

SYMBIOSIS INTERNATIONAL (Deemed University)

Symbiosis Institute of Geoinformatics, Pune

NAAC 5.1.3- Following Capacity development and skills enhancement initiatives are taken by the institution Soft skills Language and communication skills Life skills (Yoga, physical fitness, health and hygiene) Awareness of trends in technology

File Name: 5.1.3_SIG_17-18_Capability enhancement

Sr. No	Details of Documents	No of Pages
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IIRS Outreach Programme

The IIRS outreach programme, which started in 2007 with 12 universities/ institutions has now grown substantially. Currently, 580 universities / institutions spread across India are networked with IIRS. The beneficiaries of the programme may include:

- Central/State/Private Universities & Academic Institutions
- Central & State Government Departments
- Research Institutes
- Geospatial Industries
- NGOs

Feedback Mechanism

IIRS has conducted six workshops in 2007, 2009, 2010, 2013, 2014, 2015 and 2016 to take feedback from participating institutions to improve the quality of future courses.



18th outreach programme feedback session during IIRS User Interaction Meet (IUIM)-2017

Awards

IIRS has received national awards for excellence in training for outreach and e-learning programme during 1st National Symposium on Excellence in Training conducted during April 11-12, 2015 in New Delhi by Department of Personnel & Training (DoPT), Govt. of India in collaboration with United Nations Development Programme (UNDP).



About IIRS

Indian Institute of Remote Sensing (IIRS) under Indian Space Research Organisation (ISRO), Department of Space, Govt. of India is a premier Training and Educational Institute set up for developing trained professionals in the field of Remote Sensing, Geoinformatics and GNSS Technology for Natural Resources, Environmental and Disaster Management. Formerly known as Indian Photo-interpretation Institute (IPI), founded in 1966, the Institute boasts to be the first of its kind in entire South-East Asia. While nurturing its primary endeavour to build capacity among the user community by training mid-career professionals, the Institute has enhanced its capability and evolved many training and education programmes that are tuned to meet the requirements of various target groups, ranging from fresh graduates to policy makers including academia.

IIRS also conducts e-learning programme on Remote Sensing and Geo-information Science (<http://elearning.iirs.gov.in>).

Contact Details

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Course Director
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Mr. Raghavendra Sara
Course Coordinator
Tel: 0135-2524112/M-7417017417
Email: raghav@iirs.gov.in

DLP Team

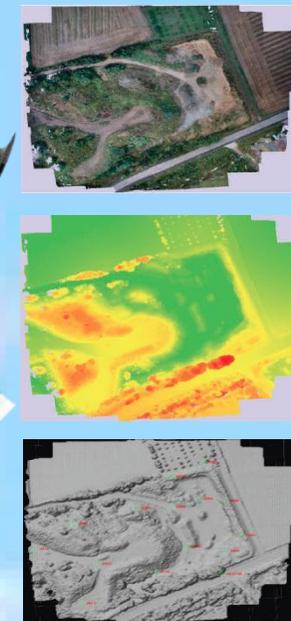
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Mr. Ashok Ghildiyal
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Indian Institute of Remote Sensing,
Indian Space Research Organisation
Department of Space, Govt. of India,
4-Kalidas Road, Dehradun
Email: dlp@iirs.gov.in



UAV Remote Sensing and Applications

July 03-07, 2017




Dr. (Prof.) T. P. Singh
Director



Organised by

Indian Institute of Remote Sensing
Indian Space Research Organisation
Department of Space, Govt. of India
Dehradun
www.iirs.gov.in

About the Course

The increasing development in Unmanned Aerial Vehicle (UAV) platforms and associated sensing technologies, has brought new dimension to the field of remote sensing. The UAVs enable accurate, flexible and low-cost measurements of 3D, radiometric and temporal properties of land cover features with high quality cameras, GPS and precise processing. Availability in wide range of sizes, easier deployment and cost-effectiveness of UAVs compared to conventional air borne/space borne systems make them attractive. With light weight systems, typically flying at altitudes ranging from 100 m to 300 m and the aerial strip extent ranging typically few kms, they have a great potential in applications like fire monitoring, natural resource and disaster management, 3D terrain mapping, precision agriculture, wildlife observation, vegetation measurements, etc. The huge amount of data provided by UAVs pose, a new challenge towards developing appropriate processing, storage and transmission techniques.

In view of the present and future potential of this emerging technology, Indian Institute of Remote Sensing (IIRS) offers a 5 day course on UAV based photogrammetry and remote sensing.

Curriculum

The course will be a blend of lectures and demonstrations on:

- Fundamentals of UAV Remote sensing;
- Challenges in data acquisition and processing;
- Potential advantages of UAV data in Natural Resource management



Dr. (Prof.) T. P. Singh
Director

Target Participants

- The course is designed for professionals from Central/ Sate Govt./Private Organizations/NGO engaged in water resources management and planning, regional and national water resources projects; students and researchers aligned to research in water resources.
- The course participants have to be duly sponsored by their university / institution and application should be forwarded through coordinators from respective Organisations/centres. Users attending 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.

Course Study Material

Course study materials like lecture slides, video recorded lectures, open source software & handouts of demonstrations, etc. will be made available through IIRS ftp link. Video lectures will also be uploaded on YouTube Channel (<http://www.youtube.com/user/edusat2004>).

Course Fee

There is no course fee.

Course Registration

- Course updates and other details will be available on URL- <http://www.iirs.gov.in/Edusat-News/>
- To participate in this programme the interested organizations/ universities/ departments/ Institutes has to identify a coordinator at their end. The identified coordinator will register online his/her Institute as nodal center in IIRS website.
- All the participants has to register online through registration page by selecting his/her organization as nodal center.

Course Funding & 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 support from Amrita Virtual Interactive E-learning World (A-VIEW).

Programme Reception

Programme can be received through Internet connectivity of 2Mbps or better. Following hardware and software set-up is required at user end:

Hardware Requirements :

- High-end Computer/Laptop (Windows OS);
- Good quality web camera ;
- Headphone with Microphone;
- Speakers ;
- Large Display Screen (Projector or TV) .

Software and Internet Requirements

Desktop based: A-VIEW software (free to download from www.aview.in or IIRS ftp link: <ftp://ftp.iirs.gov.in>)

Online live access through <http://live.iirs.gov.in> with free registration.

Connectivity & Other configurations:

NKN or any other high speed internet facility (preferably without firewall, with minimum of 2 Mbps bandwidth)

Network requirements: Port 80 and RTMP (port 1935) protocol should be unblocked from user's computer and Firewall.

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

Award of Certificate

Working Professionals: Based on 70% attendance and submission of assignments.

Students: Based on 70% attendance and online examination.

भारत सरकार
अंतरिक्ष विभाग
भारतीय सुदूर संवेदन संस्थान
4, कालीदास मार्ग, पो. बाक्स सं. 135
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Dr. A. Senthil Kumar
Director

No.: IIRS/EDUSAT/ 2017
Date: 08 June, 2017

Sub: Announcement of 22nd IIRS Outreach Program on "UAV Remote Sensing & Applications" commencing from 3rd July 2017.

Dear Sir/ Madam,

Indian Institute of Remote Sensing (IIRS) is a premier Institute of ISRO which is engaged in training, education and capacity building on use of geospatial technologies for natural resources monitoring and disaster management support services in the country since last five decades. The institute has so far conducted 21 Satellite and Internet based Outreach Programmes, benefitting more than 46,590 participants from 616 Indian universities/ institutions/user Departments/user ministries in India. We have now the pleasure of announcing the 22nd IIRS Outreach Programme targeted to working professionals and students on "**UAV Remote Sensing and its applications**" commencing from **03-07 July, 2017**. This **online programme** will provide a unique opportunity to the learners to enhance their knowledge by attending the course at their respective working places.

The increasing development in Unmanned Aerial Vehicle (UAV) platforms and associated sensing technologies, has brought new dimension to the field of remote sensing. The UAVs enable accurate, flexible and low-cost measurements of 3D, radiometric and temporal properties of land cover features with high quality cameras, GPS and precise processing. Availability in wide range of sizes, easier deployment and cost-effectiveness of UAVs compared to conventional air borne/space borne systems make them attractive. With light weight systems, typically flying at altitudes ranging from 100 m to 300 m and the aerial strip extent ranging typically few kms, they have a great potential in applications like fire monitoring, natural resource and disaster management, 3D terrain mapping, precision agriculture, wildlife observation, vegetation measurements, etc. The huge amount of data provided by UAVs poses, a new challenge towards developing appropriate processing, storage and transmission techniques. In view of the present and future potential of this emerging technology, Indian Institute of Remote Sensing (IIRS) offers a 5 day course on UAV based photogrammetry and remote sensing.

A copy of the course contents of this online programme is enclosed herewith for your kind perusal and wider circulation in your Ministry/ Department/ Organization/ University/ Institute. The course is open for all the professionals working in various Ministries and Department of Government of India (Central and State), University/Institutional Faculty/Professors, Researchers, other working professionals and students.

The course can be attended **without any cost** through Internet using A-View Software which is freely available (www.aview.in) for download. IIRS/ISRO will provide credentials to receive this programme online for registered participants. The Certificate of participation will be awarded to all the participants on successful completion of the programme.



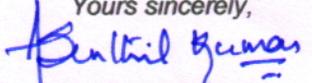
Dr. (Prof.) T. P. Singh
Director

In case if you need any further information about the programme, please feel free to contact -

- **Mrs. Shefali Agrawal**, Course Director ([email: shefali_a@iirs.gov.in](mailto:shefali_a@iirs.gov.in)),
- **Mr. Raghavendra**, Course Coordinator
Ph. 0135-2524112 (Office), M: +91 7417017417 or email- raghav@iirs.gov.in
- **Dr. Harish Karnatak**, Head, Geoweb Services, IT & Distance Learning Department
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- **Dr. Poonam S. Tiwari**, Programme Coordinator, IIRS Outreach Programme
Ph. 0135-2524115 (Office), M: +91 9410924417 or email- poonam@iirs.gov.in
- **EDUSAT Studio/Control Room** [Shri Janardan Vishwakarma & Shri Ashok Ghildiyal]
Ph.: 0135-2524130, email: edusat2004@gmail.com or dlp@iirs.gov.in

You may also visit IIRS website [http //www.iirs.gov in/Edusat-News](http://www.iirs.gov.in/Edusat-News) for further details.

With regards and best wishes,

Yours sincerely,

(A. Senthil Kumar)

Encl: Course Schedule




Dr. (Prof.) T. P. Singh
Director



सत्यमेव जयते

डॉ. ए. सैथिल कुमार
निदेशक

सं.: आई.आई.आर.एस. / एडुसेट/ 2017
दिनांक: 08 जून 2017

विषय: 3 जुलाई 2017 से "यूएवी सुदूर संवेदन एवं अनुप्रयोग" पर प्रारम्भ होने वाले 22^{वें} आई.आई.आर.एस. आउटरीच कार्यक्रम की घोषणा के संबंध में।

प्रिय महोदय/महोदया,

भारतीय सुदूर संवेदन संस्थान (भा.सु.सं.सं.) भूस्थानिक प्रौद्योगिकी के उपयोगार्थ शिक्षण, प्रशिक्षण तथा क्षमता संवर्धन को समर्पित इसरो का एक महत्वपूर्ण संस्थान है। इस संस्थान द्वारा अब तक 21 उपग्रह एवं इंटरनेट आधारित आउटरीच पाठ्यक्रम संचालित किए जा चुके हैं। इन पाठ्यक्रमों से लगभग 616 भारतीय विश्वविद्यालयों/संस्थानों के करीब 46,590 से अधिक प्रतिभागी लाभान्वित हुए हैं। इसी कार्यक्रम को आगे बढ़ाते हुए हम सहर्ष 22^{वें} आई.आई.आर.एस. आउटरीच कार्यक्रम को प्रारम्भ करने की घोषणा करते हैं। 3 जुलाई, 2017 से प्रारम्भ होने वाला यह कार्यक्रम "यूएवी सुदूर संवेदन एवं अनुप्रयोग" पर आधारित है। यह कार्यक्रम कार्यरत पेशेवर तथा छात्रों हेतु लक्षित है। यह कार्यक्रम प्रतिभागियों को अपने कार्यस्थल पर रहते हुये ज्ञान को समृद्ध करने का एक अनूठा अवसर प्रदान करेगा।

मानव रहित हवाई वाहन (यूएवी) प्लेटफार्मों और संबद्ध सेंसिंग टेक्नोलॉजी में बढ़ते विकास ने रिमोट सेंसिंग के क्षेत्र में नया आयाम लाया है। यूएवी 3 डी के कम लागत माप को सटीक, लचीला बनाना, उच्च गुणवत्ता के कैमरों के साथ भूमि कवर सुविधाओं के रेडियमोमेट्रिक और अस्थायी गुण, जीपीएस और सटीक प्रसंस्करण संभव बनाता है। आकारों की विस्तृत श्रिंखला में उपलब्धता, परंपरागत हवा पैदावार / अंतरिक्ष प्रजनन प्रणाली की तुलना में यूएवी की आसान तैनाती और लागत प्रभावीता उन्हें सटीक बनाते हैं। हल्के वजन के उपकरण के साथ, जो कि आमतौर पर 100 - 300 मीटर कि ऊंचाई तक उड़ते हैं और जिनकी हवाई पट्टी कुछ किलोमीटर की होती है, मानव रहित हवाई वाहनों की विभिन्न अनुप्रयोगों जैसे आग की निगरानी, प्राकृतिक संसाधन और आपदा प्रबंधन, 3 डी भू-भाग मानचित्रण, सटीक कृषि, वन्य जीवन निरीक्षण, वनस्पति माप आदि में काफी संभावनाएं हैं। यूएवी द्वारा प्रदान किए गए आंकड़ों की बड़ी मात्रा, उचित प्रसंस्करण, भंडारण और ट्रांसमिशन तकनीक विकसित करने की दिशा में एक नई चुनौती है। इस उभरती हुई प्रौद्योगिकी की वर्तमान और भविष्य की क्षमता को ध्यान में रखते हुए, भारतीय रिमोट सेंसिंग (आईआईआरएस) संस्थान ने यूएवी आधारित फोटोग्रामेट्री और रिमोट सेंसिंग पर 5 दिन का कोर्स शुरू किया है।

उक्त पाठ्यक्रम की घोषणा सम्बन्धी विवरणिका अवलोकनार्थ तथा आपके मंत्रालय/विभाग/संगठन/संस्थान/विश्वविद्यालय में प्रचार-प्रसार हेतु संलग्न है। इस पाठ्यक्रम में भारत सरकार तथा राज्य सरकार मंत्रालयों तथा विभागों में कार्यरत समस्त पेशेवर तथा शैक्षणिक समुदाय के शिक्षक/शोधकर्ता तथा अन्य पेशेवर भाग ले सकते हैं।

इस नि:शुल्क ऑनलाइन पाठ्यक्रम में एच्यू सॉफ्टवेयर के द्वारा तथा इंटरनेट का उपयोग करते हुए भाग लिया जा सकता है। पंजीकृत सहभागियों के उक्त ऑनलाइन कार्यक्रम से जोड़ने हेतु भारतीय सुदूर संवेदन संस्थान (इसरो) प्रत्यय पत्र/ प्रयोक्ता आईडी/ पासवर्ड उपलब्ध करवाएगा। पाठ्यक्रम के समाप्तोपरान्त भारतीय सुदूर संवेदन संस्थान (इसरो) सफल प्रतिभागियों को प्रमाण पत्र भी प्रदान करेगा।



उक्त प्रसंग में और जानकारी हेतु आप निम्नलिखित से संपर्क कर सकते हैं:

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- श्री राघवेंद्र, पाठ्यक्रम समन्वेता, दूरभाष: 0135-2524112 (कार्यालय), मो: +91 7417017417, ईमेल: raghav@iirs.gov.in
- डॉ. पूनम एस. तिवारी, कार्यक्रम समन्वेता, आई.आई.आर.एस. आउटरीच कार्यक्रम दूरभाष: 0135-2524115 (कार्यालय), मो: +91 9410924417, ईमेल: poonam@iirs.gov.in
- डॉ. हरीश कर्नाटक, प्रमुख, जियोवेब सेवाएँ, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग दूरभाष: 0135-2524332 (कार्यालय), मो: +91 9456565523, ईमेल: harish@iirs.gov.in
- एडुसेट स्टुडियो नियंत्रण कक्ष [श्री जनार्दन विश्वकर्मा एवं श्री अशोक घिल्डियाल] दूरभाष: 0135-2524130 ईमेल: edusat2004@gmail.com और dlp@iirs.gov.in] से संपर्क कर सकते हैं।

आप संस्थान की वेबसाइट <http://www.iirs.gov.in/EDUSAT-News> भी देख सकते हैं।

शुभकामनाओं सहित,

डा. संजिव कुमार
(ए. संचालक कुमार)

Encl: Course Schedule



Dr. (Prof.) T. P. Singh
Director

22nd IIRS Outreach Programme

Course Name	Duration	
	From	To
UAV Remote Sensing and its applications	03.07.2017	07.07.2017

Date	Time	Days	Lecture Description	Faculty
03.07.2017	16:00 Hrs. To 17:30 Hrs.	Monday	Overview of UAV Remote Sensing	Mrs. Shefali Agrawal
04.07.2017		Tuesday	UAV System and technology	Mr. Chirag Gupta
05.07.2017		Wednesday	UAV Photogrammetry and its application	Mr. Raghavendra Sara
06.07.2017		Thursday	Image processing of ultra-high resolution UAV images	Ms. Minakshi Kumar
07.07.2017		Friday	UAV SAR Remote sensing	Mr. Shashi Kumar




Dr. (Prof.) T. P. Singh
Director



SYMBIOSIS INSTITUTE OF GEOINFORMATICS

Symbiosis International University

(Established under section 3 of the UGC Act, 1956 vide notification No. F.9-12/2001-U3 Govt. of India)

Accredited by NAAC with 'A' grade

Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)

Department of Space
Government of India

Indian Space Research Organisation (ISRO)

Indian Institute of Remote Sensing, Dehradun 22 IIRS Outreach Programme - Participants List

Sr no.	Registration No.	Name
1	20172220217	Rapborlang Samiam
2	20172219797	Megha Kundu
3	20172219687	Rushikesh Veer
4	20172219686	Rushikesh Veer
5	20172219219	Aisharya Basu
6	20172218494	Md Ahsanul Haque
7	20172218190	Indranil Rakshit
8	20172217458	Sheetal Bhadauriya
9	20172217456	Supriya Nayak
10	20172217360	Shreya Srivastava



Dr. (Prof.) T. P. Singh
Director



SYMBIOSIS INSTITUTE OF GEOINFORMATICS

Symbiosis International University

(Established under section 3 of the UGC Act, 1956 vide notification No. F.9-12/2001-U3 Govt. of India)

Accredited by NAAC with 'A' grade

Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)

Department of Space
Government of India

Indian Space Research Organisation (ISRO)

Indian Institute of Remote Sensing, Dehradun 22 IIRS Outreach Programme - Participants List

	11	20172220641	Rajan Rajak
	12	20172220629	Madhurjya Dutta
	13	20172219791	Priyabrata Mandal
	14	20172219074	Sayantan Mondal
	15	20172218822	Saket Agrawal
	16	20172220175	Vikas Razdan
	17	20172219990	Shwetneela Pramanick
	18	20172219839	Shweta Shekhar
	19	20172219820	Vertika Tiwari




Dr. (Prof.) T. P. Singh
Director



भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING

भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION

अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



नामांकन सं०/ Enrollment No. : 20172217458

बहिःपरिसर संपर्क/विस्तार कार्यक्रम प्रमाण पत्र
OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME

सहभागिता का प्रमाणपत्र/CERTIFICATE OF PARTICIPATION

यह प्रमाणित किया जाता है कि कु० शीतल भदौरिया, सिम्बायोसिस इंस्टिट्यूट ऑफ जियोइन्फॉर्मेटिक्स, पुणे, महाराष्ट्र को यह प्रमाण पत्र यूएवी सुदूर संवेदन एवं अनुप्रयोग, पर आधारित पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है। उक्त पाठ्यक्रम इस संस्थान द्वारा 03 जुलाई 2017 से 07 जुलाई 2017 तक संचालित किया गया।

This is to certify that **MS. SHEETAL BHADAURIYA** from **Symbiosis Institute Of Geoinformatics, Pune, Maharashtra** has been awarded this certificate on having completed the course on **“UAV Remote Sensing and Applications”** conducted by this institute from July 03, 2017 to July 07, 2017.



Dr. (Prof.) T. P. Singh
Director

दिनांक/ Date: 26-07-2017
देहरादून/ Dehradun

समन्वयक,
विश्वविद्यालय/संस्थान
Coordinator
University/ Institution

प्रमुख,
जियोवेब सर्विसेस, सूचना प्रौद्योगिकी
एवं दूरस्थ अधिगम विभाग
Geoweb Services, IT & Distance
Learning Department, IIRS

पाठ्यक्रम निदेशक,
Course Director, IIRS

समूह निदेशक,
भू-स्थानिक प्रौद्योगिकी एवं आउटरीच
कार्यक्रम समूह
Group Director, Geospatial
Technologies & Outreach
Programme Group, IIRS

निदेशक,
आई०आई०आर०एस०
Director, IIRS



भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING

भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION

अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



नामांकन सं०/ Enrollment No. : 20172218494

बहिःपरिसर संपर्क/विस्तार कार्यक्रम प्रमाण पत्र
OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME

सहभागिता का प्रमाणपत्र/CERTIFICATE OF PARTICIPATION

यह प्रमाणित किया जाता है कि श्री एम डी अहसानुल हाक, सिम्बायोसिस इंस्टिट्यूट ऑफ जियोइन्फॉर्मेटिक्स, पुणे, महाराष्ट्र को यह प्रमाण पत्र यूएवी सुदूर संवेदन एवं अनुप्रयोग, पर आधारित पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है। उक्त पाठ्यक्रम इस संस्थान द्वारा 03 जुलाई 2017 से 07 जुलाई 2017 तक संचालित किया गया।

This is to certify that **MR. MD AHSANUL HAQUE** from **Symbiosis Institute Of Geoinformatics, Pune, Maharashtra** has been awarded this certificate on having completed the course on **“UAV Remote Sensing and Applications”** conducted by this institute from July 03, 2017 to July 07, 2017.



Dr. (Prof.) T. P. Singh
Director

दिनांक/ Date: 26-07-2017
देहरादून/ Dehradun

समन्वयक,
विश्वविद्यालय/संस्थान
Coordinator
University/ Institution

प्रमुख,
जियोवेब सर्विसेस, सूचना प्रौद्योगिकी
एवं दूरस्थ अधिगम विभाग
Geoweb Services, IT & Distance
Learning Department, IIRS

पाठ्यक्रम निदेशक,
Course Director, IIRS

समूह निदेशक,
भू-स्थानिक प्रौद्योगिकी एवं आउटरीच
कार्यक्रम समूह
Group Director, Geospatial
Technologies & Outreach
Programme Group, IIRS

निदेशक,
आई°आई°आर°एस°
Director, IIRS



Announcement Brochure

IIRS Outreach Programme

Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System

August 21 – December 01, 2017

Organised by

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




Dr. (Prof.) T. P. Singh
Director

<http://www.dlp.iirs.gov.in>




Dr. (Prof.) T. P. Singh
Director

iirs

About IIRS

Indian Institute of Remote Sensing (IIRS), a unit under Indian Space Research Organization (ISRO), Department of Space, Government of India is a premier Training and Educational Institute set-up for developing trained professionals in the field of Remote Sensing, Geoinformatics and GNSS Technology for Natural Resources, Environmental and Disaster Management. Formerly known as Indian Photo-interpretation Institute (IPI), founded in 1966, the Institute boasts to be the first of its kind in entire South-East Asia. While nurturing its primary endeavor to build capacity among the user community by training mid-career professionals, the Institute has enhanced its capability and evolved many training and education programmes that are tuned to meet the requirements of various target user groups in the society, ranging from fresh graduates to policy makers including academia.

The training and education programmes at IIRS includes the short duration customized courses, PG Diploma, Master's Degree (M.Tech and M.Sc.) in various disciplines. IIRS also conducts distance learning programmes under IIRS Outreach Activity.

IIRS Outreach Programme

IIRS Outreach Programme focusses on strengthening the Academia and User Segments in Space Technology & Its Applications using Online Learning Platforms. IIRS distance learning program was initiated in 2007 with the participation of twelve universities in India. Till date, IIRS has successfully conducted 22 programs through live and interactive classrooms (also known as EDUSAT programme) and also launched five online courses under e-learning programme. Currently IIRS distance learning programme is being conducted through following modes:

1. Live and Interactive classroom sessions (<http://dlp.iirs.gov.in>)
2. E-learning based online courses (<http://elearning.iirs.gov.in>)

Live and Interactive classroom

The use of Remote Sensing, Geographical Information System, Global Navigation Satellite System and associated geospatial technologies is increasing rapidly, creating an urgent demand for trained manpower. The live and interactive mode of distance learning is enabled through Internet and A-view software platform developed by Amrita e-learning Lab in collaboration with Ministry of Human Resource Development (MHRD) Government of India. **The programs are available through Internet without any cost to the user.** The live and interactive sessions will be conducted by experts from IIRS-ISRO and other knowledge Institutions. IIRS has successfully conducted 22 such courses so far with participation of over **46590+ participants from 626+ academic institutions, government departments and industry.** The beneficiaries of the programme may include:

- ❖ Central/State/Private Universities & Academic Institutions;
- ❖ Central & State Government Organizations/Departments;
- ❖ Research Institutes;
- ❖ Geospatial Industry;
- ❖ NGOs.

IIRS also conducts various theme oriented online courses and monthly webinars on recent topics on geospatial technologies and its applications. Users are encouraged to actively participate on these programs. For more detail please visit IIRS official website- www.iirs.gov.in



Dr. (Prof.) T. P. Singh
Director

Course Announcement

IIRS announces four courses commencing from **August 21st, 2017**

- ❖ **Remote Sensing and Digital Image Analysis** (21/08/2017 to 15/9/2017): Basic Principles of Remote Sensing, Earth Observation Sensors and Platforms, Spectral Signature of different land cover features, Image interpretation, Thermal & Microwave Remote Sensing, Digital Image Processing: Basic Concepts of Rectification and Registration, Enhancement, Classification and accuracy assessment techniques.
- ❖ **Global Navigation Satellite System and Geographical Information System** (25/09/2017 to 10/11/2017): Introduction to GPS and GNSS, receivers, processing methods, errors and accuracy, GIS, databases, topology, spatial analysis and open source software.
- ❖ **RS and GIS Applications** (13/11/2017 to 01/12/2017): Agriculture and Soil, Forestry and Ecology, Geoscience and Geo-hazards, Marine and Atmospheric Sciences, Urban and Regional Studies and Water Resources.
- ❖ **Basics of Remote Sensing, GIS and GNSS** (21/08/2017 to 01/12/2017): Comprehensive course consisting of above three courses.

The participants can register for **individual course** of their choice or the **entire Programme**.

Target Participants

- ❖ Student of Undergraduate and Postgraduate courses (any year);
- ❖ Technical/ Scientific Staff of Central/ State Government Ministries/ Departments;
- ❖ Faculty / Researchers at university / Institutions.

Course Study Material

Course study materials such as lecture slides, video recorded lectures, open source software, data & handouts of demonstrations, etc., will be made available through IIRS **ftp** link (<ftp://ftp.iirs.gov.in>) Video lectures will also be uploaded on YouTube Channel (<http://www.youtube.com/user/edusat2004>).

Course Fee

There is **no course fee**.

Course Registration

Course updates and other details will be available on URL- <http://www.dlp.iirs.gov.in>

- ❖ To participate in the program, organizations/universities/departments/ Institutes have to identify a Coordinator at their end. The coordinator is required to register his/her Institute as nodal centre at: (http://elearning.iirs.gov.in/edusat_lms/cordinator_registration.php).
- ❖ All the participants have to register online through registration page (http://elearning.iirs.gov.in/edusat_lms/student_registration.php) by selecting his/her organization as nodal centre.
- ❖ The Coordinator is required to approve the participants from his/her institute for each course.

Course Funding & Technical Support

The programme is sponsored by Indian Space Research Organization, Department of Space, Government of India and is conducted with due technical support from Amrita Virtual & Interactive E-learning World (A-VIEW).

Programme Reception

Programme can be received through Internet connectivity of 2Mbps or better. Following hardware and software set-up is required at user end:

Hardware Requirements:




Dr. (Prof.) T. P. Singh
Director

- ❖ High-end Computer/Laptop (Windows OS);
- ❖ Good quality web camera (optional);
- ❖ Headphone with Microphone (optional) and Speakers;
- ❖ Large Display Screen (Projector or TV).

Software and Internet Requirements:

- ❖ Desktop based: **A-VIEW software** (free to download from www.aview.in or IIRS ftp link: <ftp://ftp.iirs.gov.in>)
- ❖ Online live access through <http://live.iirs.gov.in> with free registration.

Connectivity & Other configurations:

- ❖ NKN or any other high speed internet facility (preferably without firewall, with minimum of **2 Mbps bandwidth**)
- ❖ Network requirements: **Port 80 and RTMP (port 1935)** protocol should be unblocked from user's computer and Firewall.

Note: Participating Institutions have to bear total expenses for establishment of the classroom facility.

Award of Certificate

Working Professionals: Based on 70% attendance and submission of assignments.

Students: Based on 70% attendance and online examination.

Feedback Mechanism

The participants and participating organizations are invited to attend annual IIRS User Interactive Meet (IUIM) at IIRS Dehradun. The participants can submit their feedback online through IIRS e-learning portal. Feedbacks are critically analyzed and implemented in next courses.



Outreach Programme Feedback Session during IIRS User Interaction Meet (IUIM)-2017



Dr. (Prof.) T. P. Singh
Director

IIRS received two national awards for excellence in training for outreach and e-learning programme by Department of Personnel & Training (DoPT), Govt. of India in collaboration with United Nations Development Programme (UNDP).

Contact Details

IIRS Distance Learning Centre

Indian Institute of Remote Sensing, Indian Space Research Organization

Department of Space, Govt. of India, 4-Kalidas Road, Dehradun-248001

Email: dlp@iirs.gov.in; **Tel:** 0135-2524130/4354/4115; **Mobile:** 9410924417, 7895309151

Monday to Friday (9:30 AM to 05:00 PM)



भारत सरकार
अंतरिक्ष विभाग
भारतीय सुदूर संवेदन संस्थान
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Government of India
Department of Space
Indian Institute of Remote Sensing
4, Kalidas Road, P.B. No. 135,
Dehradun - 248 001, India
Telephone : +91-135-2524399
Fax : +91-135-2741987, 2748041

Dr. A. Senthil Kumar
Director

No.: IIRS/GIT&DL/EDUSAT/2017/23
Date: 10TH JULY, 2017

Sub: Announcement of 23th IIRS Outreach Program on "Basics of Remote Sensing, GIS and GNSS" commencing from 21 August 2017.

Dear Sir/ Madam,

As you aware that the Indian Space Research Organization (ISRO) has a vibrant Earth Observation (EO) programme with many satellite missions launched during last 50 years. The Indian Institute of Remote Sensing (IIRS) is a premier Institute of ISRO engaged in training, education and capacity building on use of geospatial technology for natural resources monitoring and disaster management since last five decades. The institute has so far conducted 22 Satellite and Internet based Outreach Programmes, benefitting more than 49,458 participants from 631 Indian universities/institutions/user Departments/user ministries in India.

To promote the full potential of space based geospatial technologies and its use, IIRS announces 23rd Outreach Programme on "**Basics of Remote Sensing, GIS & GNSS**" commencing from **August 21, 2017 to December 01, 2017**. The Programme consists of three courses namely **Remote Sensing and Digital Image Analysis** (August 21 - September 15, 2017), **Global Navigation Satellite System** (September 25 - November 10, 2017) and **Geographical Information System and RS and GIS Applications** (November 13- December 01, 2017). The participants can register for **individual course** of their choice or the **entire programme** also.

It is a unique opportunity to learn directly by devoting one and half hours on each day from the place of stay of the participant. The Programme can be attended **without any fee** and will be available freely live through internet by utilizing freely available A-view software (www.aview.in). This programme is sponsored by Department of Space, Government of India for capacity Building and skill development in the area of geospatial technology and its applications. After successful completion of the programme the participants will be awarded with certificate from IIRS, ISRO.

The programme is scheduled during 1600 Hrs. - 1730 Hrs. and will be conducted 4/5 days in a week. A copy of the announcement brochure and schedule of this programme is forwarded herewith for your kind perusal and also for wider circulation in your organisation. The programme/course is open to UG & PG students/researchers/scientific/technical staff and interested individuals. We need your support for wide publicity and maximum participation from your organisation.

Further details of the programme are enclosed with this letter. You may also visit IIRS website <http://dlp.iirs.gov.in> for more details.

With regards and best wishes,

Encl: Brochure and Course Schedule




Dr. (Prof.) T. P. Singh
Director


(A. Senthil Kumar)



डॉ. ए. सैथिल कुमार
निदेशक

सं.: आई.आई.आर.एस. / एडुसेट/ 2017/ 23
दिनांक: 10th जुलाई, 2017

विषय: 21 अगस्त 2017 से "सुदूर संवेदन, भौगोलिक सूचना प्रणाली तथा वैश्विक नेविगेशन उपग्रह प्रणाली" पर प्रारम्भ होने वाले 23^{वें} आई.आई.आर.एस. आउटरीच कार्यक्रम की घोषणा के संबंध में।

महोदय/ महोदया,

भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) ने अपने सशक्त/ व्यावसायिक भू-प्रेक्षण कार्यक्रम के अंतर्गत पिछले 50 वर्षों के दौरान कई उपग्रह प्रक्षेपण किए हैं। भारतीय सुदूर संवेदन संस्थान (आईआईआरएस) भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) का एक प्रमुख संस्थान है जो पिछले पांच दशकों से प्राकृतिक संसाधनों की निगरानी और आपदा प्रबंधन के लिए भू-स्थानिक प्रौद्योगिकी के इस्तेमाल पर प्रशिक्षण, शिक्षा तथा क्षमता निर्माण में जुड़ा हुआ है। इस संस्थान द्वारा अब तक 22 उपग्रह/ इंटरनेट आधारित आउटरीच पाठ्यक्रम संचालित किए जा चुके हैं। इन पाठ्यक्रमों से लगभग 631 भारतीय विश्वविद्यालयों/ संस्थानों के करीब 49,458 से अधिक प्रतिभागी लाभान्वित हुए हैं।

अंतरिक्ष आधारित भू-स्तरीय प्रौद्योगिकियों और इसकी उपयोगिताओं की पूरी संभावना को बढ़ावा देने के लिए, आई.आई.आर.एस. 21 अगस्त 2017 से दिसंबर 01, 2017 तक "बेसिक्स ऑफ रिमोट सेंसिंग, जीआईएस और जीएनएसएस" पर 23 वीं आउटरीच कार्यक्रम की घोषणा करता है। इस कार्यक्रम में तीन पाठ्यक्रम हैं जिनमें रिमोट सेंसिंग और डिजिटल छवि विश्लेषण (21 अगस्त - 15 सितंबर, 2017), ग्लोबल नेविगेशन सैटेलाइट सिस्टम (25 सितंबर से 10 नवंबर, 2017) तथा भौगोलिक सूचना प्रणाली एवं आरएस और जीआईएस एप्लीकेशन (13 नवंबर-दिसंबर 1, 2017)। प्रतिभागी अपनी पसंद के पाठ्यक्रम अथवा पूरे कार्यक्रम के लिए भी पंजीकरण कर सकते हैं।

यह प्रतिभागियों के लिए एक अच्छा अवसर है जिसमें वे सीधे अपने निवास स्थान से प्रतिदिन डेढ़ घंटे समर्पित करके इस अवसर से लाभान्वित हो सकते हैं। यह कार्यक्रम अंतरिक्ष विभाग, और क्षमता निर्माण के लिए भारत सरकार द्वारा प्रायोजित है। कार्यक्रम के सफलतापूर्वक समापन के बाद प्रतिभागियों को आईआईआरएस, इसरो द्वारा प्रमाण पत्र दिया जाएगा।

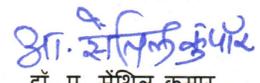
कार्यक्रम 1600 - 1730 घंटे बजे के दौरान निर्धारित है तथा प्रति सप्ताह 4/5 दिन आयोजित किया जाएगा। इस कार्यक्रम की घोषणा, ब्रोशर और शेड्यूल की एक कॉपी आपके संगठन के परिसंचरण और आपके के अवलोकन के लिए इसके साथ भेजी जा रही है। कार्यक्रम / पाठ्यक्रम यूजी और पीजी छात्रों / शोधकर्ताओं / वैज्ञानिक / तकनीकी कर्मचारियों एवं इच्छुक व्यक्तियों के लिए खुला है। इसके व्यापक प्रचार तथा प्रसार हेतु आपके संगठन से अधिकतम भागीदारी के लिए आपके सहयोग की अपेक्षा है। इस पत्र के साथ कार्यक्रम के अन्य विवरण संलग्न हैं।

अधिक जानकारी के लिए कृपया आईआईआरएस की वेबसाइट <http://dlp.iirs.gov.in> पर लॉग इन कर सकते हैं।
शुभकामना सहित,

सहपत्र: पाठ्यक्रम अनुसूची




Dr. (Prof.) T. P. Singh
Director


डॉ. ए. सैथिल कुमार

Twenty-third IIRS Outreach Programme On Basic of RS, GIS & GNSS

Tentative Schedule

Sl No.	Module Name	From	To
1	Remote Sensing and Digital Image Analysis	22-08-2017	15-09-2017
2	Global Navigation Satellite System & Geographical Information System	25-09-2017	10-11-2017
3	RS & GIS Applications	13-11-2017	04-12-2017

Technical Support from

A-VIEW, Amrita University, Coimbatore

July, 2017




Dr. (Prof.) T. P. Singh
Director

Module 1: Remote Sensing & Digital Image Analysis
Module/ Course Coordinator: Ms. Minakshi Kumar

Date	Day	Time	Topic	Speaker
21 Aug 17	Monday	1600-1730 hrs	Course Inauguration and Introductory Lecture	Dr. A. Senthil Kumar
22 Aug 17	Tuesday	1600-1730 hrs	Basic Principles of Remote Sensing	Mrs. Manu Mehta
23 Aug 17	Wednesday	1600-1730 hrs	Earth Observation Sensors and Platforms	Mr. Vinay Kumar
24 Aug 17	Thursday	1600-1730 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
25 Aug 17	Ganesh Chaturthi			
26 Aug 17	Saturday			
27 Aug 17	Sunday			
28 Aug 17	Monday	1600-1730 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Dr. Hina Pande
29 Aug 17	Tuesday	Offline (Morning Session)	RS and Image Interpretation Practical	By University Coordinator
30 Aug 17	Wednesday	BREAK		
31 Aug 17	Thursday	1600-1730 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Mrs. Minakshi Kumar
01 Sep 17	Friday	1600-1730 hrs	Image Enhancement techniques	Dr. Poonam S. Tiwari
02 Sep 17	Saturday			
03 Sep 17	Sunday			
04 Sep 17	Monday	BREAK-ONAM		
05 Sep 17	Tuesday	1600-1730 hrs	Image Classification Techniques and Accuracy Assessment	Dr. Poonam S. Tiwari
06 Sep 17	Wednesday	1600-1730 hrs	Microwave Remote Sensing	Mr. Shashi Kumar
07 Sep 17	Thursday	1600-1730 hrs	Hyperspectral Remote Sensing	Mrs. Shefali Agarwal
08 Sep 17	Friday	Offline - as per computer lab availability Morning Session	Image Processing Hands-on and Practical Assignment	By University Coordinator
09 Sep 17	Saturday			
10 Sep 17	Sunday			
11 Sep 17	Monday	1600-1730 hrs	Demonstration: Image Processing	Mrs. Minakshi Kumar
12 Sep 17	Tuesday	Offline - as per computer lab availability	Practical Assignment submission by Participants to respective coordinators and evaluation to be done by respective coordinators	
13 Sep 17	Wednesday	1600-1730 hrs	Panel Discussion Module-1	Faculty of Module-1
14 Sep 17	BREAK For Examination			
15 Sep 17	Friday	9:30 Hrs to 17:00 Hrs	Online Examination of Module-1	Edusat Team



Dr. (Prof.) T. P. Singh
 Director

Module-2 Global Navigation Satellite System and Geographical Information System				
Module/ Course Coordinator: Shri Ashutosh Bhardwaj & Shri Prasun Kumar Gupta				
25 Sep 17	Monday	1600-1730 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
26 Sep 17	Tuesday	1600-1730 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
27 Sep 17	Wednesday	1600-1730 hrs	Satellites based Augmentation systems & GPS Aided and GEO Augmented Navigation (GAGAN)	Er. Ashutosh Bhardwaj
28 Sep 17	Thursday	1600-1730 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	Shri S. Raghavendra
29 Sep 17			BREAK	
30 Sep 17	Dussehra -Saturday			
01 Oct 17	Sunday			
02 Oct 17	Monday		Gandhi Jayanthi	
Date	Day	Time	Topic	Speaker
03 Oct 17	Tuesday	1600-1730 hrs	Indian Regional Navigation Satellite System (IRNSS)	Er. Ashutosh Bhardwaj & Shri Kamal Pandey
04 Oct 17	Wednesday	1600-1730 hrs	DGPS demonstration (Pre-recorded followed by live query session)	Shri S. Raghavendra
05 Oct 17	Thursday	1600-1730 hrs	Mobile Mapping	Dr. Harish Chandra Karnatak
06 Oct 17	Friday		BREAK	
07 Oct 17	Saturday			
08 Oct 17	Sunday			
Geographical Information System				
Module/ Course Coordinator: Shri Prasun Kumar Gupta				
09 Oct 17	Monday	1600-1730 hrs	Introduction to GIS	Dr. Sameer Saran
10 Oct 17	Tuesday	1600-1730 hrs	Geographic Phenomena, Concepts and examples	Shri P K Gupta
11 Oct 16	Wednesday		Break	
12 Oct 17	Thursday	1600-1730 hrs	Data Inputting and Editing in GIS	Shri Shiva Reddy
13 Oct 17	Friday	1600-1730 hrs	GIS Data Models (Spatial and Non spatial)	Shri Ashutosh Kumar Jha
14 Oct 17	Saturday			
15 Oct 17	Sunday			
16 Oct 17	Monday	1600-1730 hrs	Map Projection Concepts & Use in RS & GIS	Dr. Ashutosh Srivastav
17 Oct 17	Tuesday	1600-1730 hrs	Spatial Analysis- Introductory Concepts and Overview	Shri Prabhkar Alok Verma
18 Oct 17	BREAK			
19 Oct 17	Diwali			
20 Oct 17	BREAK			
21 Oct 17	Saturday			
22 Oct 17	Sunday			
23 Oct 17	Monday	1600-1730 hrs	Spatial Analysis- Functionality and Tools	Shri Kapil Oberai
24 Oct 17	Tuesday	1600-1730 hrs	Demo of QGIS Software – Session 01: • Adding GIS Data ,Attribute table & identity tool • Change symbology, Create map composers • Manage plugins, CRS & EPSG • Geo-referencing & Tie-points , RMSE & Rectification	Shri P K Gupta
25 Oct 17	Wednesday	1600-1730 hrs	Demo of QGIS Software – Session 02: (Data Creation/Vector Generation) • Digitization ,Setting digitizing environment • Adding attributes to layer, Editing digitized layer • Attribute Queries, Spatial Queries Linking spatial & non-spatial data	Shri P K Gupta
26 Oct 17	Thursday	1600-1730 hrs	Open Source S/w Technology & Tools	Shri P K Gupta
27 Oct 17	Friday	1600-1730 hrs	Data Quality & Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources	Dr. Harish Karnatak
28 Oct 17	Saturday			



29 Oct 17	Sunday			
30 Oct 17	Monday	1600-1730 hrs	Spatial Data Management using RDBMS-Demo on PostGRE SQL+ Post GIS	Shri Kapil Oberai
31 Oct 17	Tuesday	1600-1730 hrs	3D GIS and Application including Trivim	Shri Shiva Reddy
01 Nov 17	Break			
02 Nov 17	Thursday	1600-1730 hrs	Geo-Web Services: Technical Concepts and Applications	Dr. Harish Karnatak
03 Nov 17	Friday		Uncertainty in GIS and Error Propagation	Shri Hari Shankar
04 Nov 17	Saturday – Guru Nanak Birthday			
05 Nov 17	Sunday			
06 Nov 17	Monday	1600-1730 hrs	Customization in GIS	Shri Kamal Pandey
07 Nov 17	Tuesday	1600-1730 hrs	Recent Trends in Geoinformatics	Dr. Sameer Saran
08 Nov 17	Wednesday	1600-1730 hrs	Panel Discussion of Module 2	Faculty of Module-2
09 Nov 17	Thursday	Break		
10 Nov 17	Friday	9:30 Hrs to 17:00 Hrs	Online Exam - Global Navigation Satellite System and Geographical Information System	Edusat Team

Module-3 RS & GIS Applications				
Module/ Course Coordinator: Dr. Arijit Roy				
Date	Day	Time	Topic	Speaker
13 Nov 17	Monday	1600-1730 hrs	Space Technology & its applications in governance	Dr. S. K. Srivastav
14 Nov 17	Tuesday	1600-1730 hrs	Remote Sensing and GIS Applications in Soil Resource Assessment	Dr. Suresh Kumar
15 Nov 17	Wednesday	1600-1730 hrs	Remote Sensing Applications in Agriculture- Crop Inventory & Yield Forecasting	Dr. N.R. Patel
16 Nov 17	Thursday	1600-1730 hrs	RS & GIS Applications in Forestry and Ecology	Dr. Sarnam Singh
17 Nov 17	Friday	1600-1730 hrs	Engineering Geology with emphasis on landslide studies	Dr. Shovan Chatteraj
18 Nov 17	Saturday			
19 Nov 17	Sunday			
20 Nov 17	Monday	1600-1730 hrs	Geology and Geomorphology	Dr. R.S. Chatterjee
21 Nov 17	Tuesday	1600-1730 hrs	Space-enabled Products & Services for Disaster Management :Indian Initiatives	Dr. P.K.C.Ray
22 Nov 17	Wednesday	1600-1730 hrs	Geospatial Technology for climate change studies	Dr. Arijit Roy
23 Nov 17	Thursday	1600-1730 hrs	RS & GIS Applications to Water Resources Management	Dr. S.P Aggarwal
24 Nov 17	Friday	1600-1730 hrs	RS & GIS for Coastal Zone Management	Dr. D. Mitra
25 Nov 17	Saturday			
26 Nov 17	Sunday			
27 Nov 17	Monday	1600-1730 hrs	Remote Sensing Application to Atmospheric & Marine Environment	Dr. A.K Mishra
28 Nov 17	Tuesday	1600-1730 hrs	RS & GIS Application in Urban & Regional Planning	Dr. Pramod Kumar
29 Nov 17	Wednesday	1600-1730 hrs	Geo-web Services and mobile GIS in governance	Dr. Harish Karnatak
30 Nov 17	Thursday	1600-1730 hrs	Panel Discussion Module-3	Faculty of Module-3
04 Dec 17	Monday	9:30 Hrs to 17:00 Hrs	Online Examination -RS & GIS Applications	Edusat Team



Dr. (Prof.) T. P. Singh
Director



SYMBIOSIS INSTITUTE OF GEOINFORMATICS

Symbiosis International University

(Established under section 3 of the UGC Act, 1956 vide notification No. F.9-12/2001-U3 Govt. of India)

Accredited by NAAC with 'A' grade

Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)

Department of Space
Government of India

Indian Space Research Organisation (ISRO)

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भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING
भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION
अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



नामांकन सं०/ Enrollment No. : 20172321917

बहिःपरिसर संपर्क/विस्तार कार्यक्रम प्रमाण पत्र
OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME

सहभागिता का प्रमाणपत्र/CERTIFICATE OF PARTICIPATION

यह प्रमाणित किया जाता है कि **कु० स्मिथु के सैमुएल**, सिम्बायोसिस इंस्टिट्यूट ऑफ जियोइन्फॉर्मेटिक्स, पुणे, महाराष्ट्र को यह प्रमाण पत्र **रिमोट सेंसिंग की मूल बातें, भौगोलिक सूचना प्रणाली एवं वैश्विक नेविगेशन सैटेलाइट प्रणाली**, पर आधारित पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है। उक्त पाठ्यक्रम इस संस्थान द्वारा 21 सितम्बर 2017 से 04 दिसम्बर 2017 तक संचालित किया गया।

This is to certify that **MS. SMITHU K SAMUEL** from **Symbiosis Institute Of Geoinformatics, Pune, Maharashtra** has been awarded this certificate on having completed the course on **“Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System”** conducted by this institute from August 21, 2017 to December 04, 2017.

दिनांक/ Date: **08-01-2018**
देहरादून/ Dehradun

समन्वयक,
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Director, IIRS



Dr. (Prof.) T. P. Singh
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भारतीय सुदूर संवेदन संस्थान/ INDIAN INSTITUTE OF REMOTE SENSING

भारतीय अंतरिक्ष अनुसंधान संगठन/ INDIAN SPACE RESEARCH ORGANISATION
अंतरिक्ष विभाग, भारत सरकार/ DEPARTMENT OF SPACE, GOVERNMENT OF INDIA



नामांकन सं०/ Enrollment No. : 20172325620

बहिःपरिसर संपर्क/विस्तार कार्यक्रम प्रमाण पत्र
OFF - CAMPUS OUTREACH CERTIFICATE PROGRAMME

सहभागिता का प्रमाणपत्र/CERTIFICATE OF PARTICIPATION

यह प्रमाणित किया जाता है कि **श्री क्षतवीसा मोदक**, सिम्बायोसिस इंस्टिट्यूट ऑफ जियोइन्फॉर्मेटिक्स, पुणे, महाराष्ट्र को यह प्रमाण पत्र **रिमोट सेंसिंग की मूल बातें, भौगोलिक सूचना प्रणाली एवं वैश्विक नेविगेशन सैटेलाइट प्रणाली**, पर आधारित पाठ्यक्रम पूर्ण करने पर प्रदान किया जाता है। उक्त पाठ्यक्रम इस संस्थान द्वारा 21 सितम्बर 2017 से 04 दिसम्बर 2017 तक संचालित किया गया।

This is to certify that **MR. SHATAVISA MODAK** from **Symbiosis Institute Of Geoinformatics, Pune, Maharashtra** has been awarded this certificate on having completed the course on **“Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System”** conducted by this institute from August 21, 2017 to December 04, 2017.

दिनांक/ Date: **08-01-2018**

देहरादून/ Dehradun

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Dr. (Prof.) T. P. Singh
Director

Summary

Name of the capability enhancement scheme	Year of implementation	Number of students enrolled	Name of the agencies involved with contact details
Technology – UAV Remote Sensing and Applications	July 03-07, 2017	19	IIRS, ISRO
Technology – Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System	August 21 – December 01, 2017	45	IIRS, ISRO

