



# Hyperspectral Remote Sensing and Its Applications

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## Overview

Department of Applied Geology, NIT Raipur in Collaboration of Indian Institute of Remote Sensing, Indian Space Research Organization is organizing 25<sup>th</sup> IIRS Outreach Programme on "Hyperspectral Remote Sensing and Its Applications " September 18 – 21, 2017. This course is open for:

- Student of Postgraduate course (any year)
- Technical/ Scientific Staff of Central/ State Government Ministries/ Departments
- Faculty / Researchers at university / institutions

Link to register online to the course: [http://elearning.iirs.gov.in/edusat\\_lms/student\\_registration.php](http://elearning.iirs.gov.in/edusat_lms/student_registration.php)

Classes of this course will be run in the department of Applied Geology NIT Raipur. 70% attendance is compulsory for this course and end of the course certificate would be distributed.

Kindly register the link given above and submit the registration form to the course coordinator.

## About the Course:

Hyperspectral remote sensing deals with measurements in a large number of narrow spectral bands over a contiguous spectral range. Because of its ability to detect narrow absorption features hyperspectral data are related to specific vegetation physiochemical characteristics, soil physical and chemical properties,

mineral composition and snow characteristics, mapping tree species, recognizing invasive plants, and identifying key geologic features. However, because of presence of a large number of bands, hyperspectral data needs different analysis approach including feature reduction, feature selection, removal of noise, detection of absorption features, advance classification techniques. This course will make the participants aware about hyperspectral remote sensing, hyperspectral data processing and its applications. This course will have thirteen sessions. First to eighth sessions will mainly be focused on topics related to hyperspectral remote sensing, ground spectro-radiometer and processing techniques; while ninth to thirteenth sessions will focus on application of hyperspectral data in five application areas

## Curriculum:

- First Session: Hyperspectral Remote Sensing (HRS): An Overview and Applications;
- Second Session: Hyperspectral remote sensing: Platform and sensors;
- Third Session: Hyperspectral Image Pre-processing;
- Fourth Session: Demonstration on Hyperspectral Data Preprocessing;
- Fifth Session: Data dimensionality reduction;
- Sixth Session: Optical and Thermal Hyperspectral Image Classification;
- Seventh Session: Demonstration on spectro-radiometer and spectral library creation;
- Eighth Session: Demonstration on Hyperspectral data classification;
- Ninth Session: Hyperspectral Remote Sensing for Agriculture and soil Studies;
- Tenth Session: Hyperspectral Remote Sensing for Forestry Applications;
- Eleventh Session: Hyperspectral remote Sensing for Geological Applications;
- Twelfth Session: Hyperspectral Remote Sensing for Urban Studies;
- Thirteenth Session: Hyperspectral Remote Sensing for Water and snow cover Studies

## Course Fee:

There is no course fee.

<b>Registration</b>	<ul style="list-style-type: none"> <li>Number of participants for the course will be limited to 25. It is mandatory to submit the registration copy to the course coordinator. Last date of registration is 15<sup>th</sup> August 2017.</li> </ul>
<b>You Should Attend If...</b>	<ul style="list-style-type: none"> <li>you are an executives, engineers and researchers from Geology, Civil Engineering, Mining engineering, Computer Science and other branches of engineering and sciences and belonging to governmental institutes, consultancy firms, research institutes, and industries</li> <li>research scholars</li> <li>faculty from academic institutions and technical institutions.</li> </ul>
<b>Fees</b>	<ul style="list-style-type: none"> <li>This course is free of cost.</li> </ul>
<b>Course</b>	<ul style="list-style-type: none"> <li>Online classes of this course can be attended in the Department of Applied Geology NIT Raipur. Schedule of the online classes is given below.</li> </ul>

Period  
September 18 – 21, 2017

Venue:  
Department of Applied  
Geology  
NIT Raipur



## Course Co-ordinator

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<http://www.nitrr.ac.in>  
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Registration Process:  
**Apply Online**