

Report
One week
ATAL Basic Faculty Development Program
On
“Recent Trends & Advances in Energy Storage System
For E- Mobility”
From 9th to 14th September 2024

We recently attended a One Week ATAL Faculty Development Program (FDP) on "Recent Trends and Advances in Energy Storage Systems for E-Mobility", held from September 9 to 14, 2024, at the KLE Institute of Technology, Hubballi. Sponsored by the AICTE Training and Learning (ATAL) Academy and organized by the Department of Electrical and Electronics Engineering, the FDP was designed to enhance participants' knowledge of E-Mobility and its dependence on advancements in energy storage technologies. The program covered a wide range of topics, from battery modeling using MATLAB and Simulink to the role of supercapacitors in electric vehicles (EVs) and intelligent battery management systems. One of the key objectives of the FDP was to address the technical challenges associated with the growing adoption of electric vehicles and how energy storage systems can be optimized for better performance and sustainability. This included discussions on the impact of EVs on the power grid and the importance of smart grid technologies in managing this transition.

Day 1 kicked off with a session by Dr. Vijay Babu on Power Sources for E-Mobility, which provided a solid foundation for understanding the various types of power sources used in EVs and their performance implications. This was followed by a session on the Impact of EVs on the Grid by Mr. Mallikarjun G. Hudedmani, which delved into how EVs are influencing power infrastructure and the steps needed to ensure a smooth integration of EVs with the grid. A particularly valuable part of the FDP was the hands-on sessions, especially the use of MATLAB

and Simulink to model and simulate battery performance. This practical experience reinforced the theoretical concepts we learned, such as battery behavior under different conditions and how to optimize energy storage for efficiency and longevity. We also had insightful sessions on the future of energy storage materials and the growing importance of supercapacitors in EV technology, presented by industry experts. An industrial visit to the JSK EV Center in Hubballi provided a real-world view of how these technologies are being implemented.

Overall, this FDP significantly expanded our understanding of energy storage systems for E-Mobility, equipping me with both theoretical knowledge and practical skills that will be crucial for future research and professional applications in the field.





Topic of Analysing Power Sources for E-mobility Performance as expert Vijaybabu from MIT, Manipal University



Topic of Control Strategy of Energy flow using multiple energy storage devices and Energy storage material & devices progress at C-MET & Future plans as an expert Dr. Asha Shendge from Rasoni College of Engineering and Dr. Milind Kulkarni from C-MET, Pune



Topic of Life Skills & Stress Management as an expert of Shri Ramgopal Dasa from ISKON, Hubli Dharwad



Topic of basic of EV & Energy Storage Systems and Use of Supercapacitor in electric vehicle
Mr. Anil Choudhary and Dr. Rajendra Sharma