

REGISTRATION FORM

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7. Accommodation Required : Yes / No
8. Registration Fee Details:
- DD Amount: Rs.500/- (Rupees Five Hundred only).
- DD Number :
- Name of the Bank :
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- Signature of the Applicant with date:

The DD should be drawn in favour of 'The Director, NIT, Tiruchirappalli, payable at Tiruchirappalli. The DD should be enclosed along with this registration form and sent to the following address:

Dr. G. Uma

Coordinator

Workshop on MEMS, its CAD Tools and Smart Structures

Department of Instrumentation and Control Engineering

National Institute of Technology

Tiruchirappalli – 620 015. Tamilnadu, India.

Tel: 0431- 2503359, 0431- 2503353

E-mail: guma@nitt.edu; Mobile: 09443013136, 0 9444878908

TEQIP Sponsored One Week Workshop

on

MEMS, its CAD Tools and Smart Structures

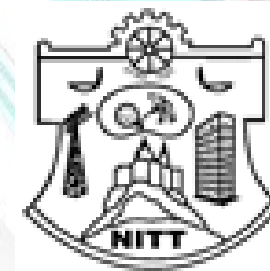
JANUARY 5-9, 2015

Course Coordinators

Dr. G. Uma

Dr. D. Ezhilarasi

Dr. M. Umapathy



Organized by

Department of Instrumentation and Control Engineering

NATIONAL INSTITUTE OF TECHNOLOGY

TIRUCHIRAPPALLI – 620015

Tamilnadu, India

ABOUT THE INSTITUTE

National Institute of Technology, Tiruchirappalli is a Deemed University under the control of Ministry of Human Resource Development, Government of India. The Institution offers Under Graduate Courses in ten branches and Post Graduate courses in twenty disciplines of Science, Engineering & Technology besides Ph.D in all the Departments.

ABOUT THE DEPARTMENT

The Instrumentation and Control Engineering (ICE) department established in the year 1993 offers a B.Tech programme in Instrumentation and Control Engineering, M.Tech programme in Process Control and Instrumentation jointly with the department of Chemical Engineering, M.S (By Research) and Ph.D. This is a DST-FIST sponsored department and is accredited by NBA. The department aims to spawn talented Instrumentation and Control specialists to cater the needs of the modern industries and R&D sectors. The faculty members have sponsored research projects from major funding agencies such as DST, MHRD, British Council (UKIERI), ISRO, ARDB, etc. State of the art facilities promote research in the areas of MEMS, Smart Materials and Systems, Instrumentation, Process Control, Mathematical Control Theory, Embedded Systems, etc. MEMS Design Center and Smart Structures Lab in the Department of ICE was established in the year 2001 and subsequently strengthened by two National Programs viz, National Program on Smart Material (NPSM) and National Program on Micro and Smart Systems (NPMASS). NIT Trichy is supported with CAD tools and in the fabrication of micro devices through IISc, Bangalore under the above programs.

THE COURSE AND ITS OBJECTIVES

Micro Electro Mechanical Systems (MEMS) is the integration of mechanical elements, sensors, actuators and electronics on a common silicon substrate through micro fabrication technology. MEMS find applications from aerospace to automobile engineering, biomedical health sciences, etc. MEMS promises to revolutionize nearly every product category by bringing together silicon based microelectronics with micromachining technology, making possible the realization of complete system-on-chip. Due to complexity of engineering design involved in MEMS and Microsystems, the development and production cycle of such devices is long. MEMS CAD tools provide an opportunity to reduce the development cost,

shorten the development time and can also be used to optimize the device performance and validate the fabrication and packaging.

On the other hand Smart Structures is an interdisciplinary domain under science and engineering streams. Smart Structures sense and respond to their environment in a predictable manner and have applications in areas as diverse as automotive, defense, aerospace, civil, medical, etc. The field of smart Structures has made tremendous progress in recent years. It has created waves across the globe and plays a major role in the evolution of micro and nano system technologies.

This workshop aims to provide a forum to create awareness about the latest technologies in MEMS and Smart Structures as well as to motivate the faculty members and researchers to opt this area for their research.

The objectives of the course is to address the following topics:

Overview and Introduction to MEMS

Micro Fabrication Technologies and processes

Design and Simulation of MEMS Devices

MEMS CAD tools Coventorware, COMSOL

Research in MEMS and MEMS Products

Smart Structures Modeling and Control

Piezoelectric based Energy Harvesting and Instrumentation System

SMA and its applications

RESOURCE PERSONS

Experts from premier Institutes and research centers like ISRO, NPOL, Tech Mahindra, IISc Bangalore, CVRDE Chennai, IITM, IIITD&M, and NIT, Tiruchirappalli will be conducting the sessions.

ELIGIBILITY

The course is open to Teaching faculty of Engineering Colleges, Ph.D. research scholars of Mechanical Sciences, Electrical sciences and Engineering. Professionals from Industry. Seats limited to 30.

REGISTRATION FEE

The registration fee is **Rs.500/-** per participant, payable at SBI, NIT Tiruchirappalli (code 1617) by cheque/draft in favour of '**The Director, NIT Tiruchirappalli**'.

Accommodation will be provided on sharing basis upon request. No TA/DA will be provided. Last date for receipt of application: December 31, 2014.