

MIT SCHOOL OF ENGINEERING, PUNE

Proudly organizes

INTERNSHIP ON HYBRID & ELECTRIC VEHICLE

Jan. 01 to 06, 2018



Hybrid Electric Vehicle

- ✦ Transportation Electrification & Potential for Energy Saving
- ✦ Electric Drive Vehicle Technologies –HEV, PHEV, EV and Fuel cell
- ✦ Economic and Environmental Impacts- How this Technology change is going to affect the present situation esp. in India
- ✦ Types of Hybrid Topologies- Series, Parallel, Combined
- ✦ State of Charge
- ✦ Charge sustaining strategies – Regenerative Braking, KERS

Architecture of Hybrid and Electric Vehicle

- ✦ Various Components in a Hybrid and Electric Vehicle
- ✦ HEV/ EV Topologies and Power flow Schematics with Illustration
- ✦ Torque Coupling
- ✦ Electric Motors- AC/DC Motors/ Generator
- ✦ Brushed DC Motor/ Brushless DC Motor- Torque Characteristics
- ✦ Synchronous and Asynchronous AC Motor- Torque Characteristics
- ✦ Reluctance Motors & AC Motor vs DC Motor
- ✦ Capacitors & Convertors DC-AC/AC-DC

**Limited
Seats
Available!**

*Accommodation for out-station participants will be provided on request.

For more details contact:
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Register at <http://tinyurl.com/internship-MITSOE>



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Control System for Hybrids and Electric Vehicle

- ✦ Controls Systems in an IC Engine- ECU Architecture, Sensors, Actuators
- ✦ Function of Control System in HEVs and EVs
- ✦ Control Theory
- ✦ Hybrid ECU, CAN bus
- ✦ Control Variables
- ✦ Control System Case Illustrations

Battery Technology

- ✦ Battery Efficiency, Definitions and Parameters
- ✦ Types of batteries – Lead Acid, Li-Poly, Metal Air batteries etc. with architecture
- ✦ Battery Charging
- ✦ Use of batteries in hybrid powertrain
- ✦ Battery Modeling & Management
- ✦ Other Other options of energy storage – Photovoltaic cells, Super-capacitors or Fuel Cell

Battery Thermal Management

- ✦ Thermal Issues on Lithium Batteries
- ✦ Functions of Thermal Management System
- ✦ Technologies for Thermal management- Air cooling, liquid cooling, Direct Refrigerant Cooling, thermos electric module, etc.
- ✦ Case studies

Existing Technologies- Basic architecture

- ✦ Toyota Hybrid Synergy Drive
- ✦ Maruti Suzuki SHVS
- ✦ Mahindra Micro Hybrid
- ✦ Tesla Model X
- ✦ Toyota Mirai

Top interns will be offered with Live Industrial Projects!

- *Course Curriculum designed by domain experts from OEMs
- *Practical hands on sessions in each & every concept which is taught.
- *Certifications with letter of appreciation.
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