

## About Electronics & ICT Academy at PDPM IIITDM Jabalpur

The Ministry of Electronics and Information Technology, Government of India, has instituted seven Electronics and ICT Academies with one academy at PDPM IIITDM Jabalpur. The primary objective of the Academy is to prepare manpower for two important missions - 'Digital India' and 'Make in India'. The Academy aims at scalable training programmes in niche areas of Electronics and ICT for the development of required knowledge base, skills, and tools to unleash the talent of the Indian population. In addition to the faculty development programmes on fundamental and advanced topics, the Academy conducts customized training programmes for the corporate sector and research promotion workshops in emerging areas. The Academy is envisioned to become a central hub of activities on training, research, consultancy work, and entrepreneurship programmes.

## About PDPM IIITDM Jabalpur

PDPM IIITDM Jabalpur was established in 2005 with a focus on education and research in IT-enabled Design and Manufacturing. 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.

## Faculty Development Programme Robotics and Intelligent Systems

**Who can attend:** Programme is open to faculty from all colleges and universities preferably from the states of Madhya Pradesh, Chhattisgarh, and Maharashtra. Faculty members from other states are also eligible. Industry personnel working in the concerned/allied discipline may also apply. **Limited seats are available for research scholars.**

### How to apply:

**Online:** The participants may log on to the website [ict.iiitdmj.ac.in](http://ict.iiitdmj.ac.in) and fill up the application form selecting the name of the course. One may also send a scanned copy of your completed application form to [academyiiitdmj@gmail.com](mailto:academyiiitdmj@gmail.com).

Application format may be downloaded from the website (Also given in this brochure). Print out of the filled-in application form duly endorsed by the forwarding authority, and a demand draft of the applicable amount (as given below) in favour of 'Electronics and ICT Academy, IIITDMJ' payable at Jabalpur may be sent to the address given below. No Travelling Allowance will be paid by the Academy.

### Important Dates:

**Last Date of Online Registration: June 03, 2019**

**Spot Registration also available if seats are available.**

**Course Dates: June 10 – 14, 2019**

### Registration Fee and Accommodation:

Faculty and Research Scholars (PhD): Nil and free accommodation on sharing basis.

Others: Rs 3000 and extra nominal charges for accommodation and food.

### Contact us

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Electronics and ICT Academy

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**Website:** [ict.iiitdmj.ac.in](http://ict.iiitdmj.ac.in)

## Summer Faculty Development Programme Embedded Systems & Interfacing hands-on June 10 - 14, 2019



Seamless Learning Opportunities  
At

Electronics and ICT Academy  
An Initiative of  
Ministry of Electronics and Information  
Technology,  
Government of India



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

Building  
Human  
Resources  
For  
Digital India

Electronics and ICT Academy  
IIITDMJ

## Embedded Systems & Interfacing

June 10 - 14, 2019

### Course objectives:

This course is designed to provide an exposure to the fundamentals of Robotics and Artificial Intelligence. Participants will learn kinematics and dynamics of industrial manipulators, kinematics of mobile robots, trajectory planning, path planning and control and how to embed intelligence in robotic tasks. Hands-on training and practice sessions will help participants gain confidence on robotic concepts, their simulation and implementation including sessions on intelligent agents. The course will be useful for faculty of engineering and sciences who are interested in the learning robotics and intelligent systems.

### Resource Persons

- (i) Prof. Anshul Kumar, IIT Delhi
- (ii) Debdeep Mukhopadhyay, IIT Kharagpur
- (iii) Prof. P. R. Panda, IIT Delhi
- (iv) Prof. M. Balakrishnan, IIT Delhi

### Course Coordinators

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## Course contents

### 1. Embedded Hardware & architecture

Introduction, design characteristics, IO device, ADC/DAC, sensors, actuators, interrupts; ARM architecture fundamentals, ARM instruction set, Thumb set, assembly programming

### 2. Interfacing C-Programs with ARM Core Microcontrollers

Bit Manipulation, I/O port configuration

### 3. Processing Elements of an Embedded System

Reconfigurable architectures & FPGAs, ARM and  $\mu$ Cs

### 4. Embedded OS:

How memory is managed, how tasks are scheduled, what interrupts are and how they are handled Linux (monolithic) kernel, micro kernel and modular kernel.

### 5. Hands-on including:

Build your own input/output system with the ARM Build your own ADC using ARM Learn how to use serial communication using the ARM Create a timer for polling using the ARM.

Note: The course lectures will be delivered through NKN. Hands on sessions will be conducted at the IIITDM Jabalpur. Reuiste kits will be made available to the participants.

## Application Form

Name of the Course / Programme: **Embedded Systems & Interfacing hands-on**

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: .....

Alternate email (if any): .....

Phone Number: .....

Mobile Number: .....

Do you need accommodation? (Yes/No):

Note: Accommodation and meal facility will be available only from the evening of June 09 to the morning of June 15, 2019.

DD Number: ..... Date: .....

Issuing Bank: ..... payable at: .....

Signature of the Applicant

I hereby agree to relieve Mr./ Ms./ Dr.....  
..... in case she/he is selected  
to attend the programme.

Signature and Seal of the Forwarding Authority

Name ..... Designation .....