Course Contents

Unit 1 – Introduction

Unit 2 - Piezoelectric Materials

Unit 3 – Piezoresistive Materials

Unit 4 – Shape Memory Alloy (SMA)

Unit 5 – Electroactive Polymers (EAPs)

Unit 6 – Ionic Polymer Metal Composites (IMPC)

Unit 7 – Engineering Applications of IPMC

Unit 8 – Other Smart Materials

Important features

- The basic knowledge of smart materials and structures in experimental research works will also be demonstrated.
- Hands on training will be provided to the participants.

About the City

The city of Jabalpur is known and considered as Sanskardhani, a "Cultural Center Place". It is a place of great historical and cultural importance. This Cultural capital of Madhya Pradesh is situated on the bank of the holy Narmada and Famous for Dhuandhar Falls and Marble Rocks in Bhedaghat, Hanumantal Bada Jain Mandir, Madan Mahal Fort, and Rani Durgawati Museum. Simultaneously it is keeping pace with modern advanced knowledge. Jabalpur is an important junction for the Indian Railways. Jabalpur is a large Defence and Military Center. Jabalpur is also known for housing spiritual leaders Maharishi Mahesh Yogi and Bhagwaan Shri Rajneesh (Osho). This vibrant city with multiple dimensions of knowledge and liberation has a magnetic attraction for people all over the world. The Jageshwar Nath Shiv Temple at Bandakpur, near Damoh, Kundalpur Jain Teerth Kshetra, near Damoha, Vishnu-Varaha Temple, Majholi, Pench National Park, Kanha Tiger Reserve, Bandhavgarh National Park are attractions near Jabalpur city.

Route to Jabalpur

The city of Jabalpur is well connected by road, rail and air with all the important places of India. Regular flights are provided by Air India & Spice Jet. Daily services are available to Bhopal, Delhi, Hyderabad and Mumbai. Jabalpur has direct connection to Mumbai, New Delhi, Bhopal, Kolkata, Nagpur, Patna etc. The IIITDM campus is only 10 km from Jabalpur railway station and 5.5 km from the Dumna airport.

About the PDPM IIITDM

IIITDM Jabalpur was established in 2005 with a focus on education and research in IT enabled Design and Manufacturing. Since its inception, PDPM IIITDM Jabalpur has been playing a vital role in producing quality human resources for contribution in India's mission of inclusive and sustainable growth. The Institute offers undergraduate, post graduate and PhD programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Design and PhD programmes in Mathematics and Physics. Under IIIT act, the Institute has been declared an Institute of National Importance in January 2015. The Institute campus is being developed on 250 acres of land close to Dumna Airport, Jabalpur.

Teaching Faculty

Faculty members from the Discipline of Mechanical Engineering of IIITDM Jabalpur will be teaching the course contents. Subject experts from other premier institutions will be invited for delivering the special lectures with tutorial sessions.

Course Material

Hard / Soft copies of the lecture notes/presentations will be made available to participants at the end of lecture/presentation. Moreover, hands on training will be provided.

Website: www.iiitdmj.ac.in



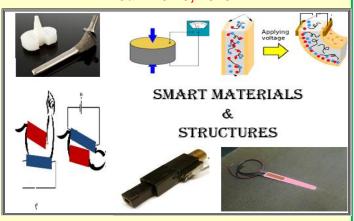
QIP Short Term Course



Smart Materials and Structures:

Theory and Applications (SMS 2018)

Jan. 15-19, 2018



AICTE sponsored Short Term Course

SMS 2018

Organised by:
Discipline of Mechanical Engineering,
PDPM IIITDM Jabalpur

Contact Us

Prof. V. K. Gupta, Dr. Sujoy Mukherjee,

Dr. M. Zahid Ansari (Course Coordinators)

SMS 2018

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Email:sms2018@iiitdmj.ac.in

QIP Short Term Course on Smart Materials and Structures: Theory and Applications (SMS 2018)

Jan. 15-19, 2018

Introduction and objectives of the course:

The objective of the course work is to provide the theoretical fundamentals coupled with practical knowledge of smart materials and structures to solve various engineering problems of real life applications.

Different types of smart materials like Piezoelectric, Piezoresistive, SMA, MR, ER fluid etc. with recent applications in the field of energy harvesting, bio pump, piezo motor, MEMS devices, biomimic structures, etc. The theoretical lectures will be followed by lab session where ANSYS® session & demonstration of working on different smart materials will be discussed.

The main focus will be towards the fundamental aspects of smart materials and its engineering applications. This course will also cover various aspects related to several smart materials, their modeling and analysis. The hands-on training session will be conducted during course work.

Tentative List of Resource Persons:

- B. Praveen Kumar ARDE, DRDO, Pune
- Prof Vijay Kumar Gupta, Professor IIITDM Jabalpur (Course Coordinator)
- Dr. Sujoy Mukherjee, Assistant professor **IIITDM Jabalpur (Course Coordinator)**
- Dr. M. Zahid Ansari, Assistant professor **IIITDM Jabalpur (Course Coordinator)**

Who Can Attend?

All existing faculty members, research scholars, participants from govt. and private departments and industries working in the field of engineering and applied science are eligible.

Category 1: The selected faculty members (30) from AICTE approved and govt. institutions have to pay Rs. 1000 (refundable) as registration fees. They will be eligible for to and fro railway fare via shortest route in III AC and free lodging and boarding in the Institute guest house/hostels during course period. Candidates attending the course in full only will be eligible for TA. For all other participants, no TA will be paid by IIITDM Jabalpur. The security money will be returned back to the faculty members account only if he/she completes the course.

Category 2: Participants from Governments Departments and Industries are also eligible, provided they meet their T.A. and D.A. and pay a course fee @ Rs. 3000/-.

Category 3: Research scholars can also participate provided they meet their T.A. and D.A. and pay a course fee @ Rs. 1000/-.

Category 4: Participants (above selected 30) can also participate provided they meet their T.A. and D.A. and pay a course fee @ Rs. 2000/-.

The fee includes a kit containing the study material, tea and snacks.

How to register and mode of payments?

The registration fees are to be paid online in Allahabad Bank, Branch Mehgawan, Jabalpur (IFSC Code ALLA0212433) Account No. 50388395415 in favor of QIP PDPM IIITDM Jabalpur through any nationalized bank and payable at Jabalpur, add remark "QIP IIITDMJ SMS 2018" for the transaction. After payment is made, participants need to send an email with scanned copy of the filled in application form duly endorsed by the forwarding authority to be mailed at sms2018@iiitdmj.ac.in. Application format is given in this brochure. Also this google form application https://drive.google.com/open?id=16GmQpNW9tx9lKm

86cLMHaluJM64b6vs pGEK9I8Cvlg

Course dates: 15th - 19th Jan. 2018

Last date of Registration: 20th Dec. 2017

The selected candidates will be informed through email within a week after last date.

Application for Registration

Smart Materials and Structures: Theory and Applications (SMS 2018)

Jan. 15-19, 2018

1 Name

2. a) Ageb) Sex: M/F
3. Designation & pay scale
4. Organisation
5. Address for correspondence
E-mail
Phone/Mobile
6. Highest Academic Qualification
7. Specialisation
8. Experience (in years)
a) Teaching
(b) Industrial
9. Amount of T.A. required as per entitlement
mentioned in the brochure (only for AICTE approved
college teachers):
10. Mode of Payment ($$): NEFT/ IMPS/ Challan/ Other
11. Transaction ID
12. Transaction Date
Please register me for the course on
Smart Materials and Structures: Theory and
Applications (SMS 2018) to be held at IIITDM Jabalpur.
Date
Place Signature of the Applicant
FORWARDING LETTER
Prof./Dr./Mr./Ms./Mrs./is an
employee of our institute and his/her application is
hereby approved. The applicant is permitted to attend the short-term course "Smart Materials and
Structures: Theory and Applications (SMS 2018)" at
IIITDM Jabalpur during date of Jan. 15 th to 19 th 2018, if
selected.
selected.
Date: Signature of forwarding Authority
Designation:
Official Seal:
Date:
Signature of the Applicant