

## Electronics and ICT Academy

The Ministry of Electronics and Information Technology (formerly Department of Electronics and Information Technology (Deity), a department under the Ministry of Communications and Information Technology), Government of India has sponsored a scheme entitled "Scheme of Financial Assistance for setting up of Electronics and ICT Academies" on 14 November, 2014. An Empowered Committee under the chairmanship of the Secretary, of the then DeitY, has accorded approval for setting up of 4 such Academies at NIT Patna (Bihar), IIITDM Jabalpur (Madhya Pradesh), NIT Warangal (Telangana), IIT Guwahati (Assam). With financial assistance from the Central Government, the Academy aims at providing specialized training to the faculty of Engineering, Arts, Commerce & Science colleges, Polytechnics etc. by developing state-of-the-art facilities and in turn intends to enhance the academic skills of the students.

## Objectives

The objectives of the FDP are:

- To introduce & familiarize the research aspects of Sensors, Internet of things, Security & Machine Learning.
- To learn about the tools available for realizing the theoretical concepts along with their applications.
- To familiarize the audience with the methodology adopted by the IT industry for the development of products of these domains.
- To gain experience of working with these technologies in real-life scenarios.

## About NIT Patna

On 28<sup>th</sup> January, 2004, the erstwhile Bihar College of Engineering Patna was rechristened as the 18<sup>th</sup> National Institute of Technology by the Ministry of H.R.D. Government of India. It is an autonomous institute functioning directly under Ministry of Human Resource



Development, Government of India. NIT Patna has 10 different departments offering quality B.tech, M.tech and PhD programs. In 2007, it was granted Institute of National

Importance status through an act of Parliament of India.

The Department of Computer Science and Engineering offers 2 B.Tech courses, 2 M.Tech courses and PhD program. The department has a very good infrastructure consisting of Latest Labs, Smart Classes and Centre of Excellence. The students

of the department are encouraged for high quality academic and research work under the supervision of dedicated faculty and staff members leading to excellent placement opportunities.

## About MAKAUT

Maulana Abul Kalam Azad University of Technology, West Bengal came into operation formally on January 15, 2001. The University is steadfast in its twin objectives: (a) To serve as a Centre of Excellence in teaching and research in technology and management area. (b) To provide framework of industrialization based on knowledge economy. The vision of the university is to achieve the status of a globally ranked premier University in the field of Science, Technology, Pharmacy, Architecture, Management and interdisciplinary areas for the creation of high-calibre professionals with environmental consciousness, social, moral and ethical values along with the competency to face the new challenges of rapid technological advancements.



## About TICT (under TECHNO INDIA GROUP)

Techno India Group started in 1985 for the exclusive purpose of delivering quality education in Science and Engineering in the state of West Bengal, India. Today Techno India is the recognized leader among private education groups in India for its academic excellence and vast multitude of course offerings. The Group has strengthened its original emphasis on Science & Engineering and expanded into Management, Medicine, and other key areas like Information &



Communication Technology, Nanotechnology, Genetics, Biotechnology, Food Technology, Architecture, Paramedical Sciences etc. In an effort to build a solid foundation for the state education system Techno India has also entered into the arena of primary and secondary education by establishing numerous model schools.

Under the aegis of Techno India Group, **Techno India College of Technology** is a promising institution with a vision of delivering quality education in the field of Science, Engineering & Management. We began our journey in the year 2005 with a group of renowned academicians and experienced professionals from the industry. The vision of

our Institute is to impart excellent education and help students come out with bright careers and a very deep rooted and enduring future both as a professional and an individual.

## FACULTY DEVELOPMENT PROGRAM

on

## “Sensors, IoT and Security”

*Under the banner of*

**Electronics and ICT Academy, NIT Patna**



*In Association with*

**Maulana Abul Kalam Azad University of Technology, West Bengal**

&

**Techno India College of Technology, NewTown, West Bengal**



*Sponsored by*

**Ministry of Electronics and Information Technology, Government of India**

**Duration: 13<sup>th</sup> October to 18<sup>th</sup> October, 2017**

**Patrons**

**Prof. Rajeev Tripathi, Director, NIT Patna**

**Prof. Saikat Maitra, VC, MAKAUT**

**Sri Satyam Roychowdhury, MD, TIG**

**For any details or query please contact**

**FDP Coordinators**

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## Topics

Overview and Recent Trends of WSN  
Localization in WSN  
Routing in WSN  
Coverage, Connectivity Issues in WSN  
Security Issues in WSN  
Network Security challenges  
IoT Fundamentals  
IoT Protocol Stack – Research Perspective  
Device Level Programming in IoT  
Mathematical Foundations of Machine Learning  
Supervised/Unsupervised Learning  
Single and Multi-Layer Perceptron  
Reinforcement Learning  
Evolutionary Learning  
Optimization Techniques  
Familiarizing with Python  
Machine Learning using Python  
Hands on WSN Simulator  
Pedagogy

## Outcome

By the end of the FDP, the participants should:

- Understand the research perspectives of WSN and IoT
- Recognize the different aspects of security and machine learning in the IoT and WSN applications.
- Understand the approaches for designing and developing the products of the above mentioned domains.
- Acquire the knowledge of IoT devices through hands-on experience.
- Learn to develop machine learning codes using python
- Know how to apply various available tools related to these domains.

## Who can Apply

The program is open to the teachers of engineering colleges, Degree Colleges, MCA colleges, Polytechnic colleges and other allied disciplines. Industry personnel working in the concerned/allied discipline can also attend.

## Resource Persons

Prof. Uma Bhattacharya, IEST Shibpur  
Prof. Nabendu Chaki, Calcutta University  
Prof. Nabanita Das, ISI Kolkata  
Dr. M.P. Singh, NIT Patna  
Dr. Prabhat Kumar, NIT Patna  
Dr. J.P. Singh, NIT Patna  
Dr. Akshay Deepak, NIT Patna  
Dr. Ditipriya Sinha, NIT Patna  
Dr. Sudhakar Tripathi, NIT Patna  
Mr. Himanshu Rawal, Aricent  
Mr. Prasoon Verma, Aricent

## Venue

Maulana Abul Kalam Azad University of Technology (MAKAUT) , Salt Lake City, Kolkata, West Bengal 700064.

## How to Register

Amount (inclusive of Lunch and Registration Kit)

Participants from MAKAUT: Rs 1500/-

Participants from other academic institute: Rs 2500/-

Participants from Industry: Rs. 5000/-

Details for Online payment of registration fee:

Account Name: E & ICT Academy, NIT Patna

Account Number: 50380476798 , IFSC:

ALLA0212286.

OR

The amount may be paid by Demand Draft in favour of “Director, NIT Patna”, payable at Patna.

**The registration amount is non-refundable.**

The duly filled registration form must be signed. It has to be scanned and mailed to ditipriya.cse@nitp.ac.in along with the scanned copy of DD/Online Payment Receipt.

(Last Date: 12<sup>th</sup> October 2017)

**Spot Registration:** Spot Registration may be allowed if vacancy exist. The participant needs to come with endorsed registration form along with the DD and submit on the spot. Please contact Mobile: 7277233920 for any query.

(TA & Accomodation to be borne by the participant)

## Faculty Development Program (FDP)

### “Sensors, IoT and Security”

Under the Electronics and ICT Academy, NIT Patna  
(13<sup>th</sup> October to 18<sup>th</sup> October, 2017)

### Registration Form

1. Name (Block Letters):
2. Gender:
3. Category:
4. Domicile State:
5. Designation:
6. Organization:
7. Address for Communication:
8. Email:
9. Mobile Number:
10. Qualification:
11. Specialization:
12. Teaching Experience (Years):
13. Research Experience (Years):

Please register me for the course (FDP) on “Sensors, IoT and Security” to be held at Maulana Abul Kalam Azad University of Technology, Kolkata, West Bengal.

Date:.....

Place:.....

.....  
Signature of the Applicant