GREEN ENERGY RESEARCH GROUP

Introduction:

The role of Green Energy for a sustainable energy in future is inevitable. The need for energy and related services to meet human social and economic development, well-being and health is growing. With the purpose of meeting energy demand, countries around the world have taken initiatives to produce green energy from the natural sources like hydraulic, solar power, wind, tidal wave, geothermal, biogas and biomass, etc. The ongoing technical advances in computer hardware and software enable scientists to use to make effective utilization of these resources. Green energy solutions provide an unparalleled chance to offset greenhouse gas secretions and minimalize global warming through the substitution of conventional bases of energy (fossil fuels).

Objectives:

The objective is to provide research group members with the ability to identify the problem in the broad area of Green energy technologies and design as well as develop algorithms for real time applications. The objectives of the Green Energy Research group are:

- To provide an insight to the members about the developments in green energy domain with a detailed understanding of the operation, function and interaction between various components and sub-systems used in grid connected and isolated power systems.
- To educate the members about the areas that are correlated with and enable design and simulation of algorithms using popular software.
- To conduct staff colloquiums for sharing the knowledge among one another.
- To make use of facilities in the research group and produce quality publications.
- To conduct Faculty development Programs periodically on core areas of Green energy.

Members of Green Energy Research Group

S.No.	Name of Faculty	Designation
1.	**Dr. P. Sobha Rani**	**Professor**
2.	Dr. K. R. L. Prasad	Professor
3.	Mr. K. Nagalinga Chary	Sr. Asst. Professor
4.	Mr. A. V. Ravi Kumar	Sr. Asst. Professor
5.	Mrs. R. Padma	Sr. Asst. Professor

Outcome of Green Energy Research Group

		2025-26	2024-25
Journals	**SCI/ESCI**	**1**	**2**
	SCOPUS		**1**
	Online		
Conferences			**2**
Book Chapters		**2**	**1**

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.	**Nagalingachary K.**, Durga Prasad Garapati, Kishore Yadlapati	Optimal swarm based three stage balanced interleaved dual active bridge DC-DC converter design to enhance performance of inter-tied microgrid renewable energy system	Electric Power Systems Research	0378-7796	Dec, 2025	SCIE
A.Y.2024-25						
1.	Varaprasad Janamala, **P. Sobha Rani**, K. Radha Rani, K. Swarnasri	Transformative impact of electrical engineering on society, education, academia, andindustry: a brief review	Electrical Engineering	0948-7921	April, 2025	SCIE
2.	**Sobha Rani Penubarthi**, Radha Rani Korrapati, Varaprasad Janamala, Chaitanya Nimmagadda,	Chernobyl Disaster Optimizer-Based Optimal Integration of Hybrid Photovoltaic	Modelling	2673-3951	Sep, 2024	ESCI

	Arigela Satya Veerendra and Srividya	Systems and Network Reconfiguration for Reliable and Quality Power Supply to Nuclear Research Reactors				
3.	M. Raja Nayak, **Rowthu Padma**, B. Devulal, Prabhakara Sharma Pidatala, B. K. Karunakar Rao & M. Saritha	Optimal design dimension configuration of high voltage electrodes for 400 KV bus post insulators	Australian Journal of Electrical and Electronics Engineering	1448837X	February, 2025	Scopus
4.	**K.Ramalingeswara Prasad,** S. Vijaya Madhavi, A.V.Satyanarayana, Madhavi Mallam, J. Sivavara Prasad, Jami Venkata Suman	Design and Management of an Integrated Solar-Wind Conversion System Using DFIG	International Conference on Advances in Modern Age Technologies for Health and Engineering Science (AMATHE)	-	July, 2024	IEEE Conf.
5.	S. Vijaya Madhavi, **K. Ramalingeswara Prasad**; Bankaru Sonia; Madhavi Mallam; Jami Venkata Suman; K.B. Anusha	Intelligent Fault Detection and Shading Analysis in Photovoltaic Arrays: A Fuzzy Logic Approach for Enhanced Performance and Reliability	International Conference on Computational Intelligence for Green and Sustainable Technologies (ICCIGST)	-	2024	IEEE Conf.

Books/ Chapters Published

Academic Year	Name Of The Authors	Title Of The Book / Chapter	Name Of The Publisher With Address	ISBN Number
2025-26	**P. Sobha Rani**, M. S. Giridhar, R. Padma & G. Tabita	Role of Optimization Techniques in Power Quality Improvement of Micro-grid	Springer	9789819636945 Book chapter

2025-26	**A. V. Ravikumar**, Nagalinga Chary K.	Boolean Algebra and Logic Gates	Lambert Academic Publishing	ISBN: 6207639677 978-6207639670 Book
2024-25	Dr.Ch.Nagaraja Kumari Dr.J.Varaprasad Dr.K.Radha Rani **Dr.P.Sobha Rani** Dr.D.Suresh Babu	Electric Circuit Design	Scientific International Publishing House	978-93-6132-433-8 Book

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

S.NO	Project title	Name of supervisor
1.	FLOATING SOLAR PANEL WITH SUN POSITION TRACKING SYSTEM	Dr.P. Sobha Rani
2.	DESIGN OF A MOVEABLE SOLAR ENERGY POWER UNIT WITH DC GEAR MOTOR USING IOT	Mr.M.B.Chakkravaarthy
3.	MODELLING AND SIMULATION OF EFFECTIVE BATTERY CHARGING SYSTEM USING STEP VOLTAGE AND STEP DUTY SIZE BASED MPPT CONTROLLER FOR SOLAR PV SYSTEM	Dr.K.R.L.Prasad
4.	SINGLE PHASE SHIFT MODULATED DUAL ACTIVE BRIDGE (SPS-DAB) CONVERTER TO CONTROL THE POWER	Mr.K.Nagalingachary
5.	RFID ATTENDANCE SYSTEM AND MESSAGE CONVEY THROUGH VOICE CONTROL USING FOOTSTEP POWER GENERATION	Mrs. R.Padma
6.	AUTOMATIC POWERFACTOR CORRECTION AND IMPROVEMENT ESP 8266 MICROCONTROLLER	Dr.P. Sobha Rani
7.	MODELLING AND SIMULATION ANALYSIS AND CONTROL OF DUAL ACTIVE BRIDGE (DAB) POWER CONVERTER	Dr.K.R.L.Prasad
8.	ENERGY MONITORING AND CONTROLLING AUTOMATIC TRANSFER SWITCH BETWEEN GRID AND SOLAR WITH GMS MODULE	Mr A.V.Ravi Kumar