Speaker: Dr. Pallavi Bharadwaj
Electrical Engineering Faculty at IIT, Gandhinagar.

"E-RIDES Webinar"
on
Enhanced EV Safety and Battery Performance Optimization

Webinar Date : 20th September, 2025

Time: 11:00 AM –12:00PM

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Abstract: Safety of EV batteries is of paramount importance, owing to high energy density and limited tolerance beyond safe operating conditions, resulting in accelerated degradation and increased propensity of thermal runaway. This tutorial will outline the early detection of battery abuse by leveraging physics-guided machine learning application to real time data received from advanced multi-modal sensor technology as a plug and play tool in battery management systems. This talk will provide attendees with a comprehensive understanding of the emerging role of power electronics in addressing these critical issues, along with practical and data-driven solutions to enhance fault tolerance in modern electric vehicles.

Speaker Bio: Dr. Pallavi Bharadwaj is an Electrical Engineering Faculty at IIT, Gandhinagar. She has previously served as a Faculty in Aalborg University, Denmark. She completed her Postdoctoral Research at Massachusetts Institute of Technology (MIT), USA in 2021 after receiving her Ph.D. from Indian Institute of Science (IISc), Bengaluru, India in 2019. Pallavi is a Gold Medalist for her industrial training and has received several awards including POSOCO Power System Award, Bhaskara Advanced Solar Energy Indo-US fellowship and serves in several National and International Technical Committees since 2017. She is very passionate about sustainability and strives towards engineering optimized solutions for global energy needs. Her research interests broadly include design and control of renewable power conversion systems; modelling and optimization of energy storage solutions; physics inspired AI for smart power electronics towards net zero transition.