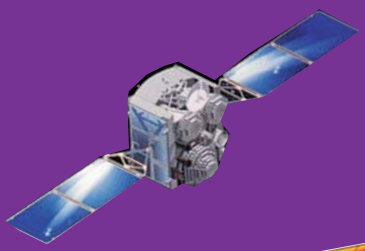
HYPERSPECTRA-2013

Department of Earth Sciences
Indian Institute of Technology Bombay

DST Sponsored Training Programme On Hyperspectral Remote Sensing For Earth and Planetary System Sciences

21-25 January, 2013



M3-Hypercube of Naonobu Crater Area, Moon

Www.geos.iitb.ac.in/hyperspec-13

INTRODUCTION

Imaging Spectroscopy, the technique of acquiring spectral fingerprint of Earth and Planetary surfaces is a state-of-the art remote sensing technique. Over the past decade, the hyperspectral data acquired using orbiter, lander and rover have revolutionized resource exploration and scientific understanding. In terrestrial applications, this technique has been extensively used in areas such as mineral exploration, water- and air-quality monitoring, soil, snow and ice mapping. In planetary explorations, this technique has offered vital information on the Lunar- and Martian-lithology, regolith mineralogy, and chemistry. Hyperspectral imagers like AVIRIS, HYDICE, HYPERION, TES, M3 and HySI have enabled generation of laboratory like spectra for precise compositional mapping and semi-quantiative abundance estimation. Unlike conventional remote sensing techniques, this technique needs highly sophisticated image processing and interpretation skills.

Realizing the importance of hyperspectral remote sensing, NRDMS-DST has initiated several schemes to promote this technique. However, in India this technology is yet to gain momentum due to shortage of trained human resource.

Department of Earth Sciences, Indian Institute of Technology Bombay has been playing a pivotal role in disseminating recent technological advances through its **train-the-trainer** programmes. This DST sponsored training programme is one such initiative aimed at imparting training on the basic and applied aspects of HRS to Indian remote sensing community.

COURSE OUTLINE

This course is designed to give comprehensive understanding and practical exposure on various aspects of hyperspectral remote sensing in the visible through thermal regions. This course is expected to empower the participants to kick start his/her research involving HSR. Key components of the curriculum includes:

Basics of reflection and emission spectroscopy
Field training for (reflectance and emission) spectral acquisition
Exhaustive theory and lab sessions on image calibration, correction and processing procedures
Guided tutorials
Case studies

WHO CAN ATTEND

This course is tailor made for practicing remote sensing scientists / engineers, policy makers, academicians and students working in the fields of geology, mineral exploration, planetary science, and military intelligence.

ELIGIBILITY CONDITIONS

Good working knowledge in multi-spectral remote sensing and digital image processing skills are required. Exposure to mathematics and Matlab programming will be advantageous.

COURSE FEE

No course fee for students and candidates sponsored by government agencies and universities.

RESOURCE PERSONS

Prof. D.Ramakrishnan
IIT-Bombay

Prof. B.K.Mohan
IIT-Bombay

Dr.R.N.Sahoo
IARI

Dr. P. Srinivas
ADRIN-ISRO

Dr.H.S.Negi
SASE, DRDO

Dr.Prakash Chauhan
SAC-ISRO

Dr. P. K.Thapliyal
SAC-ISRO

TRAVEL & ACCOMMODATION

Candidates will be provided free boarding and lodging facilities at IITB guest house. II-tier A/C train-fare by shortest route (excluding tatkal charges) will be reimbursed as per IITB norms.

DEADLINES:

Lat date for submission of applications: 10th December,2012
Screening & intimation to selected candidates: 15th December,2012
Confirmation of participation: 20th December,2012

DETAILS FOR CORRESPONDENCE

Prof. D. Ramakrishnan
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R E G I S T R A T I O N F O R M

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NAME (in Block letters):

GENDER:

DATE OF BIRTH:

ACADEMIC BACKGROUND:

NAME OF THE UNIVERSITY/ ORGANIZATION:

MAILING ADDRESS:

PIN CODE

TELEPHONE: (O) (R)

FAX: MOBILE:

EMAIL*:

(* essential as selected candidates will be intimated by email)

PRIOR EXPOSURE TO MULTI-/HYPERSPECTRAL REMOTE SENSING TECHNIQUES: YES/NO

IMPORTANT THREE PUBLICATIONS IN REMOTE SENSING AND DIGITAL IMAGE PROCESSING AREA:

RELEVANCE OF THIS TRAINING IN RESEARCH /TEACHING:

DATE: SIGNATURE OF APPLICANT

SIGNATURE OF HEAD OF INSTITUTE
(Date & Seal)