

## **Inauguration of short term course and workshop on Adaptronics (shape control, vibration control, noise reduction and structural health monitoring) at IIT Mandi.**

A short term course and workshop on Adaptronics(Active Shape Control, Active Vibration Control, Active noise Reduction and Structural Health Monitoring) was inaugurated at IIT Mandi on September 20, 2017. It is a 4 day event in which the participants are the Assistant Professors, students of Ph.D., M.Tech.,B.Tech. from 8 different states. The speaker of the course Prof. Michael Sinapius is the member of the Directorate of German Aerospace Centre at Braunschweig Germany and has been associated with it for the last 29 years. He is also Professor and Head of the Institute of Adaptronics and Functions Integration at the Technical University of Braunschweig. Dr. Naser Al Natsheh, Lecturer at the Technical University of Braunschweig Germany will be conducting the Lab. Sessions.

The course comprises of 9 lectures and 6 laboratory sessions as given below.

### **Lectures**

- Introduction of adaptronics and their components.
- Smart materials, Piezo ceramics
- Electro active polymers.
- Structural conformity.
- Shape control.
- Structurally integrated health monitoring.
- Active vibration control
- Active Noise Control

### **Lab Sessions**

- Piezoelectric effect – butterfly hysteresis
  - Piezoelectric actuators - working diagram
  - Shape control
  - Vibration control
  - Placement of actuators and observability
- Acoustic control with electric networks

The short term course will be followed by a workshop consisting of 6 lectures on the current research works in the field of structural health monitoring.

Prof. Timothy A.Gonsalves, Director IIT Mandi and Dr. Rajeev Kumar, Chairperson of School of Engineering and Dr. Vishal S Chauhan addressed the participants during the inauguration.