

About the Course and Objective:

In this course, we will provide detailed background about the evolution of signal and image processing techniques and what are the leading algorithms and techniques currently being used and potential techniques to meet the future requirements. This course will also provide the hands on experience to the candidates by explaining various applications of these techniques in the fields of Electronics & Communication and Computer science Engineering. In broad, emphasis will be on the applications of signal and image processing in engineering domain.

Course Content

Motivation, Fundamental of signal processing, Wavelet and other transforms, Design of Digital Filters, Multirate Signal Processing, Various optimization techniques, Limitations & Challenges for future research.

Introduction to Time-Frequency Analysis, The Short-Time Fourier Transform/Spectrogram, Variants and Limitations, Empirical Mode decomposition, Improved EMD, Application of Time frequency in biomedical signal processing.

Image Processing: Filtering, Denoising, Segmentation, Classification, Image Watermarking and its applications, Limitations & Challenges, Engineering applications of Image processing.

Hand on Sessions: MATLAB Tool Box.

Course Material:

Hard / soft copies of the lecture notes/presentations will be made available to participants at the end of lecture/presentation.

About the City

Sanskardhani, a "Cultural Center Place". It is a place of great historical and cultural importance. This Cultural capital of Madhya Pradesh is situated on the bank of the

holy Narmada and Famous for Dhuandhar Falls and Marble Rocks in Bhcdaghat, Hanumantal Rada Jain Mandir, Madan Mahal Fort, Rani Durgawati Museum. Simultaneously it is keeping pace with modern advanced knowledge. Jabalpur is an important junction for the Indian Railways. Jabalpur is a large Defence and Military Center. Jabalpur is also known for housing spiritual leaders Maharishi Mahesh Yogi and Bhagwaan Ski Rajneesh (Osho). This vibrant city with multiple dimensions of knowledge and liberation has a magnetic attraction for people all over the world. The Jageshwar Nath Shiv Temple at Bandakpur, near Damoh, Kundalpur Jain Teerth Kshetra. near Damoha, Vishnu-Varaha Temple, Majholi, Pench National Park, Kanha Tiger Reserve, Bandhavgarh National Park are attractions near Jabalpur city.

About the PDPM IIITDMJ

PDPM IIITDM Jabalpur was established in 2005 as a CFTI (Centrally funded Technical Institution) under the Ministry of HRD, Govt. of India. The Institute is being developed and nurtured under India - Japan partnership as a unique Institute of its kind with focus on IT enabled design and manufacturing. Under a joint agreement between the two Governments, Japan, a leader in cutting edge manufacturing technologies is committed to provide support for development of the teaching and research programmes and also to promote the infrastructure of the Institute. Since its inception, PDPM IIITDM Jabalpur has been playing a vital role in producing quality human resources for contribution in India's mission of inclusive and sustainable growth. The Institute offers undergraduate, postgraduate and PhD programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Design and PhD programmes in Mathematics, Physics and Literature. Under IIIT act, the Institute has been declared as an Institute of National Importance in January 2015. The Institute campus is being developed on 250 acres of land close to Dumna Airport, Jabalpur. The Institute is 10 km from the main railway station and 5.5 km from Dumna Airport, Jabalpur.

AICTE (QIP) Sponsored Short Term Course on EMERGING TRENDS OF SIGNAL AND IMAGE PROCESSING



February 21-25, 2020



Organized by:

PDPM Indian Institute of Information Technology Design and Manufacturing, Jabalpur, Dumna Airport Road, Jabalpur-482005, India

Coordinators:

Dr. Varun Bajaj, Dr. Irshad Ahmad Ansari and Dr. Anil Kumar
Faculty of Discipline of Electronics and Communication Engineering

Route to Jabalpur

Route to Jabalpur The city of Jabalpur is well connected by road, rail and air with all the important places of India. Regular flights are provided by Air India & Spice Jet. Daily services are available to Bhopal, Delhi, Hyderabad and Mumbai. Jabalpur Junction has Direct Service to Mumbai, New Delhi, Bhopal, Kolkata, Nagpur, Patna etc. The IIITDM campus is only 10 Km from Jabalpur railway station 5.5 Km from the Dumna airport.

Who Can Attend

All existing faculty members working in the field of Signal & Image Processing are primarily targeted for this short duration course work.

FEE

No course fee for participants sponsored by the AICTE approved Institutions. Only refundable security deposit of 1000/- rupee needs to be paid.

Financial Assistance:

Limited number of participants (30) from the AICTE approved engineering institutions will be eligible for **to and fro train fare via shortest route in III AC class and free lodging and boarding in the Institute guest house/hostels during course period.** Candidates attending the course in full only will be eligible for TA. For all other participants, no TA will be paid.

Participants from Governments Departments and Industries are eligible, provided they meet their T.A. and D.A. and pay a course fee @ Rs. 2500/- and Rs. 5000/-, respectively.

The Security deposit/ registration fee is to be paid online in Allahabad Bank, Branch Mehgawan, Jabalpur (IFSC Code ALLA0212433) Account No. 50388395415 in favor of QIP PDPM IIITDM Jabalpur through any nationalized bank and payable at Jabalpur.

How to Apply?

By Email — Scanned copy of the filled in application form duly endorsed by the forwarding authority to be mailed at **qip.iiitdmj@gmail.com** by **February 19, 2020**. Application format is given in this brochure. Accommodation and local hospitality will be provided to the selected candidates from the AICTE approved institutions in the Institute guest house/hostels.

Important Dates:

Last Date of Registration: **February 19, 2020**

Intimation of Selection: **Within 24 hours of the application reception**

Course Duration: **February 21-25, 2020**

Note: The selected participants have to pay online Rs. 1000/- from any nationalized bank in Allahabad Bank, Branch Mehgawan, Jabalpur (IFSC Code ALLA0212433) Account No 50388395415 in favor of QIP PDPM IIITDM Jabalpur as a security deposit for confirmation of their participation. The security money will be returned back to the participant account only if he/she joins the course.

Course Coordinators:

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Application Form

Name of the Course / Programme: **EMERGING TRENDS OF SIGNAL AND IMAGE PROCESSING**

Name of the Applicant (first, last): _____

Gender : M / F / T Category: GEN/SC/ST/OBC

Designation: _____

Name and Address of the Organization/Institute/College _____

City/town: _____ Email: _____

Contact Number: _____

Do you need accommodation? (Yes/No): _____

Note: Accommodation and meal facility will be available only from the evening of February 20, 2020 to the morning of February 26, 2020.

Please register me for the AICTE sponsored short term course on "EMERGING TRENDS OF SIGNAL AND IMAGE PROCESSING" to be held at PDPM IIITDM Jabalpur.

Date: _____ Signature of the Applicant

Place: _____

SPONSORSHIP

Prof./Dr./Mr./Ms./Mrs. _____

is an employee of our institute and his/her application is hereby sponsored. The applicant will be permitted to attend the AICTE sponsored short term course on "EMERGING TRENDS OF SIGNAL AND IMAGE PROCESSING" to be held at PDPM IIITDM Jabalpur during February 21-25, 2020, if selected.

Date: _____ Signature of Sponsoring Authority

Official Seal: