dear Sir/Madam,

I am happy to announce that EDUSAT based fifteenth IIRS Outreach Programme on "**Basics of Remote Sensing, GIS & GNSS**", schedule to be conducted during August 10-November 27, 2015 in this Division. The training will be offered by Indian Institute of Remote Sensing (IIRS), ISRO, Department of Space, Dehradun which will be received by our end through internet by utilizing A-VIEW software facility available with us. The training will be conducted during 4.00-5.30 pm on the scheduled dates only. The course is open to UG & PG students/researchers/scientific & technical staff and interested individuals. The successfully completed participants will be awarded with certificate from IIRS, ISRO. I would request you to send the nominations of scientists and Ph.D. students from your Division for the participation in this programme. The nomination of the candidates may be sent to Dr. Nilimesh Mridha, Course Co-ordinator, Division of Agricultural Physics, IARI, New Delhi – 110 012 (Email: nilimesh.mridha@gmail.com) latest by 7<sup>th</sup> August, 2015.

All the nominated participants are requested to report at 4.00 pm, August 10, 2015 in the C. Dakhinamurthy Seminar Hall of the Division of Agricultural Physics. The details of the programme and class schedule will be given once we receive it from IIRS, Dehradun.

Thanking You.

Yours sincerely,

**डा. प्रमेला कृष्णन**  
**(Prameela Krishnan)**

**Head**  
**Division of Agricultural Physics**  
**मा.क.अनुप.- भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली-12**  
**ICAR-Indian Agricultural Research Institute, New Delhi-12**

Encls: (1) Application Form

## IIRS Outreach Programme

The IIRS Outreach Programme which started in 2007 with 12 no. Universities /institutions/departments, has now spread over 222 no. spread across India covering 29 States and 2 union territories. Following is the list of type of Universities /institutions/departments participating IIRS outreach program.

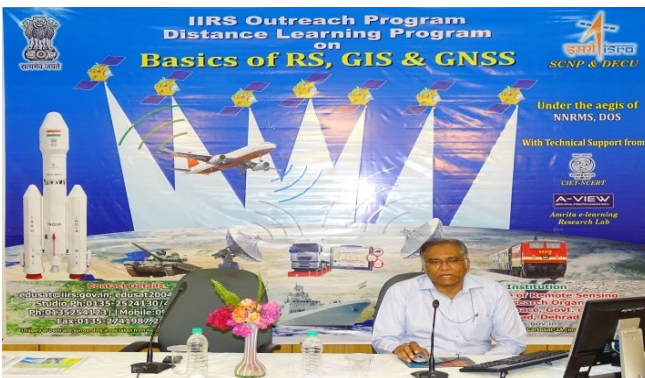
1. Central/State Universities
2. Research Institutions
3. Science and Engineering Colleges
4. State Remote Sensing Centres
5. Defense Institutions
6. State Science & Technology Departments
7. Central / State Government Departments
8. NKN Universities/Institutions
9. Foreign participants
10. Individuals

## Feedback Mechanism

IIRS has conducted five workshops in 2007, 2009, 2010 2013, 2014 and 2015. Invited feedback from participating Universities to help to improve the quality of future courses. IIRS is planning to conduct next workshop in further enhance the outreach programme.



Group photo of fifth EDUSAT feedback session during IUIM-2015



Scientific Secretary, ISRO (former Director, IIRS) delivering the lecture

## About IIRS

Indian Institute of Remote Sensing (IIRS), Dehradun is one of the units of ISRO to realize the Indian space vision, as a key player, in capacity building for successful implementation of EO Programme for societal benefits. IIRS is a premier institute with internationally acclaimed expertise in the area of training, education and research in the field of Remote Sensing and Geoinformatics and their applications in natural resources survey, Earth and atmospheric sciences, oceanography, Urban and infrastructure planning, environmental and disaster management.

IIRS outreach program is popular across India. Since then 14 programs were conducted and trained more than 19000 participants.

IIRS also conducts e-learning Program on Remote Sensing and Geoinformation Science I provided by the Institute. First course is in progress with more than 1000 participants registered for the course. Refer to website <http://elearning.iirs.gov.in> for details.

## Contact Details

### Prof. P. L. N. Raju

Project Manager, IIRS Outreach Programme and  
Group Head, Remote Sensing & Geoinformatics  
Indian Institute of Remote Sensing  
Indian Space Research Organisation  
Department of Space, Govt. of India  
4-Kalidas Road, Dehradun - 248001

Ph: 0135-2524123|Mobile: 09411768991

Fax: 0135-2741987, 2748041

Email: [raju@iirs.gov.in](mailto:raju@iirs.gov.in)

### Dr. Harish Karnatak

Course Coordinator  
Indian Institute of Remote Sensing  
Indian Space Research Organisation  
Department of Space, Govt. of India  
4-Kalidas Road, Dehradun - 248001

Ph: 0135-2524332, Email: [harish@iirs.gov.in](mailto:harish@iirs.gov.in)

### EDUSAT Studio Technical Team

### Mr. Janardan Vishwakarma

Senior Technical Assistant  
Ph: 0135-2524130, Email: [janardan@iirs.gov.in](mailto:janardan@iirs.gov.in)

### Mr. Mahadevaswamy .M

Technical Assistant  
Ph: 0135-2524132, Email: [mahadev@iirs.gov.in](mailto:mahadev@iirs.gov.in) /  
[edusat@iirs.gov.in](mailto:edusat@iirs.gov.in) / [edusat2004@gmail.com](mailto:edusat2004@gmail.com)

## Fifteenth IIRS Outreach Programme



Regional dust storm activities over Northern Hemisphere of Mars :Captured by Mars Orbiter Mission (MOM) spacecraft.

**“Basics of Remote Sensing,  
Geographical information System &  
Global Navigation Satellite System”**

**August 10 – Nov 20, 2015**

**Sponsored by:**

**National Natural Resources Management System**

**(NNRMS)**



**Organised by:**

Indian Institute of Remote Sensing  
Indian Space Research Organisation  
Department of Space, Govt. of India  
Dehradun

**[www.iirs.gov.in](http://www.iirs.gov.in)**

## About the Course

The use of RS, GIS, GPS and associated geo-spatial technologies is increasing rapidly, creating an urgent demand for trained manpower. IIRS utilizes the Ku-Band facility of INSAT-4CR, an ISRO Satellite, for conducting Distance Learning Programme to primarily complement the educational programmes of the Indian Universities. The target group includes students at undergraduate (final year)/postgraduate level and faculty/researchers at different universities/institutions. Under its Outreach Programme, IIRS has established its own Teaching end studio and unlinking facility in the campus under national beam coverage of ISRO satellites, connecting numerous classroom end users. IIRS has successfully conducted 14 such courses so far with participation of over 190000 students from 222 Indian Universities. This programme can be received live using either one of the options i.e. 1) Satellite Interactive Terminal (SIT) classroom facility at university with LMS S/W tool or 2) A-VIEW e-learning tool developed by Amrita University in internet environment with log in permission. Course participation has increased with the option of A-VIEW software as it has also enabled participation of many who do not have the SIT facility.

A new course on “Basics of RS, GIS & GNSS” is commencing from August 2015.

## Curriculum

The course structure is spread into 4 modules of teaching on:

- Remote Sensing and Digital Image Analysis
- Global Positioning System
- Geographical Information System
- RS and GIS Applications

The lectures will be delivered via satellite through the latest LMS based “TrainNet” software/VLC based streaming or internet based streaming using A-VIEW software/IIRS Interactive Server enabling the participants to listen to the video lectures, clear their doubts in real-time using Chat, Email and Live Video Chat interaction. The lecture videos will be recorded and made available through YouTube/IIRS ftp site to view and learn later, if the time is not available during the live sessions.

## Course Topics

- Basic Principles of RS, EO Sensors and Platforms, Spectral Signature
- Thermal & Microwave Remote Sensing
- Digital Image Processing: Basic Concepts of Rectification and Registration, Enhancement, Classification and accuracy assessment techniques
- Introduction to GPS and GNSS, receivers, processing methods, errors and accuracy
- GIS, data bases, topology, spatial analysis and open source software's.
- RS & GIS Applications in- Inventory & Crop Yield Forecasting, Soil Resource Management, Forestry & Ecology, Biodiversity, Geology and Geomorphology, Engineering Geology with emphasis on landslide studies, Coastal Zone Management, Marine & Atmospheric Application, Water Resources Management, Hydrogeology/ Ground Water, Human Settlement Analysis, High resolution satellite data analysis, Disaster Management.
- Geoinformation Science - Future Trends

## Target Participants

The candidates who want to participate in the course should be a student of undergraduate course or postgraduate course (any year). Technical/Scientific Staff of Central/State Government/Faculty / researchers at university/institutions are also eligible to participate in this course.

Applications of participants have to be duly sponsored by university/institute and forwarded through coordinators from respective centres. It is possible to accommodate individuals who have good internet facility and have basic knowledge of RS, GIS & GNSS. They will have to appear for evaluation at the nearest IIRS Networked University/Institution. Users receiving programmes under CEC-UGC/CIET /other networks can also participate. Institutions on high speed National Knowledge Network (NKN) can also participate using A-VIEW software.

**Note: Interested University/Institution/Individuals can participate in this course without any cost payable to IIRS.**

## Course Study Material

Course study materials like lecture pdf, lecture video, lecture notes, open source software, practical data & handouts of practical lecture etc. will be made available through IIRS ftp site and YouTube Channel (<http://www.youtube.com/user/edusat2004> (only lecture videos))

## Sponsors & Technical Support

The programme is sponsored by National Natural Resources Management System – Standing Committee on Training and Education (SC-T), Indian Space Research Organisation, Department of Space, Government of India and is conducted with due technical help from Consortium for Educational Communication - University Grants Commission; Central Institute of Educational Technology - National Council of Educational Research and Training, New Delhi; A-VIEW - National Mission on Education through Information and Communication Technology; Development and Educational Communication Unit/Space Applications Centre, Ahmedabad.

## Programme Receptions

NKN/NMEICT Institutions/other Institutions / Universities may participate in IIRS Outreach Programme by setting up either of these facilities:

**Option - I (Satellite Based): Only Existing Users (if operational) can receive**

- 1.2 m Satellite Interactive Terminal (SIT) Antenna
- Indoor unit (IDU) i.e. set top box
- PC with software for LMS
- LCD Projector
- Classroom
- Total cost: Rs.4 to 4.5 lakhs.

DECU-ISRO has authorized M/S Infinium (India) Ltd. (<http://www.infinium.co.in>) for procurement, installation and commissioning

**Option - II (Internet Based)**

- High end Computer + Speakers (Windows OS)
- A-VIEW software (free to download from [www.aview.in](http://www.aview.in))
- National Knowledge Network or any other high speed internet facility (Preferably without firewall)
- Large Display Screen (Projector or TV)
- Classroom

**Option - III (Internet Based)**

**Web browser based access to IIRS interactive server**

- URL- <http://live.iirs.gov.in> (required Flash player and JRE at user end)
- User registration and activation through email
- Participate through live two way web casting.

**Note: Institutions/universities have to bear total expenses for establishment of the classroom facility**

**COURSE APPLICATION FORM**

**Course Name: 15th IIRS Outreach Program on "Basics of Remote Sensing,  
GIS & GNSS"**

Centre: University | Institute :  
(where attending UG/PG/PhD course) (for office use)

Duration: **10<sup>th</sup> Aug- 27<sup>th</sup> Nov, 2015**

Name: First Name Middle Name Surname

Insert passport  
photograph  
here

Date of Birth: Gender: Male /Female

Nationality:

Mailing Address:

Phone: Fax: E-mail:

Educational Qualifications from High School onwards:

Degree	Subjects	%	Grade *	Inst/Univ.	Year of Passing

\*Mention conversion factor, If any

*Certified that all the details given above are true to the best of my knowledge.*

Signature of applicant

Place:

Date:

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**CERTIFICATE OF AUTHORIZATION**

Certified that Mr./Ms/Dr. , who is bonafide  
student of (UG/PG/PhD course) at  
Department/Centre, University and has been officially  
nominated for 15<sup>th</sup> IIRS Outreach Program to be conducted during Aug 10 – Nov 27, 2015.

Place: Signature of University / Institute Coordinator

Date: Name :  
Designation : (Official seal)