ELECTRIC MOBILITY

PLACEMENT BROUCHURE

2022 -2023
About Us

Centre for Automotive Research and Tribology (CART) was established in May 2019 with a vision to promote interdisciplinary research in the area of Electric Vehicle (EV), Energy storage and other relevant areas. The centre envisages strong networking and collaboration among various academia, industries and research labs in India to carry out cutting edge research.

2 Year MTech Programme initiated by the Centre for Automotive Research and Tribology (CART) with a vision to train researchers in areas related to Electric vehicles, Drivetrain, chargers and charging infrastructure, Battery management system, Automotive health monitoring, Power electronics and drives, vehicle dynamics and materials for electric vehicles along with hands on practice and design in laboratories.

Being an industry-oriented Centre, a strong emphasis is given on industrial problems which needs a deep understanding of alongside courses. The centre introduces postgraduates to topics that are highly selective yet extremely important to any organisation.

Highlights:

- Highly skilled students working on technologies like charging optimization, digital twin model, condition monitoring, motor drives, power converters, ML, AI and Deep learning.
- Mixed package of students from both streams of electrical and mechanical engineering.
- World-renowned faculty with publications in top conferences and journals.

For more info:

cart.iitd.ac.in
Core

- Introduction to electric vehicles
- Engineering of electric vehicles
- Batteries for electric vehicles
- Power electronics and Drives for EV

Electives

- Charging infrastructure for EVs
- Computer Aided Analysis of Power electronics
- Embedded Systems for Automotive Sector
- Automotive Noise and Condition Monitoring
- Automotive Reliability and Life Testing
- Materials for Electric Vehicles

Lab

- Battery laboratory
- Power train laboratory
- Charging infrastructure laboratory
- Automotive Health Monitoring laboratory
- Vehicle Dynamics laboratory

Software / Languages

- Matlab
- Python
- Battery Design Studio
- GeoDict
- Lt spice
- Siemens
- GT - SUITE
Lab Facilities:

Battery Regenerative tester and Thermal chamber

Rotor Bearing Test Rig

Line Impedance Stabilization Network

LLC convertor setup
Hybrid Electric Vehicle
Multiphase Induction Motor Drive
Electrodynamshaker
Raman Spectroscopy
Faculty

Dr. B K Panigrahi, Head, CART
Sustainable E-Mobility Solutions, Solar Assisted Vehicle Charging.

Dr. Naresh Tandon, Emeritus Professor.
Machine Health Monitoring, Noise Engineering.

Dr. Deepak Kumar, Associate Professor.
Battery Materials, Nano tribology, Surface/interface Analysis.

Dr. Shahab Fatima, Assistant Professor.
Machine Health Monitoring, Vehicle and Industrial Noise Control.

Dr. Akhil Garg, Assistant Professor.
Thermal Management of Batteries, Digital twin for battery monitoring.

Dr. Saptarshi Basak, Assistant Professor.
Design for Special Machines for Automotive Applications,
On-board generation System.

Dr. Krishna Raj, Assistant Professor
Powertrain-Drives and Control for Electric Vehicles.
Multilevel Converter topologies for Drives.

Dr. Husain Kanchwala, Assistant Professor.
Applied Dynamics and Vibration, Vehicle Propulsion.

Dr. Santanu K Mishra, Visiting Professor.
Consumer Electronics Power Supply, EV Charging Infra.
Students

SAURAV SUMAN
SALADI SAI RAM TEJA
BALAJI SAI YASHWANTH
SOHAEL PASHA
SHARIQUE HUSSAIN
VIPUL KUMAR
P V RAMANJANETUL

Current MTech Projects

- Development of an onboard diagnostic for electric vehicle.
- Closed loop optimization of charging protocol.
- Hardware development of EV drive using WBG converter.
- Development of low cost switch reluctance motor drive.
- Battery designing by using Geodict Software.
- Physics based Battery model using deep learning.
- Automotive diagnostic and prognostic using artificial intelligence.
Kindly register through our office of Career Services (OCS) portal.

portal link

Contact Us

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