

AI-HYDA 2026Faculty Development Programme on
Artificial Intelligence for Hyperspectral Data AnalysisJune 8–12, 2026 • BIT Mesra, Ranchi
In collaboration with E&ICT Academy, NIT Patna✉ Registration 8:30 AM, 8th June 2026**DAY 1** | June 8, 2026 (Monday)▶ **FIRST HALF** 9:00 AM – 1:00 PM

TIME	TOPIC	RESOURCE PERSON
9:30–10:20 AM	Inauguration	Inaugural Event
10:00–11:00 AM	Plenary Lecture	Dr Anup K Das, Chief Guest, Scientist SG & Head of Division, SAC, ISRO
11:00 AM–12:00 PM	Hyperspectral Imaging: Prospects, Applications and Challenges	Prof P. K. Garg, IIT Roorkee
12:00–1:00 PM	Electromagnetic Spectrum & Sensors	Dr Dileep K Singh, Department of Physics, BIT Mesra

🕒 *LUNCH BREAK* • 1:00 – 2:00 PM▶ **SECOND HALF** 2:00 PM – 6:00 PM (Hands-on / Lab)

TIME	TOPIC	RESOURCE PERSON
2:00–3:00 PM	Demonstration of Spectroradiometer & Field Data Collection	Dr Vikas Dugesar, iSARC
3:00–4:00 PM	Sources for Downloading Satellite & Hyperspectral Datasets	Dr Amit Tiwari
4:00–5:00 PM	Basic Satellite Data Processing & Visualisation using ENVI	Dr Amit Tiwari
5:00–6:00 PM	Python Environment Setup and Introduction to Hyperspectral Data Analytics	Mr Neeraj K Maurya

Venue From Second Half Session onwards: Integrated Learning Facility Lab, 2nd Floor, R&D Building

DAY 2 | June 9, 2026 (Tuesday)▶ **FIRST HALF** 9:00 AM – 1:00 PM

TIME	TOPIC	RESOURCE PERSON
9:00–10:00 AM	Calibration Methods & Noise Reduction Techniques	Dr Vikas Dugesar, iSARC
10:00–11:00 AM	Fundamentals of Hyperspectral Imaging	Dr V S Rathore
11:00 AM–12:00 PM	Dimensionality Reduction (PCA, ICA, t-SNE)	Prof Abhijit Mustafi, Dept of CSE, BIT Mesra
12:00–1:00 PM	Feature Engineering using Scikit-learn	Dr K K Senapati, Dept of CSE, BIT Mesra


 LUNCH BREAK • 1:00 – 2:00 PM

▶ **SECOND HALF** 2:00 PM – 6:00 PM (Hands-on / Lab)

TIME	TOPIC	RESOURCE PERSON
2:00–3:00 PM	Spectral Preprocessing	Mr Neeraj K Maurya
3:00–4:00 PM	Calibration Exercises	Mr Neeraj K Maurya
4:00–5:00 PM	PCA Implementation	Mr Bhola Mahto
5:00–6:00 PM	Feature Extraction using Scikit-learn	Mr Bhola Mahto

DAY 3 | June 10, 2026 (Wednesday)

Venue From Second Half Session onwards: Integrated Learning Facility Lab, 2nd Floor, R&D Building

▶ FIRST HALF 9:00 AM – 1:00 PM		
TIME	TOPIC	RESOURCE PERSON
9:00–10:00 AM	Support Vector Machines (SVM)	Dr Ratnesh Mishra
10:00–11:00 AM	Random Forest & k-NN	Dr Akriti Nigam, Dept of CSE, BIT Mesra
11:00 AM–12:00 PM	Clustering Techniques	Prof. Maheshwari Prasad Singh, Professor & Dean, NIT Patna
12:00–1:00 PM	Model Evaluation & Classification Metrics	Dr Manish K Pandey, BIT Mesra
 <i>LUNCH BREAK • 1:00 – 2:00 PM</i>		
▶ SECOND HALF 2:00 PM – 6:00 PM (Hands-on / Lab)		
TIME	TOPIC	RESOURCE PERSON
2:00–3:00 PM	SVM Classification	Mr Neeraj K Maurya
3:00–4:00 PM	Random Forest Implementation	Mr Bhola Mahto
4:00–5:00 PM	Clustering Exercises	Mr Bhola Mahto
5:00–6:00 PM	Performance Evaluation & Visualisation	Mr Anirban Das & Mr Abhay Kumar

Venue From Second Half Session onwards: Integrated Learning Facility Lab, 2nd Floor, R&D Building

DAY 4 | June 11, 2026 (Thursday)▶ **FIRST HALF** 9:00 AM – 1:00 PM

TIME	TOPIC	RESOURCE PERSON
9:00–11:00 AM	Vision Transformers for Deep Visual Learning	Dr Rajiv Misra, Professor & Head, Dept of CSE, IIT Patna
11:00 AM–12:00 PM	Transfer Learning	Dr Kanchan Jha, Dept of CSE, BIT Mesra
12:00–1:00 PM	AI in Land Parcel Identification & RAG in Land Management	Dr Ganesh Khadanga, DDG, HOD LRIS II

 LUNCH BREAK • 1:00 – 2:00 PM

▶ **SECOND HALF** 2:00 PM – 6:00 PM (Hands-on / Lab)

TIME	TOPIC	RESOURCE PERSON
2:00–3:00 PM	CNN Development using TensorFlow/Keras	Mr Anirban Das
3:00–4:00 PM	Autoencoder Exercises	Ms Vanitha
4:00–5:00 PM	Explainable AI Exercises & Deployment	Mr Anirban Das
5:00–6:00 PM	Transfer Learning Practice	Ms Vanitha

Venue From Second Half Session onwards: Integrated Learning Facility Lab, 2nd Floor, R&D Building

DAY 5 | June 12, 2026 (Friday)▶ **FIRST HALF** 9:00 AM – 1:00 PM

TIME	TOPIC	RESOURCE PERSON
9:00–10:00 AM	Application of AI in Agriculture: A Complete Analysis	Dr. Ashutosh Upadhyaya, Director & Head, ICAR Research Complex for Eastern Region, Patna
10:00–11:00 AM	Big Data Analytics	Dr R N Sahoo, IARI
11:00 AM–12:00 PM	Future Directions & Global Challenges in AI-Enabled Geospatial Analytics	Mr RanVijay Pandey, Global Alliances Leader, Infosys Finacle
12:00–1:00 PM	Curriculum Integration & Project Planning	Dr. Vikas Dugesar

 *LUNCH BREAK* • 1:00 – 2:00 PM

▶ **SECOND HALF** 2:00 PM – 6:00 PM (Hands-on / Lab)

TIME	TOPIC	RESOURCE PERSON
2:00–3:00 PM	Mini Project Development	Mr Neeraj K Maurya
3:00–4:00 PM	GeoAI for Smart Governance: Transforming Decision-Making with Geospatial Intelligence	Mr Nilay Nishant, Scientist C, NESAC
4:00–5:00 PM	AI-HYDA: Future Vision	Dr Prashant K Srivastava, IESD, BHU
5:00–6:00 PM	Valedictory, Feedback & Certificate Distribution	Dr. Manish K Pandey

Venue From Second Half Session onwards: Integrated Learning Facility Lab, 2nd Floor, R&D Building