

TEQIP-III Sponsored One Week

Short Term Course

On

SMART MATERIALS AND ITS APPLICATION IN ENGINEERING

(SMAE-2018)



February 12 to 16, 2018

Organized by

Physics & Mechanical Engineering Department
National Institute of Technology Durgapur
M. G. Avenue, Durgapur-713209, W.B., India

Website: www.nitdgp.ac.in

COURSE COORDINATORS

Dr. Rabindra Nath Barman, Assistant Professor
Mechanical Engineering Department
Dr. Aniruddha Mondal, Assistant Professor
Physics Department

PATRON

Prof. Anupam Basu, Director, NIT Durgapur

ADVISORY COMMITTEE

Prof. Sudip Chattopadhyay, Dean(R&C)
Prof. A. K. Meikap, HOD Physics, Coordinator TEQIP III
Dr. A. K. Banik, Nodal officer (Academic) TEQIP III
Prof. A. N. Mullick, HOD, Mechanical Engineering

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Prof. A.K. Meikap

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Prof. A. N. Mullick	Dr. K. Khan
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Dr. B. Bera	Dr. S. Basu
Mr. J. Dey	Dr. H. Chaudhury

CONTACT PERSONS

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Physics Department,
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Email: aniruddhamo@gmail.com

IMPORTANT DATES

Last Date of Application submission: 05.02.2018

Notification for selection: 06.02.2018

BOARDING & LODGING

Boarding, lodging and travel expenses shall be borne by the participants. Limited shared accommodations may be available in the Institute Guest House on first come first served basis. Several good hotels are available in and around Durgapur. Participants may contact directly or through the coordinator(s) for accommodation in Hotels. No TA/DA will be paid to the participants by NIT Durgapur.

REGISTRATION FEES

A.) For Faculty/Industry person/Staff member:

Registration fee Rs.3, 000/- (Three Thousand only)

B.) For Ph.D./M.Tech. B. Tech. Student: Registration fee

Rs.2000/- (Two Thousand only)

Registration fee includes kit, study/lecture materials, copy of the Proceedings, refreshment and lunch for 5 days during the course.

REGISTRATION PROCEDURE

Print-out of the “REGISTRATION FORM” duly forwarded by Director/ Dean of the Institute/ HOD should be sent to any of the contact persons on or before 05.02.2018 along with any one of the followings as the attachment:

(i). **Demand Draft** drawn in favour of “SMAE2018” payable at Durgapur.

(ii) Print out of the **money receipt** for “ONLINE MONEY TRANSFER” or “MONEY TRANSFER BY ATM” to following account:

Account Name: **SMAE2018**

Account Number: **8569101003031**

Bank Name: **CANARA, REC, DURGAPUR BRANCH**

BRANCH CODE: **008569, IFSC: CNRB0008569**

(Mention detail in remarks during fund Transfer)

(iii) Xerox copy of “PAY IN SLIP” for deposit of “REGISTRATION FEES” to the above account.

ABOUT THE INSTITUTE

National Institute of Technology Durgapur (NITD) is a leading technical institute offering undergraduate, postgraduate and doctoral programmes in various disciplines of engineering, technology, science, social science and management studies. The education system is holistic with equal importance being attached to all-round development of the students. NITD was established as a Regional Engineering College Durgapur (RECD) in 1960 as a joint venture of the Government of India and Government of West Bengal. REC Durgapur was converted to NIT Durgapur under the full administrative and financial control of the Ministry of Human Resource Development of Government of India with a Deemed University status on 3rd July, 2003. Subsequently NITD has been given the status of a University by the UGC Act. The Institute was declared an **Institute of National Importance** by the Government of India on August 15, 2007.

The city of Durgapur is recognized as one of the fastest developing Tier-II cities in the national scenarios. Durgapur is situated at a distance of about 180 km from Kolkata. It is located right on the major railway and expressway (NH-2) connecting Kolkata to Delhi and Durgapur can be reached from Kolkata (and vice versa) in about 3 hours.

ABOUT THE DEPARTMENT

Department of Mechanical Engineering is the largest and one of the oldest departments of the Institute started in the year 1960. It offers both undergraduate (B.Tech.) and postgraduate (M.Tech.) degree course apart from doctoral programme. The department comprises of well-qualified faculty members, supporting staff and suitably equipped laboratories. The continuous development of faculty and up gradation of the laboratories makes the department at par with the current day academic and research requirement of global standard which is reflected by continuously increasing student of the department opting for higher studies in India and abroad.

Department of Mechanical Engineering offers three PG courses with specialization of Fluid Mechanics & Heat Transfer, Machine Design and Thermal Engineering. Parallel modules of part-time post graduate and doctoral programmes are offered by the department to facilitate the need of the working professionals of nearby institutes and industries.

Department of Physics is one of the oldest departments of the institute which has been providing the basic knowledge of physics to innumerable budding engineers who have studied in this institute. Physics means “knowledge of nature”, which essentially is a natural science that involves the study of natural laws and its consequences in both microscopic and macroscopic domain. The interest of the department of physics spreads over many interdisciplinary areas of science and the boundaries are not rigidly defined. The department encourages and appreciates new ideas in physics that have relevance to technologies useful for the mankind.

ABOUT THE SHORT-TERM COURSE

With the development of material science, many new, high-quality and cost-efficient materials have come into use in various field of engineering. In the last ten decades, the materials became multifunctional and required the optimization of different characterization and properties. Smart materials are new generation materials surpassing the conventional structural and functional materials. These materials possess adaptive capabilities to external stimuli, such as loads or environment, with inherent intelligence. Smart materials find a wide range of applications due to their varied response to external stimuli. The different areas of application can be in our day to day life, aerospace, civil engineering applications and mechatronics to name a few. . Important feature related to smart materials and structures is that they encompass all fields of science and engineering.

RESOURCE PERSON

Prof. Suman Chakraborty
Mechanical Engineering Department, IIT Kharagpur, India.

Dr. Ranjan Ganguly
Department of Power Engineering, Jadavpur University, India

Prof. Subhananda Chakrabarti,
Electrical Engineering Department, IIT Bombay, India

Prof. Kalyan Kumar Chattopadhyay,
Department of Physics, Jadavpur University, India

Dr.Parmita Chattopadhyay,
Department of Electrical Engineering, IEST Shibpur, India

Prof. JP Singh,
Department of Physics, IIT Delhi, India

Prof. Sunanda Dhar,
Department of Electronic Science, University Of Calcutta, India

Prof. Achintya Dhar.
Department Of Physics, IIT Kharagpur, India

Prof. Pallab Banerji,
Materials Science Centre, IIT Kharagpur, India

Dr. Dipak Kumar Goswami,
Department of Physics, IIT Kharagpur, India

Prof. Ujjal Maulik,
Department of Computer Science & Engineering Jadavpur University, India

TENTATIVE TOPICS TO BE COVERED

- **Micro and Nano Fluidics**
- **Magnetic particle based microfluidics**
- **Surface microfluidics**
- **Multiscale transport in microfluidic system**
- **Microfluidics basics and continuum scaling**
- **Synthesis of nano and microstructure materials**
- **Nanotechnology**
- **Optoelectronics & nanoelectronics**
- **Computational biotechnology**

REGISTRATION FORM

TEQIP-III Sponsored Five-day SHORT-TERM COURSE on
Smart Materials And Its Application In
Engineering (SMAE-2018)
February 12-16, 2018

Organized by
Physics & Mechanical Engineering Department,
National Institute of Technology, M.G. Avenue,
Durgapur – 713209, West Bengal, India

1. Name: _____
 2. Designation & Affiliation: _____
 3. Male/Female: _____
 4. Mailing Address: _____
 5. Telephone No. : _____ (Mob)
 6. E-mail ID : _____
 7. Registration Fees Paid, Amount: Rs. _____
(In Words: Rupees _____)
- DD /Online** Transaction Ref. No. _____
Date: ____ / ____ / **2018**
- DD should be drawn in favour of “SMAE2018”, payable at Durgapur.**
- For Online Transfer, Bank detail is given below:*
Account Name: **SMAE2018**
Account Number: **8569101003031**
Bank Name: CANARA, REC, DURGAPUR BRANCH
BRANCH CODE: 008569, IFSC: CNRB0008569
(Mention detail in remarks during fund Transfer)
8. Vegetarian / Non-Vegetarian: _____
 9. Accommodation required: Yes/NO: _____

N.B.: Photocopy of this form may also be used for registration.

Place: _____

Date: _____

Signature of the Applicant

*Signature and Seal of the Head of the
Department/Institute/Dean*