POWER SYSTEMS RESEARCH GROUP

Objectives:

The objective is to provide research group members with the ability to identify problems in the broad area of modern power systems and to design as well as develop analytical and computational tools for real-time power system applications. The objectives of the Power Systems Research Group are:

* To provide an insight to the members about recent developments in power generation, transmission, distribution, smart grids, and power system stability with a detailed understanding of system operation and component interaction.

* To educate the members in areas correlated with power system analysis, protection, optimization, renewable integration, and enable modeling and simulation using industry-standard software tools.

* To conduct staff colloquiums for knowledge sharing on emerging trends, research methodologies, and advanced power system technologies.

* To effectively utilize research laboratory facilities and computational resources to produce quality publications and innovative solutions.

* To conduct Faculty Development Programs periodically in core areas of power system engineering.

Members of Power Systems Research Group

S.NO	Name of Faculty	Designation
1.	**Dr. M.S. Giridhar**	**Professor**
2.	Dr. M. Umavani	Professor
3.	Dr. B. Pangedaiah	Associate Professor
4.	Mrs. K. S. L. Lavanya	Sr. Asst. Professor
5.	Mr. Imran Abdul	Sr. Asst. Professor

Outcome of Power Systems Research Group

		2025-26	2024-25
Journals	**SCI/ESCI**		
	SCOPUS	**2**	**1**
Conferences		**2**	**3**

JOURNALS

S.No	Names of the Author and Co-Authors	Title of the Paper	Name of the Journal	ISSN No	Month and Year	Indexing
A.Y.2025-26						
1.	Hemanth Sai Madupu, Bala Saibabu Bommidi, **Imran Abdul**, K. Rambabu, Bejjam S N Benarji	Hybrid Attention-Based Deep Learning Model for Wind Speed Forecasting in Renewable Energy Applications	*Journal of Theoretical and Applied Information Technology*	**1992-8645**	Aug, 2025	Scopus
2.	Dr. Naim Shaikh, Dr. Mamatha G, Kukati Aruna Kumari, **Dr. M.S. Giridhar**, Dr. Krishna Nand Mishra, Dr. A. Pankajam, Dr. Ganesh Kumar R, Swati Gupta	Enhancing Healthcare Security with Blockchain-Powered Smart Contracts	*Journal of Theoretical and Applied Information Technology*	**1992-8645**	Oct, 2025	Scopus
3.	M. Raja Nayak, Vamsi Krishna Kasimalla, **Imran Abdul**, and Yamarthi Rajesh Babu	Design of Aluminium Air Fuel Cells for Electric Vehicle Applications	*3rd International Conference on Smart Systems for applications in Electrical Sciences (ICSSES-2025)*	**-**	2025	IOP Conf.
4.	**I. Abdul**, K. Ramu, P. Deepthi, K. Narasimha Rao and P. Sujanika	Deep Learning Based Distribution State Estimation and Cyber Attack Detection	2025 IEEE 4th World Conference on Applied Intelligence and Computing (AIC)	**-**	2025	IEEE Conf.

A.Y.2024-25						
1.	Imran Abdul	Adaptive Frilled Lizard Optimization for Enhancing Distribution Feeder Performance with Renewables and Charging Stations	International Journal of Intelligent Engineering and Systems	2185-3118	May, 2025	Scopus
2.	Ch. Naga Sai Kalyan, Bhurugu Sravanthi, B. Srikanth Goud, **K.S.L. Lavanya**, G. Srikar, Hima Bindu Eluri	Improving the Load Frequency Control of a Renewable Energy Penetrated Dual Area Power System with a 2DOFPID Controller	IEEE 1st International Conference on Green Industrial Electronics and Sustainable Technologies (GIEST)	-	Oct, 2024	IEEE Conference
3.	**Pangedaiah. B**, Shiva V, Kamashi D, Venkat Sandeep V	IoT Integrated dynamioc wireless charging system for electric vehicle with authentication and billing	E3S Web of Conferences, International Conference on Power Generation and Renewable Energy Sources (ICPGRES-2024)	-	Sep, 2024	Conf.
4.	**Pangedaiah. B**, Naga Supriya T, Venu Madhav V, Sai Durga Prsad K	IOT Gas Pipe Leakage Detector using Solar Based Robot	E3S Web of Conferences, International Conference on Power Generation and Renewable Energy Sources (ICPGRES-2024)	-	Sep, 2024	Conf.

Staff colloquium
A.Y. 2025-26:

1. The staff colloquium is conducted on "Distribution transformer uncertain load modelling" by Dr. M.S. Giridhar on 12-12-2025.

B.Tech Projects
A.Y. 2024-25:

S.NO	Project title	Name of supervisor
1.	CYBER ATTACK DETECTION STRATEGY BASED IN DISTRIBUTION SYSTEM STATE ESTIMATION SYSTEM USING DEEP LEARNING	Mr.Imran Abdul
2.	NEXT-GENERATION ENERGY MONITORING SYSTEM COMBINING SMART METERS, IOT, MICROCONTROLLER, AND CLOUD COMPUTING WITH INSTANT THEFT INTERRUPTION	Dr.M.Uma Vani
3.	IOT-ENHANCED SMART ENERGY METER WITH DUAL NODE MONITORING, CLOUD DATA INTEGRATION, BILLING AND ALERT SYSTEM FOR THEFT ATTEMPTS	Dr. M.S.Giridhar
4.	PASSIVE ISLANDING DETECTION USING DECISION TREE-BASED MACHINE LEARNING APPROACH	Dr.B.Pangedaiah
5.	OPTIMAL ENHANCED THERMAL LIION BATTERY MANAGEMENT WITH THERMOELECTRIC GENERATION AND ACTIVE CELL BALANCING	Dr.K.Harinadha Reddy
6.	INNOVATIVE UNDERGROUND CABLE FAULT DETECTION SYSTEM USING RASBERRY PI PICO WITH GSM, GPS, AND MIT APP INVENTOR	Dr.M.Uma Vani
7.	HYBRID RENEWABLE ENERGY SYSTEM WITH LOAD BALANCING USING ARDUINO	Dr. M.S.Giridhar
8.	PASSIVE ISLANDING DETECTION IN A HYBRID DC/AC MICROGRIDUSING COORDINATED CONTROL FOR GRIDCONNECTED PV, WIND-DRIVEN PMSG, AND ENERGY STORAGESYSTEM	Dr.B.Pangedaiah
9.	SMART SOLAR PV SYSTEM WITH TEMPERATURE DEPENDENT COOLING AND TRACKING	Mrs K.S.L.Lavanya