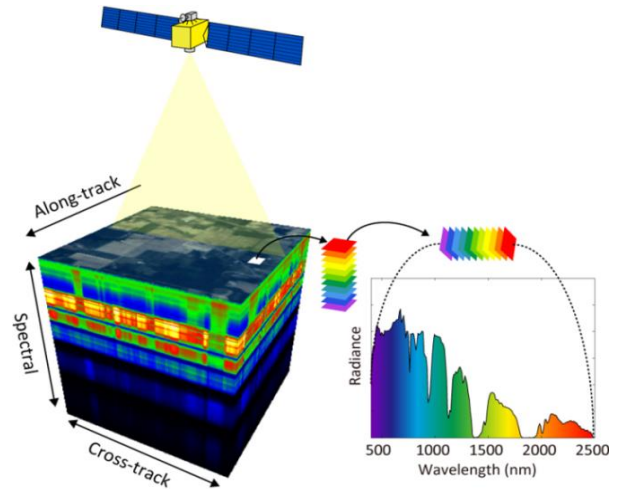


Brief:

Hyperspectral Remote Sensing, also known as Imaging Spectroscopy, involves capturing hundreds of contiguous spectral bands, providing detailed spectral reflectance data of imaged targets. This comprehensive spectral information allows for an in-depth understanding of the physical and chemical properties of terrain features, atmospheric phenomena, and their compositions. By analyzing image pixels, it facilitates applications like automatic feature identification, classification, abundance estimation, and spectral unmixing.



However, the complexity of hyperspectral data necessitates a strong grasp of energy-matter interactions and assessments. Atomic and molecular-level interactions govern most of the patterns observed in spectral reflectance. These interactions involve the absorption, transmission, and scattering of electromagnetic radiation by matter. At the atomic level, electrons absorb specific wavelengths of light, resulting in absorption bands characteristic of electronic transitions. At the molecular level, vibrational and rotational movements within molecules contribute to distinct absorption features, particularly in the infrared and microwave regions.



The recent advancements in spaceborne hyperspectral sensors have further enhanced our ability to observe Earth's environment but have also introduced new challenges in data analysis and exploration. These challenges demand innovative approaches and methodologies to fully exploit the potential of hyperspectral imaging for environmental monitoring and scientific research. Hyperspectral sensors such as AVIRIS, HYDICE, HySI, HYMAP, Hyperion, and more recently, AVIRIS-NG and PRISMA, have significantly advanced research and applications across diverse fields. These sensors provide invaluable data for

atmospheric characterization, ecosystem studies, water resource management, mineral exploration, climate research, snow and ice hydrology, coastal environment monitoring, land use/land cover analysis, vegetation mapping and also Planetary Studies. The detailed spectral information captured by hyperspectral imagery from space borne platforms offers unique insights, making it is ideal for quantitative resource mapping and monitoring. As hyperspectral technologies continue to evolve, their potential applications are expected to expand further, driving innovation across multiple disciplines.

Training Focus

The main objective of the training is to provide participants with a comprehensive and practical understanding of hyperspectral data and its analysis. The course aims to equip users with the skills and knowledge required for effective utilization of hyperspectral data in natural resource assessment and environmental monitoring. The program features presentation sessions, hands-on demonstrations (using ENVI software), and guidance from domain experts. Key topics include data transformations, feature extraction, classification techniques, and spectral quantitative analysis.

Eligibility & Selection

Applicants must hold a Master's degree in Science, a Bachelor's degree in Engineering, or a Graduation degree with at least 2 years of relevant experience. Knowledge of remote sensing applications using multispectral data and proficiency in image processing software are mandatory. Selection will be based on eligibility, domain experience, and prior exposure to remote sensing tools.

Who can apply?

Duly filled application forms with sponsorship certificate are invited from working professionals of State Government / Central Government Departments, NGOs, Industry and Faculty/Research Scholars from Academic Institutions who are gearing up to utilize the Hyper spectral Remote Sensing data. The application form should reach NRSC, Hyderabad by speed post (EMS) at address given below by July 4th, 2025. Candidates can send a scanned copy of the application form to training@nrsc.gov.in (attachment < 4 MB) along with fee payment details as advance copy and duly send the originals by speed post to reach the address mentioned below before the due date.

Course Fee & Admission

The course tuition fee given in below table, to be paid by Electronic Bank Transfer to NRSC account. Visit our website for more details. Tuition fee does not include lodging & boarding charges. Kindly enclose and send duly filled application form with sponsorship certificate to reach us on or before the due date. Selected candidates will be intimated by email/mobile. Applicants will be provided accommodation in NRSC Guest House II inside the campus on twin sharing basis, food is served by NRSC canteen at a nominal price. *Right of admission reserved with NRSC.*

Course fee (Rs.) for individual applicants	
Central Govt./State Govt./PSUs/Pure Govt. Organizations/Govt. Academic Colleges/Institutes	Industry/Autonomous Bodies & its Institutes, Private Orgn./NGOs/Private Academia/Other Institutes)*
Rs. 10,000/-	Rs. 11,800/-

*Course Fee Rs. 10,000/- + 18% GST.

Postal Address & Contact:

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