



MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS)

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A Report on

“Dynamic Pricing and Demand Response for Electric Vehicle Charging Networks”

Organized by

Department of Electrical & Electronics Engineering (EEE), MITS Madanapalle
28.10.2023

Convener: Dr. AV Pavan Kumar, Professor and Head, Department of EEE, MITS.

Co-ordinator: Mr. BONDU VIJAYAKUMAR

Attendees: 19 members

Venue: WB120

Platform: Google Meet

The Department of Electrical & Electronics Engineering (EEE), MITS Madanapalle, successfully organized workshop titled "**Dynamic Pricing and Demand Response for Electric Vehicle Charging Networks**" on 28th Oct 2023.

Workshop Schedule

Time	Session	Resource Person
9:30 AM - 10:00 AM	Inauguration & Welcome Address	Host & Coordinator
10:00 AM - 11:30 AM	Introduction to Demand Response in Smart Grids	Dr. Rushi Santhosh Singh Thakur
11:30 AM - 11:45 AM	Break	-
11:45 AM - 1:15 PM	EV Charging Infrastructure and Dynamic Pricing Mechanisms	Dr. Rushi Santhosh Singh Thakur
1:15 PM - 2:00 PM	Lunch Break	-
2:00 PM - 3:30 PM	Case Studies: Successful Demand Response Implementations	Dr. Rushi Santhosh Singh Thakur
3:30 PM - 4:30 PM	Q&A and Discussion	Open Session



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Faculty attended:

1. Dr. A V PAVAN KUMAR
2. Dr. K. ARUL KUMAR
3. Dr. LAKSHMIKHANDAN K
4. Dr. BALAJI DAMODHAR T S
5. Dr. GOURAV KUMAR SUMAN
6. Dr. V B THURAI RAAJ
7. Dr. SUMAN YADAV
8. Mr. RAJESH K S
9. Mr. N SRIDHAR
10. Mr. SHYAMSUNDAR N
11. Mr. CHODAGAM SRINIVAS
12. Mr. SARAVANAN D
13. Mr. G MALLIKARJUNA
14. Mr. BONDU VIJAYAKUMAR
15. Mr. EJJIROTU RAGHU BABU
16. Mr. VENKATESH M
17. Mr. RAMESH KUMAR R
18. Mr. IBRAHIM ZAFAR
19. Mr. IBRAHIM ZAFAR

The online one-day workshop was inaugurated on 28th Oct 2023 at 9:30 AM with a welcome address to all attendees by, Dr. A V Pavan Kumar Head of the Department, EEE. This was followed by an inaugural address delivered by **Dr. Rushi Santhosh Singh Thakur**, emphasizing the importance of **Dynamic Pricing and Demand Response** in electric vehicle (EV) charging networks. The workshop agenda and the introduction of the resource person were presented by Mr. Rajesh K S.

The first session was led by Dr. Rushi Santhosh Singh Thakur on the topic “Introduction to Demand Response in Smart Grids”. He provided a comprehensive overview of how demand response plays a crucial role in balancing electricity supply and demand, particularly in EV-integrated smart grids.

The session covered:

- Demand-side management techniques for EV charging stations.
- Challenges in real-time grid load balancing and strategies for mitigating them.
- The role of AI and predictive analytics in optimizing demand response strategies.



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Rushi Santhosh Singh Thakur (You, presenting)

Stop presenting

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
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Madanapalle-517325, Annamayya Dist., Andhra Pradesh

Online Workshop on
Dynamic Pricing and Demand Response for Electric Vehicle Charging Networks
Dr. Thakur Rushi Santhosh Singh
Professor & Head, Department of Electrical & Electronics Engineering,
RISE Krishna Sai Prakasam Group of Institutions
Date: 28th Oct 2023

Chief Patron Dr. N Vijaya Bhaskar Chowdary Secretary & Correspondent	Patron Mrs. N Keerthi Executive Director	Program Chair Dr. C Yuvaraj Principal
Convener Dr. A V Pavan Kumar Professor & HOD-EEE	Coordinator Mr. Bondu Vijayakumar Assistant Professor, EEE	

Pavan Kumar

Rushi Santhosh Singh Thakur

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Participants: ramesh kumar, ramanjeneyulu ya..., Dr Balaji Damodha..., VENKATESH M, rajesh K S, Pavan Kumar, b karthick, 3 others, chodagam srinivas

Rushi Santhosh Singh Thakur (Presenting)

Optimal EVs charging
Diagram showing a car connected to a charging station with a battery and a power source. The diagram includes a circuit diagram and a graph of power vs. time.
Benefit:

- Additional financial incentives
- Backup power for the main grid
- Potential for demand response participation

Demand response
Diagram showing a balance scale with 'Grid side' and 'User side' weights. Below it is a graph of power vs. time showing demand curves.
Benefit:

- Additional financial incentives
- Backup power for the main grid
- Potential for demand response participation

Participants: VENKATESH M, Rushi Santhosh Singh Thak..., Pavan Kumar, IBRAHIM ZAFAR

In the second session, Dr. Thakur discussed “EV Charging Infrastructure and Dynamic Pricing Mechanisms”, covering:



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- The impact of time-of-use pricing and real-time pricing on EV charging behaviours.
- The integration of distributed energy resources (DERs) to enhance grid flexibility.
- The application of block-chain and AI-based pricing models in smart charging stations.

After a lunch break, the afternoon session focused on “AI and Machine Learning for Load Forecasting in EV Charging”. This session provided practical insights into:

- Using machine learning algorithms to predict EV charging demand patterns.
- Case studies on load forecasting models for efficient grid management.
- The future of dynamic pricing models integrated with demand response frameworks.

The workshop concluded with a Q&A and discussion session, where participants actively engaged with Dr. Thakur on real-world implementations, policy frameworks, and technological advancements in dynamic pricing and EV demand response.

A vote of thanks was delivered by Mr. G Mallikarjuna, expressing gratitude to the Principal of MITS for fostering a culture that encourages such events, the Head of the EEE Department, Dr. A.V. Pawan Kumar, for his unwavering support and guidance in organizing the event, as well as to the faculty members, guest speakers, and student volunteers for their valuable contributions in making the event a grand success.

Mr. Bondu Vijayakumar
Assistant Professor,
Department of EEE
MITS, Madanapalle.

Signature of HOD-EEE



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