

Adaptronics: Active Shape Control, Active Vibration Control, Active noise Reduction and Structural Health Monitoring

Overview of the course:

Objectives

- To learn the wide range of applications of adaptronics
- To understand Adaptronics as an inter-disciplinary science and its scope

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

Schedule	Duration of the course is February 4-9, 2019
Eligibility	The course and workshop are open to Faculty Members, Students from Engineering Colleges / Polytechnics and Practicing Engineers from Industries and R&D Institutions. Seats are limited
Registration Fees	Practicing Engineers: Rs. 10,000/- Faculty Members: Rs, 5,000/- Students: Rs. 2500/- Registration fee includes course material, working lunch, refreshments and accommodation (sharing basis at hostel). Fee is payable in advance by Demand Draft in favour of “The Registrar, IIT Mandi” payable at Mandi.

Faculty conducting the short term course



Prof. Dr.-Ing. Michael Sinapius is the full Professor and Head of Institute of Adaptronics and Functional Integration at Technical University of Braunschweig, Germany. He is also Member of Directorate of German Aerospace Centre (DLR) at Braunschweig. His current research activities are focused on the Fibre Reinforced Plastics, Lightweight Structures, Smart Materials, Adaptive Structures, Structural Dynamics. Prof. Sinapius has published more than hundreded research articles in international journals of repute.



Coordinator: Dr. Vishal S. Chauhan, Assistant Professor, IIT Mandi. His research areas are deformation induced electromagnetic radiation, smart materials and structures, application of ceramics and composites for sensing. Address: School of Engineering, Indian Institute of Technology Mandi, Kamand, Mandi – 175005; Phone: (01905) – 267044 / 267138

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