

## Eligibility

College/University teachers in Computer Science & Engineering, Electronics & Communication Engineering, Electrical Engineering, and other related areas who are in continuous service.

## Registration Fee

Nil

## Boarding and Lodging

Free food and accommodation on shared basis for outstation participant only on first come first serve basis.

## How to Apply

The application form along with terms and conditions are attached with this brochure. The hard copy of the duly filled application form is to be sent to the course coordinator(s) by speed post **on or before 30.11. 2017.**

## Resource Persons

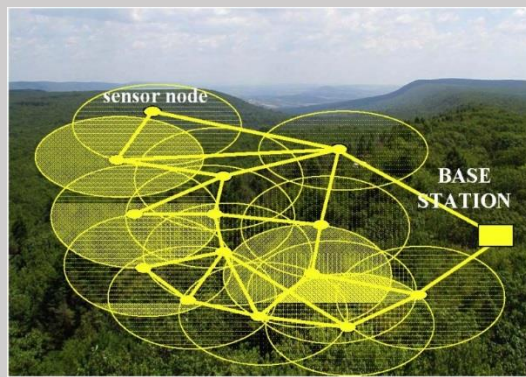
Guest speakers from IITs/NITs

## FDC Coordinators

1. Prof. A. K. Nirala, Coordinator, FDC
2. Dr. M. Yadav, Coordinator, FDC
3. Dr. P. K. Sharma, Deputy Coordinator, FDC
4. Dr. U. Tripathy, Deputy Coordinator, FDC
5. Dr. H. P. Nayak, Deputy Coordinator, FDC
6. Dr. P. K. Kewat, Deputy Coordinator, FDC
7. Dr. S. A. Sahu, Deputy Coordinator, FDC

## Importance and Scope of the Course

Over the past few years, the world has witnessed potential applications of Wireless Sensor Networks (WSNs) in many areas including environment monitoring, surveillance systems, military, health care, disaster warning systems and home applications. Extensive research works have been carried out to enrich this field. The primary objective of this course is to impart knowledge and skills on various issues of WSNs through lecture presentation and hands on practical sessions. A great emphasis will be given on the recent research topics on WSNs.



## Course Contents

The course includes the following topics:

- Background of Wireless Sensor Networks (WSNs)
- Applications of WSNs
- Structure of sensor nodes & WSN Architecture
- Challenges in WSNs
- Energy-efficient Algorithms
- Data Dissemination and Gathering
- Clustering Algorithms
- Routing protocols/algorithms
- Nature/Bio-Inspired Algorithms for WSNs
- Sink placement problem
- Fault-tolerant Algorithms
- Coverage-aware Algorithms
- Mobile sink and related Algorithms
- Mobile Chargers in WSNs

## Programme Coordinators

### Prof. Prasanta K. Jana

Professor & Coordinator

Department of Computer Science & Engineering,  
Indian Institute of Technology (ISM), Dhanbad  
Ph: 0326-223-5273 (O); +91-9431126447  
Email: prasantajana@yahoo.com

### Dr. Tarachand Amgoth

Assistant Professor & Co-Coordinator

Department of Computer Science & Engineering,  
Indian Institute of Technology (ISM), Dhanbad  
Ph: 0326-223-5520 (O); +91-9471191420  
Email: [tarachand.ism@gmail.com](mailto:tarachand.ism@gmail.com)

# One Week National Training Programme on Wireless Sensor Networks

(18–22 December, 2017)

Under

## FACULTY DEVELOPMENT CENTRE

[A MHRD, GOI funded centre sanctioned under Pandit Madan Mohan Malviya National Mission on Teachers and Teaching]

Venue: IIT (ISM) Dhanbad



Organized by

## FACULTY DEVELOPMENT CENTRE



Indian Institute of Technology  
(Indian School of Mines)

Dhanbad-826004, Jharkhand, India

[www.iitism.ac.in](http://www.iitism.ac.in)

Email: [fdc@ismdhanbad.ac.in](mailto:fdc@ismdhanbad.ac.in)

## IIT (ISM), Dhanbad



Indian Institute of Technology (Indian School of Mines) Dhanbad is a fully residential technical institute having all modern facilities located in the mineral-rich belt of India in the major coal city of Dhanbad, Jharkhand, India. It was established as ISM in 1926 on the lines of the Royal School of Mines, London.

IIT (ISM) Dhanbad, an Institute of National importance, has been rendering invaluable service to the cause of global education and societal development in its nine long decades of existence. Keeping in tune with the changing times a need has been realized for further expansion and diversification. IIT (ISM) has grown into a full-fledged technical institution with 18 departments offering a wide range of courses in Engineering, Science, Management, Humanities and Social Sciences at UG, PG and Ph.D. levels. IIT (ISM) admits students through IIT-JEE and GATE Entrance Exam in various courses of the respective departments.

### Venue

The course will be conducted at FDC/EDC, IIT(ISM) Dhanbad. The Dhanbad city is well connected through railway from various parts of the country. The nearby airports are Kolkata and Ranchi which are nearly 250 km and 180 km, respectively, from Dhanbad.

### Faculty Development Centre (FDC)

The Faculty Development Center at Indian Institute of Technology (Indian School of Mines) Dhanbad, has been sanctioned by the Ministry of Human Resources Development Government of India, under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and

Training (PMMMNTT). Faculty development has a critical role to play in promoting academic excellence and innovation. FDC will incubate and nurture, on a continuous basis the professional development of teachers and will create opportunities for professional growth. Research Cell located within FDC will help to undertake research on different aspects for professional development of teachers. Faculty development is an essential element of institutional effectiveness. The extent to which the institution supports faculty development will be strongly reflected in levels of the engagement in learning activities, conduct of research and ultimately fulfilling the objectives and goals of the colleges/universities/institutes.

Faculty development program includes the four possible types of development: personal (interpersonal skills, career development, and life planning issues); instructional (course design and development, instructional technology); organizational (ways to improve the institutional environment to better support teaching); and professional (ways to support faculty members so that they fulfill their multiple roles of teaching, research and service).

### Vision and Mission of the FDC Programme

- To inculcate and promote institutional effectiveness through the development of personal, instructional, organizational, and professional growth of faculty.
- To promote organizational strategies for faculty development so as to incentivize teachers to grow professionally and enable the institutions to grow.
- Faculty development is expected to result in improved teaching performance and better learning outcomes for students and teachers.
- To promote new ways of thinking about the student-teacher relationship, and increased commitment to educational scholarship.
- To develop all round skills are a prominent aspect for faculty development.

### Objectives of FDC Programme

- Training program for the entry level teachers or faculties on probation will be planned so that the person who enters the college/university/institute is sensitized of

his/her roles and responsibilities in their respective organizations.

- Raising the quality of teaching in colleges/universities/institutes.
- The faculty development center will also offer a wide variety of services, as outlined below.
  - Teaching & Learning
  - Research & Creative Activity
  - Career Planning
  - Collegial Conversations
  - Communication Technologies
  - Resources & Support

### Department of Computer Science & Engineering



The Department of Computer Science and Engineering was established in the year 1997 to keep abreast with the recent technological advancements in the field of Computer Science and Information Technology. The Department has presently 15 faculty members with sound teaching and research expertise in the field of Computer Science. The department offers two under graduate courses namely 4 year B. Tech in CSE and 5 year Dual Degree in CSE. The department also offers two post graduate programmes namely, M.Tech in CSE and M.Tech in CSE with Specialization in Information Security. The department offers Ph.D. in CSE and presently 71 full time research scholars are pursuing Ph. Ds in various research areas of Computer Science. The department has several sponsored projects from the government organizations like CSIR, MIT, DRDO and DST. The department organizes International Conference, National Seminars, and workshops on regular basis. The department also conducts short term courses on emerging areas of Computer Science at regular interval. To know more about the department, please visit at

[http://iitism.ac.in/index.php/computer\\_science](http://iitism.ac.in/index.php/computer_science)



# FACULTY DEVELOPMENT CENTRE

(A MHRD, GOI FUNDED CENTRE SANCTIONED UNDER PMMMNMTT)

## INDIAN INSTITUTE OF TECHNOLOGY

### (INDIAN SCHOOL OF MINES)

#### DHANBAD 826004, JHARKHAND, INDIA

APPLICATION FOR ADMISSION TO THE

NATIONAL TRAINING PROGRAMME IN SUBJECT: .....

PHOTO

### FOR THE COLLEGE/UNIVERSITY/INSTITUTE TEACHERS (YEAR 2017-2018)

(Part A: To be filled by the candidate)

1. Name (block letters): .....
2. Designation: .....
3. Office Address: .....
4. Phone No.: ..... Mobile No.: ..... Email: .....
5. Pay Scale: ..... Current Basic Pay: ..... Grade Pay: .....
6. Date of Birth: ... DD/MM/YYYY ... Male  / Female  / Trans Gender  (Please tick appropriate box)
7. Category: SC  /ST  /OBC  /GENERAL  (Please tick appropriate box)
8. Teaching Experience: ..... (Years)..... (Months) in .....(Subject)  
(Please submit xerox copy of **appointment letter**)  
If confirmed, date of confirmation as permanent Lecturer/Sr. Lecturer/ Asst. Prof.....
9. **For outstation participants only:** Whether accommodation is required: YES/NO. If **NO** please give your local address:  
.....  
.....
10. Any other relevant details: .....
11. **Declaration:** I certify that I fulfil the eligibility criteria and details given above are true to the best of my knowledge and I accept to follow the terms and conditions (enclosed overleaf) of the Faculty Development centre, Indian Institute of Technology (ISM), Dhanbad.

**Date:**

**Place:**

**Full Signature of the Applicant**

### (Part B: To be filled by Employer)

1. This application of Dr./Mr./Mrs./Ms ..... a Lecturer/Sr. Lecturer/ Asst. Prof. In this College/Universities/Institute, w.e.f. .... is being recommended and forwarded to the Co-Ordinator(s), Faculty Development Centre, IIT(ISM) Dhanbad for attending National Training Programme. If selected, he/she will be fully relieved for the entire period of the programme.
2. This is to certify further that our University/College or Institute is affiliated with the university for the last 5 years and **comes / not comes under** the preview of **AICTE/ UGC**.

**Place:**

**Date:**

**Phone No.:**

**Signature of the Registrar/Principal/Director  
(with seal)**



# FACULTY DEVELOPMENT CENTRE

(A MHRD, GOI FUNDED CENTRE SANCTIONED UNDER PMMMNMTT)

INDIAN INSTITUTE OF TECHNOLOGY

(INDIAN SCHOOL OF MINES)

DHANBAD 826004, JHARKHAND, INDIA

## TERMS AND CONDITION FOR TRAINING PROGRAMME AT FDC-IIT(ISM) DHANBAD

- 1. Eligibility:** College/Institute/University teachers in Computer Science & Engineering, Electronics & Communication Engineering, Electrical Engineering, and other related areas who are in continuous service.
- 2. Nature of Support:**
  - a. Registration Fee:** NIL.
  - b. Boarding & Lodging: FREE,** This will cover food, and accommodation on shared basis of outstation participants.
  - c. TA/DA: The participants will be paid TA/DA as per MHRD, GOI norms.** All outstation participants shall be paid one time to and fro IIIrd AC railway fare from their place of posting to Dhanbad and back through shortest route only on successful completion of the programme. The participants are required to submit the original railway tickets for the to and fro journey.  
**NOTE:** DA will be paid only to those participants who will not avail the facilities of boarding/lodging.
- 3.** All the participants are required to bring **two passport-size photographs**.
- 4.** The programme will be full time through six days a week and classes will be conducted even on holidays except Sundays. The detailed programme shall be provided during registration.
- 5.** Each participant has to deliver a seminar of 15 minutes duration followed by 5 minutes of discussion on any topic related to the theme of the programme. Multimedia LCD projector and overhead projector are available for use. The participants have to bring their own materials (slides in CDs/Pen drive) ready for projection. The time and date of seminar shall be notified during the programme.
- 6.** All participants must register themselves positively on the Inaugural Day at the FDC; IIT (ISM) Dhanbad failing which the selection to participate shall stand cancelled.
- 7.** The participants will also be requested to submit their opinion and suggestions (feedback) on the various components of the programme as well as seminars on the fellow participants.
- 8.** The participants are required to attend all the sessions of the programme sincerely. **No leave shall be granted during the programme.**
- 9.** Only those participants who will complete the programme in all respects shall be eligible to receive the certificate of participation. In case of any default on the part of the applicant, the Co-Ordinator(s), FDC, IIT(ISM) Dhanbad, has all the rights to cancel the admission or withhold payment of TA/DA and the certificate. In such a case no queries will be entertained.
- 10. The teachers of colleges that do not yet come within the purview of AICTE/ UGC, but have been affiliated to a university for at least two years, will be permitted to participate in the programmes.**
- 11.** Hard copy of complete application in all aspects along with all the documents should reach to any of the Programme Co-Ordinators at following address:
  - a) Prof. Prasanta K. Jana,** Programme Coordinator & Professor, Department of Computer Science & Engineering, Indian Institute of Technology (ISM), Dhanbad, Ph: 0326-223-5273 (O); +91-9431126447, Email: [prasantajana@yahoo.com](mailto:prasantajana@yahoo.com)
  - b) Dr. Tarachand Amgoth,** Programme Co-Coordinator & Assistant Professor Department of Computer Science & Engineering, Indian Institute of Technology (ISM), Dhanbad, Ph: 0326-223-5520 (O); +91-9471191420 Email: [tarachand.ism@gmail.com](mailto:tarachand.ism@gmail.com)