

# ADVANCED SENSING TECHNOLOGIES FOR CIVIL ENGINEERS

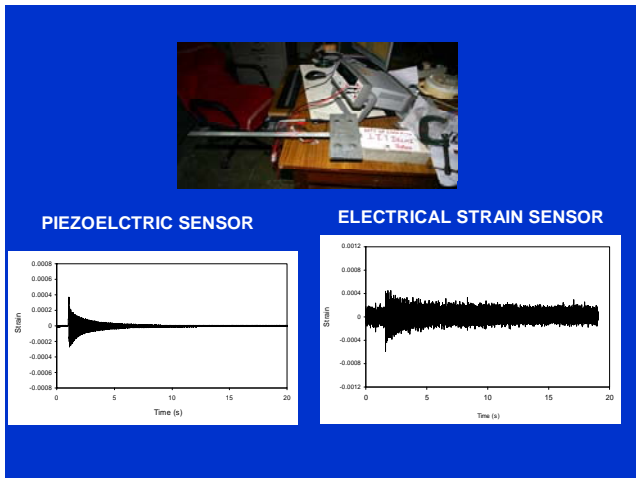
## ABOUT THE SHORT COURSE

This short course will focus on the theoretical and the practical aspects of modern sensing technologies necessary for monitoring and assessing the health of structures, just like the medical doctors monitor the condition of their patients during and after major illnesses. The idea of structural health monitoring (SHM) has been receiving considerable attention worldwide due to the fact that civil infrastructures form the back bone of any modern economy. Failure of structures such as bridges, high rise buildings and power plants to perform at the optimum level might have serious repercussions on the economy of the nation. These days, more and more structures are being instrumented so that they can be continuously monitored and any possible malfunctioning be detected in advance, before it gets transformed into a catastrophe.



The speakers will cover a detailed introduction about the available sensor technologies (accelerometers, strain gauges, piezo- transducers and fibre-Bragg grating sensors) and the algorithms with case studies chosen across the world. **The course will cover practical sessions for hands on experience of the participants with existing as well as the new sensing technologies developed at IIT Delhi.**

The short course will be of immense interest to practicing civil, mechanical, aerospace and instrumentation engineers.



## COVERAGE

- Overview of Sensing Technologies for Structural Health Monitoring
- Basic Aspects of Structural Dynamics
- Damage Detection using Low-Frequency Vibration techniques
- Electro-Mechanical Impedance (EMI) Technique for Health Monitoring and Non-Destructive Evaluation
- Strength and damage Assessment of Concrete Structures using EMI technique
- Fundamentals of Fibre Optic Sensors
- Monitoring of Highway Bridges using Fibre Optic Sensors
- A New Shear Force Sensor based on Fibre-Optic technologies
- Practical Sessions

## FACULTY

Dr. Suresh Bhalla (IITD), Dr. Vasant Matsagar (IITD),  
Dr. Rupali Suresh (DU)

## WHO MAY PARTICIPATE?

- Practicing Engineers- government and Private
- Faculty members of Engineering Colleges
- Scientists from government R&D organizations.
- Government Officers (Ministries)
- Research Scholars

## DATES AND VENUE:

Date: 17-19 July, 2009

Venue: Civil Engg. Dept. IIT Delhi

## FEES:

Rs. 8,000/- (Rupees Eight Thousand Only) per participant. The registration will be on first-cum-first serve basis.

Registration is limited to 50 eligible applicants

The fee will be payable by DD/cheque (Delhi A/c) in favour of **“FITT, IIT Delhi”**

Last date for registration: 3<sup>rd</sup> July, 2009

## ACCOMMODATION

This is a non-residential programme. The participants are expected to make their own arrangements for stay. Subject to availability, the organizers will try to book accommodation on payment basis within the guest houses of IIT Delhi, if requested sufficiently in advance through the Registration Form.

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## REGISTRATION FORM

Short course  
on  
**ADVANCED SENSING TECHNOLOGIES**  
for Civil Engineers  
(17-19 July, 2009)

Name : \_\_\_\_\_

Designation: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Email : \_\_\_\_\_

Phone : \_\_\_\_\_

Mobile : \_\_\_\_\_

Fax: \_\_\_\_\_

Fees Payable to "FITT, IIT Delhi"

Draft / Cheque No.: \_\_\_\_\_

Dated: \_\_\_\_\_

Drawn on: (Bank) \_\_\_\_\_

Rs \_\_\_\_\_

Signature of applicant

For further information please contact:

### Coordinator

Dr. S. Bhalla  
Department of Civil Engineering  
Indian Institute of Technology ((IIT) Delhi  
Hauz Khas, New Delhi – 110016  
Ph: 2659 1040  
e-mail: [sbhalla@civil.iitd.ernet.in](mailto:sbhalla@civil.iitd.ernet.in)

Please send your registrations to:

Mr. K. K. Roy  
Manager (Tech./Admn.)  
Foundation for Innovation and Technology  
Transfer, (FITT)  
Indian Institute of Technology Delhi (IIT),  
Hauz Khas, New Delhi – 110016

Phone: 011- 2659 7285, 2659 7164  
Fax: 011-2685 1169  
e-mail: [kiritykumar@gmail.com](mailto:kiritykumar@gmail.com),  
[uttamaswal@hotmail.com](mailto:uttamaswal@hotmail.com)

Short course

on

**ADVANCED SENSING TECHNOLOGIES  
FOR CIVIL ENGINEERS**

JULY 17-19, 2009

at

**IIT Delhi**



*Under the Aegis of*



Foundation for Innovation & Technology  
Transfer, (FITT), IIT Delhi