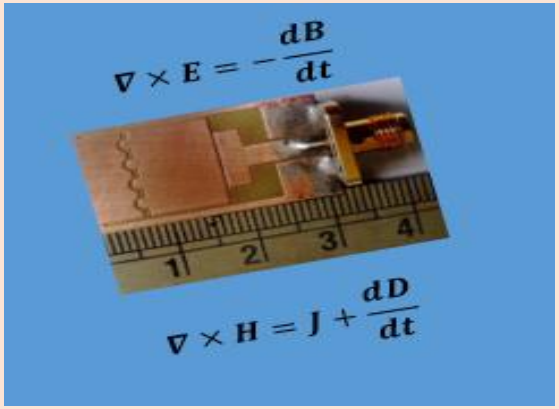


Resource Persons

Guest speakers from various IITs/NITs, R&D labs, and central universities

Eligibility

College/university/institute teachers in Electrical/Electronics/Electronics and commun. /Telecom. Engineering/ Applied Physics/Physics, who are in continuous service.

Registration Fee : Nil

Boarding and Lodging

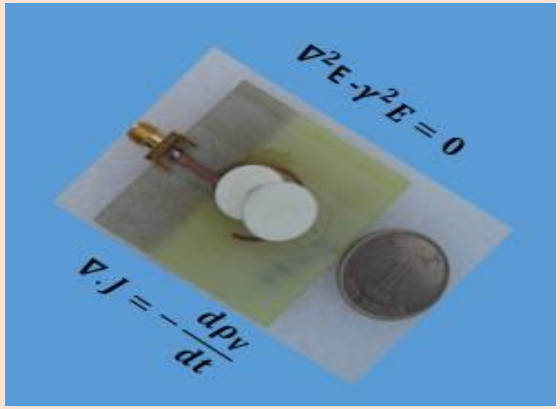
Free food and accommodation on shared basis is available for outstation participant only on first come first serve basis.

How to Apply

The application form along with term and conditions are enclosed with this brochure. The same can be downloaded from IIT(ISM) website(http://www.ismdhanbad.ac.in/fdc) and send the hard copy of the duly filled application form by speed post to the course coordinator(s) on or before 20th Dec, 2016.

FDC Co-ordinators and Organizing Committee

Prof. A. K. Nirala
Dr. Mahendra Yadav
Dr. Prashant K. Sharma
Dr. Umakanta Tripathi
Dr. H. P. Nayak
Dr. P. K. Kewat
Dr. S. A. Sahu
Dr. S. Das
Dr. S. Dwari



Program Co-ordinators and Contact Details

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1st Refresher Programme in

RECENT TRENDS ON MICROWAVE DEVICES AND ANTENNAS

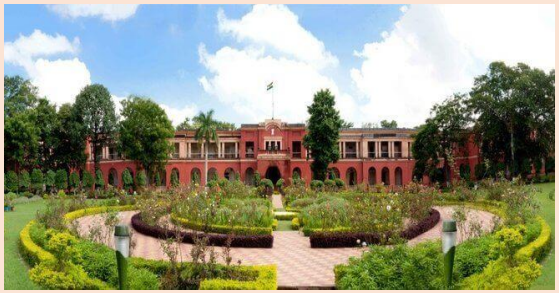
(for College/University/Institute Teachers)

Under

FACULTY DEVELOPMENT CENTRE

[A MHRD, GOI FUNDED CENTRE SANCTIONED UNDER PANDIT MADAN MOHAN MALVIYA NATIONAL MISSION ON TEACHERS AND TEACHING (PMMMNMTT)]

December 26, 2016 – January 15, 2017



Organized by

FACULTY DEVELOPMENT CENTRE
INDIAN INSTITUTE OF TECHNOLOGY
(INDIAN SCHOOL OF MINES)
DHANBAD-826004, JHARKHAND, INDIA

http://www.ismdhanbad.ac.in

About Indian Institute of Technology (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 cooking 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 Location

The course will be conducted at FDC/EDC, IIT(ISM) Dhanbad. Dhanbad has good railway connectivity from several parts of the country. The nearest airport is Kolkata and Ranchi which are about 250 km and 180 km, respectively, from Dhanbad.

About 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 **(PMMMNMTT).** 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

- To inculcate among teachers, the motivations to promote institutional effectives 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.
- Developing all round skills are a prominent aspect for faculty development.

Objectives

- 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 Conservations
    - Communication Technologies
    - Resources & Support

Course Contents

Today's communication world is becoming wireless prominently. There are billions of wireless users around the world. The basic component of any wireless communication system is microwave antennas and devices. Therefore, the elementary knowledge of microwave components is highly essential to develop trustworthy wireless communication link. The main objectives of this course are to refresh the fundamentals of microwave and create awareness regarding the recent development in the field of microwave antennas and passive devices. The course will include lecture as well as practical sessions (simulation as well as measurements). Major topics planned to cover in this course are:

- Introduction to Electromagnetics Theory,
- Basics of Microwave Devices and Circuit.
- Numerical Techniques in Electromagnetics
- Antenna Theory: Design and Analysis
- Dielectric Resonator and its applications
- Microwave material synthesis and characterization
- Metamaterial Structure and its applications
- Circularly and Dual Polarized Antenna
- Antennas for Space/Defense Applications
- SIW Technology and its Applications
- Active and Passive Microwave Filter
- Active Microwave Devices and Circuit.
- Microwave Materials and Absorbers
- Compact/Reconfigurable Antenna
- Antennas for Medical Applications
- Wideband and UWB Antennas
- RCS Theory and Measurement
- Non-linear Microwave devices
- Hands on EM Simulation Tools
- MIMO Antenna Technology
- Microwave Remote Sensing
- RF and Microwave Sensors
- Microwave Measurement
- Microstrip Antenna/Filter
- Active Antenna Arrays
- RF Energy Harvesting
- Multi-band Antennas
- RFID and EMI-EMC
- Microwave Imaging
- Microwave clocking
- Radar Technologies
- THz Technologies
- Microwave Tubes
- MIC and MMIC