Faculty Development Program

Title : AI Applications in Power Systems and Smart Grids

Date : 2025-08-18 - 2025-08-22
Time : 10:00 - 17:30
Venue : TECHNOLOGY TOWER 311

Event Outcome

- After completing this programme faculty able to understand the concept of smart grid they can apply for funding and patent.
- challenges of Renewable energy integration issues with grid Integrating renewable energy sources
- Role of AI in smart Grid: Artificial intelligence (AI) is playing an increasingly crucial role in the development and optimization of smart grids, revolutionizing the way electricity is generated, transmitted, distributed, and consumed.
- Electric vehicle and battery managementElectric vehicles (EVs) are changing the face of transportation, offering a cleaner, quieter alternative to traditional gasoline cars. A critical component of every EV is its battery, which plays a pivotal role in the vehicle's range, performance, and overall lifespan. Ensuring the optimal functioning of these batteries is the responsibility of a sophisticated electronic control unit known as the Battery Management System (BMS)
- Role of power electronics in grid integrationChallenges of renewable energy integration with the grid
  Integrating renewable energy sources like solar and wind into existing power grids presents a multifaceted challenge. These challenges are categorized into several key areas

	**Resource Person 1 - Details** **Name :** Dr Suresh Babu **Designation :** Assitant Director, NPTI **University/ Company :** NPTI BANGALORE, BANGALORE **Address :** India, 560070.
	**Resource Person 2 - Details** **Name :** Er Yekambaram K **Designation :** Chief Manager, NERLDC **University/ Company :** GRID INDIA LIMITED , SHILONG **Address :** India, 632014.
	**Resource Person 3 - Details** **Name :** Dr Gopinath Selvaraj **Designation :** Head ADAS and Autonomous Driving Practice, UST Global Pvt Ltd **University/ Company :** UST Global Pvt Ltd, Bangalore **Address :** India, 560066.
	**Resource Person 4 - Details** **Name :** Dr R Ramesh **Designation :** Professor, Electrical and Electronics Engineering **University/ Company :** Anna University Chennai, Chennai **Address :** India, 600025.
	**Resource Person 5 - Details** **Name :** Dr Vignesh **Designation :** Assistant Professor, Electrical Engineering **University/ Company :** IIT THIRUPATHI, Tirupathi **Address :** India, 517619.
	**Resource Person 6 - Details** **Name :** Dr Chittibabu B **Designation :** Professor, Electrical Engineering Department **University/ Company :** IIITDM KANCHIPURAM, Kancheepuram **Address :** India, 600127.
	**Resource Person 7 - Details** **Name :** D MADHAN MOHAN **Designation :** PROECT R AND D MANAGER, HITACHI ENERGY **University/ Company :** Hitachi Energy Technologies and Service Pvt Ltd, CHENNAI **Address :** India, 600116.
	**Resource Person 8 - Details** **Name :** Dr Sishaj P siman **Designation :** PROFESSOR AND HOD, EEE **University/ Company :** NIT THIRUCHY, THIRUCHY **Address :** India, 632014.

Resource Person's Profile :

1. Profile of Dr Suresh Babu

Doctorate in Electrical Engineering Sciences from Visvesvaraya Technological University, Belgaum, Karnataka

Post Graduation in Energy Systems Engineering from Vellore Institute of Technology, Vellore,Tamil Nadu, specialized in Wind Energy and Solar Energy.

Graduated Engineering in the Department of Electrical and Electronics Engineering from Bharathiyar University, Coimbatore, Tamil Nadu

Currently working as a Deputy Director in NPTI (PSTI), Ministry of Power, Government of India,

2. Profile of Er Yekambaram K

Yekambaram Kasani is a Chief Manager (CM) at the North Eastern Regional Load Despatch Centre (NERLDC) in Shillong. He is part of the Regulatory Affairs and Market Operation group, and also serves as a Shift In-Charge. The NERLDC is located in both Shillong and Guwahati.

3. Profile of Dr Gopinath Selvaraj

More than 20 years of experience in technology organizations with strong focus on the design development and testing Software algorithms for Automotive systems Industrial Automation, Power Plants and Wind Turbine Systems

Experience in control software design, development and testing of Real time control systems. CAM follower, Inverted pendulum systems

Experience in Microprocessor, Microcontrollers and PLC Based Automation System Realization,Design, Development and Testing.

4. Profile of Dr R Ramesh

Dr Ramesh pursued his B.E. Degree in Electrical and Electronics Engineering at University of Madras, Chennai, and completed his M.E degree in power systems Engineering at Annamalai University Chidambaram. He received Ph.D degree at Anna University Chennai, and has been a faculty of Electrical and Electronics Engineering Department Of College of Engineering, Guindy, Anna University, Chennai since 2003. His areas of interest are Real-Time Distributed Embedded Control, On-line Power System

5. Profile of Dr Vignesh

Ph.D, Indian Institute of Technology, Kanpur, India

B.E, PSG College of Technology, Coimbatore, India. Areas of Interest includes

Power System Dynamics

Smart Grids

Cyber Security In Electrical Power Grids

Distributed Computing for Smart Grids

Remedial Action Schemes

6. Profile of Dr Chittibabu B

Associate Professor Department of ECE Indian Institute of Information Technology Design and Manufacturing Kancheepuram Chennai, India Aug 2023

Assistant Professor Grade Department of ECE Indian Institute of Information Technology Design and Manufacturing Kancheepuram Chennai June 2018 July 2023.

Assistant Professor Department of Electrical and Electronics Engineering, The University of Nottingham UK Malaysia Campus Sep 2016 June 2018.

7. Profile of D MADHAN MOHAN

R and D Team Manager and Project Manager and Individual Contributor having more than 14 years of Experience in the field of HVDC, FACST, Semiconductors, EV charger and Static Frequency Converters.

8. Profile of Dr Sishaj P siman

Dr. Sishaj P. Simon is a Professor in the Department of Electrical and Electronics Engineering at the National Institute of Technology (NIT), Tiruchirappalli, Tamil Nadu, India.
He obtained a Ph.D. in Power System Engineering from IIT Roorkee in 2006. He also holds a Master of Engineering and a Bachelor of Engineering, both from Bharathiar University.

Smart grids are crucial for modernizing power systems due to their ability to enhance efficiency, reliability, and sustainability. They utilize digital technology and two-way communication to improve energy management, reduce losses, and integrate renewable energy sources, ultimately benefiting both consumers and utilities.Smart grids enable real-time monitoring and control of energy flow, allowing for optimized energy management and reduced transmission and distribution losses.Advanced metering infrastructure (AMI) and smart meters provide detailed consumption data, empowering consumers to make informed decisions about their energy usage and potentially shift to off-peak hours. By reducing transmission and distribution losses, optimizing energy consumption, and enabling demand response, smart grids can lower costs for both utilities and consumers.smart grids are crucial for the widespread adoption of electric vehicles by enabling efficient charging infrastructure and managing the increased demand for electricity.

MATPOWER PSAT MATLAB MIPOWER CYME

Coordinator's: **Prof. RAVI K 11815 - Professor Grade 2 - SELECT**
Prof. JACOB RAGLEND I 14845 - Professor Higher Academic Grade - SELECT