

Resource Persons

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

Eligibility

College/university/institute teachers in Applied Physics/Physics, Chemical Engineering, Materials Science, Nanotechnology, Biotechnology, Electronics, Electrical etc. 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.iitism.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 24th May, 2017.

[Please Click here to download Application Form](#)

FDC Coordinators

Prof. Anil Kr. Nirala
Dr. Mahendra Yadav
Dr. Prashant K. Sharma
Dr. Umakanta Tripathy
Dr. H. P. Nayek
Dr. P.K.Kewat
Dr. S. A. Sahu

Local Organizing Committee

All the Faculty Members of Department of Applied Physics.

Program Co-ordinators and Contact Details

Dr. Prashant Kumar Sharma

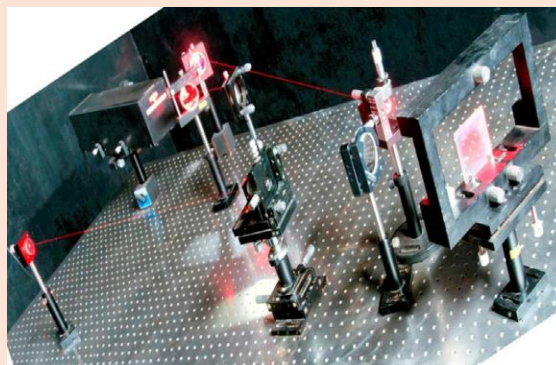
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Refresher Programme in Physics

with special focus on
Nano-Biotechnology
under

FACULTY DEVELOPMENT CENTRE

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

(May 25th – June 14th, 2017)

Venue: IIT (ISM) Dhanbad



Organized by
FACULTY DEVELOPMENT CENTRE
INDIAN INSTITUTE OF TECHNOLOGY
(INDIAN SCHOOL OF MINES)
DHANBAD-826004, JHARKHAND, INDIA
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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 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 nearby airports are Kolkata and Ranchi which are nearly 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 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.
- 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 Conversations
 - Communication Technologies
 - Resources & Support

Aim and Programme Objectives:

The refresher programme should stimulate interest of young early-career researchers in the fields of

Nanotechnology from different parts of the country as well as provided them a platform to learn the latest developments in the field. The refresher programme will focus on developing understanding on Nanoscale Science (including Physics, Chemistry, Engineering and Biology) and facilitate knowledge-sharing among scientists in these fields.

Programme Contents

The programme will focus on:

- Synthesis, characterization and assembly of nanomaterials.
- Emerging multifunctional nanoscale materials.
- Surfaces and interfaces at nanometer scales from electronic to catalysis.
- Thin Film Technology.
- Energy conversion and storage.
- Optoelectronic and photonic devices.
- Nanotechnology for healthcare and nanomedicines, simultaneous diagnosis and therapy, Drug delivery, Tissue engineering.
- Density Functional Theory and Molecular Dynamics simulations.
- Single molecule biophysics.
- Optical Engineering and holography.
- Imaging; Bio-imaging (speckle) techniques.
- Protein dynamics & Neurodegenerative diseases.
- Interferometry & speckle metrology.
- Atomic and Molecular spectroscopy.

In the last week of the event, a scientific writing session is also planned to help young researchers and students to refine their scientific writing and critical reading skills.

