

## Faculty Development Program

on

### “IoT, BigData and Cloud Computing”

Duration: 08/02/2017 - 18/02/2017

Under the banner of  
**Electronics and ICT Academy**  
**National Institute of Technology, Patna**



#### Chief Patron

**Prof. (Dr.) Asok De**, Director, NIT Patna  
**Mr. Goutam RoyChowdhury**, Chaiman, TIG  
**Mrs. Manoshi RoyChowdhury**, Co-Chairman, TIG

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in Collaboration with  
**Dept. of Computer Science and Engineering**  
**Techno India, Salt Lake**



#### Sponsored by

Ministry of Electronics & Information Technology,  
Govt. of India

## About NIT Patna

National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erstwhile Bihar College of Engineering Patna on 28. 01. 2004. NIT Patna marked its humble beginning in 1886 with the establishment of pleaders survey training school which was subsequently promoted to Bihar College of Engineering Patna in 1924. This made this Institute the 6th oldest Engineering Institute of India. The Institute is situated on the south bank of holy river Ganges behind Gandhi Ghat (where the ash of father of the Nation, Mahatma Gandhi was offered in the river Ganges). The campus has a picturesque river view with historic building presenting a spectacle of architectural delight and natural beauty. The Institute imparts high level education training, research and development in science, engineering technology and humanities along with high quality education and values at UG, PG and Ph.D level. At present the Institute has seven degree offering disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg., Information Technology and Mechanical Engg., and well established departments of physics, Chemistry, Mathematics and Humanities and Social Science.

## Electronics and ICT Academy

Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development of required knowledge base, skills and tools to equip the teaching community with better knowledge and understanding.

## About Dept. of CSE, TISL

Department of Computer Science and Engineering was established in 2001 with an intake of 60 students, which eventually increased to 120 in 2011. The department's faculty members and technical assistants are rich in academic, industrial and research experience. With technology becoming insidious in everyday life, opportunities for computer engineers are plenty. The department laboratories are configured with latest technologies imparting utilities or practical knowledge. Apart from academics and projects the department also encourages its students to take part in extracurricular activities for an all round development and boosting confidence levels. Hence we encourage events like CSE United, Alumni meets and Farewell each academic year, polishing the quality each time.

## The Objective

The workshop is intended to fostering the discussion on IoT related issues, in particular focusing on technical enablers for the IoTs, such as practical architectures, software, communication protocols, schemes for interoperability and hardware.

And this workshop is designed to increase the understanding of the hardware and software infrastructure associated with Big Data analytics. Attendees will work with experts to outline Big Data objectives and strategy, better understand available solutions and explore the benefits of each as they apply to business objectives.

## Outcome

- knowledge and understanding of fundamental IOT paradigms, architectures, possibilities and challenges, both with respect to software and hardware,
- A wide competence from different areas of technology, especially from computer engineering, robotics, electronics, intelligent systems.
- Learn the basics of Internet of Things and its applications.
- What “the Internet of Things” means and how it relates to Cloud computing concepts.
- How open platforms allow you to store your sensor data in the Cloud.
- The basic usage of the Arduino environment for creating your own embedded projects at low cost.
- How to connect your Arduino to your Android phone.
- How to send data to the Internet and talk to the Cloud.
- Control a Relay Switch by texting from your Phone.
- How to provide a forum for exchanging ideas and information on current research studies, challenges, system developments, and practical experiences in this emerging field of Big data analysis.
- The workshop includes topics related to distributed machine learning, high dimensional data analysis, MapReduce framework, Hadoop system, and future of big data in India.

## Course Outline

- Introduction to the Internet of Things and Embedded Systems
- The Arduino Platform and C Programming
- Interfacing with the Arduino
- The Raspberry Pi Platform and Python Programming for the Raspberry Pi
- Interfacing with the Raspberry Pi
- Programming for the Internet of Things Project
- Big Data and High Dimensional Data Analysis
- From Big Text to Big Knowledge
- Introduction to the Map-Reduce framework and the Hadoop EcoSystem
- Distributed Machine Learning and Big Data
- Distributed Deep Learning

## Advisory Committee

Dr. Rina Paladhi, Director, TISL  
Dr. C. K. Bhattacharyya, Principal, TISL  
Mr. Anit Adhikari, CEO & Director, TIG

## Technical Committee

Dr. Jayanta Poray, TIU  
Mr. Tapan Chowdhury, TISL

## Resource Person

Dr. Saurav Dutta, IBM  
Dr. Nabendu Chaki, Calcutta University  
Dr. Sankhayan Chowdhury, Calcutta University  
Dr. Madhurima Chattapadhyay, Heritage Institute of Technology  
Dr. Debasish Jana, TEOCO Software Pvt Ltd  
Dr. Amit Chaudhury, CDAC, Kolkata  
Mr. Subikash Pal, CTS  
Dr. Jayanta Poray, TIU

For more details or a query please contact

### Co- Coordinator:

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Phone: +91-9830512435

## How to Apply :

By Email – Scanned copy of the filled in application form duly endorsed by the forwarding authority and the demand draft are to be mailed at [nairanjana.chowdhury@gmail.com](mailto:nairanjana.chowdhury@gmail.com). Application format is given in this brochure. Spot Registration is also possible depending on the availability of seats. In that case all necessary documents along with demand draft may be submitted at the time of on-site registration on **February 08, 2017**. No Travelling Allowance will be paid by the Academy.

Ms. Nairanjana Chowdhury  
Asst. Prof, TISL  
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## How to reach Techno India, Salt Lake, Kolkata



## Important Dates :

Last Date of Registration: **6th February, 2017**

Course Dates: **8th - 18th February, 2017**

For details of the programme and course contents etc., please log on to [www.nitp.ac.in](http://www.nitp.ac.in).

## Registration Fee (Lunch Inclusive):

Rs. 2500/- for participants from academia

Rs. 5000/- for participants from industry and research organizations

## The Draft should be drawn in the name of

The Director, NIT Patna Payable at Patna

## Accommodation (if needed) :

Accommodation expenses will have to be borne by the participants. However, full assistance will be provided in arranging the accommodation.

Venue:  
Techno India, Salt Lake  
EM 4/1, Sector V, Salt Lake  
Kolkata – 700091.

## Application Form Faculty Development Program on “IoT, BigData and Cloud Computing” 8th-18th February, 2017

1. Name (block letter): .....

2. Designation .....

3. Organization: .....

4. Address for communication: .....

.....

Pin code: ..... Ph. No.: .....

Fax No.: .....

E-mail: .....

5. Highest Academic Qualification: .....

6. Specialization: .....

7. Experience (in years):

(a) Teaching: .....

(b) Industrial: .....

9. DD No. : ..... Date: .....

Bank Name: .....

Amount: .....

10. Accommodation: Yes/No.....

Please register me for the course on “IoT, BigData and Cloud Computing” to be held at TISL, Kolkata.

Place: .....

Date: .....

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Signature of the applicant