

Department of Electrical and Electronics Engineering

Organises

Smart Sensors and IoT for Electric Vehicles: A Hands-on Workshop

Funded By IEEE Sensors Council WiSe Support



 **30th October 2025**  **09:00 AM - 05:00 PM**  **AICTE - IDEA Lab**

Programme Schedule

Inauguration

Introductory Talk - 9:00AM -9:15 AM

Session 1: Introduction to EV Sensors and IoT Frameworks

- Time: 09:15 AM – 10:00 AM
- Content:
 - Overview of Electric Vehicles and role of sensors.
 - Classification of sensors in EVs (position, temperature, current, vibration, speed, etc.).
 - IoT ecosystem for EVs: connectivity, protocols (MQTT, CAN bus, Wi-Fi, BLE).

Session 2: Demonstration of Sensor Integration in EV Applications

- Time: 10:00 AM – 12:30 PM
- Content:
 - Demonstration of battery monitoring sensors (voltage, current, temperature).
 - Thermal management sensors for motor & battery pack.
 - Vehicle dynamics sensors (accelerometer, gyroscope, torque sensors).

Lunch Break: 12:30 PM – 01:30 PM

Session 3: Hands-on Modules with Arduino/Raspberry Pi Sensor Kits

- Time: 01:30 PM – 03:00 PM
- Content:
 - Introduction to Arduino/Raspberry Pi platforms.
 - Connecting EV-related sensors (temperature, current, vibration).
 - Writing simple codes for data collection.
 - Real-time display of sensor data on laptops.

Session 4: Live Data Acquisition & Cloud-Based Monitoring

- Time: 03:00 PM – 04:30 PM
- Content:
 - Streaming sensor data to IoT cloud platforms (Thing Speak / Blynk / AWS IoT).
 - Dashboard creation for monitoring battery temperature, SOC, and motor data.
 - Introduction to predictive maintenance and analytics.

Session 5: Panel Discussion – Career Opportunities in EV Sensor Technologies

- Time: 04:30 PM – 05:00 PM
- Content:
 - Industry trends in EV sensors and IoT.
 - Career paths: R&D, testing, startups, entrepreneurship.
 - Opportunities for women engineers in EV sensor technology.
 - Q&A with experts and networking.

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