



**SHRI VISHNU ENGINEERING COLLEGE FOR WOMEN (AUTONOMOUS)**  
**VISHNUPUR, BHIMAVARAM ,WEST GODAVARI DISTRICT, ANDHRA PRADESH-534202**

**WWW.SVECW.EDU.IN**

**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

### Editorial Board

#### Chief Editor:

**Dr.S.M.Padmaja**  
HOD-Dept. of EEE

#### Editor:

**Mr. S.Veerababu**  
Assistant Professor  
Dept. of EEE

#### Members :

1) **Dr.B.Suresh babu**  
Professor  
Dept of EEE

2) **Mr.N.Praveen Kumar**  
Assistant Professor  
Dept of EEE

### Inside the issue



Research Article : Page 1  
Student Articles : Page 2  
Student Articles : Page 3  
Faculty achievements : Page 4  
Conferences : Page 5  
Vision & Mission : Page 6

## EDITOR'S MESSAGE

*It is with immense pleasure that I announce that the Department of Electrical & Electronics Engineering has released its Newsletter for the first half of the year 2021, highlighting the different activities and achievements of our faculty and students. Shri Vishnu Engineering College for Women (Autonomous) sparks the knowledge of flame to develop shapes in an unique manner to illuminate the students' existence.*

## RESEARCH ARTICLES

### *What is Role of Smart Grid in India ?*

A smart grid is an evolved grid system in India that manages electricity demand in a sustainable, reliable and economic manner, built on advanced infrastructure and tuned to facilitate the integration of all involved. In the world of the Smart Grid, consumers and utility companies alike have tools to manage, monitor and respond to energy issues. The flow of electricity from utility to consumer becomes a two-way conversation. Smart grids will provide more electricity to meet rising demand, increase reliability and quality of power supplies, increase energy efficiency, is able to integrate carbon free energy sources into power networks. One of the most important ways you can get involved with the Smart Grid is to take advantage of time-of-use programs. Smart meters and home energy management systems allow customers to program how and when their home uses energy. Throughout the day the demand for energy changes.

*Dr.SureshBabu Balakrishan*  
*Ph.D - (Anna University -Tamil Nadu)*  
*Professor*  
*Department of EEE*  
*SVECW(AUTONOMOUS)*  
*Bhimavaram*



**Title:1** CYCLIC LOADING INSTRUMENT is to Test the implant tooth for strength with cyclic loading instrument.

**Authors:** 1) Konidena Harshitha

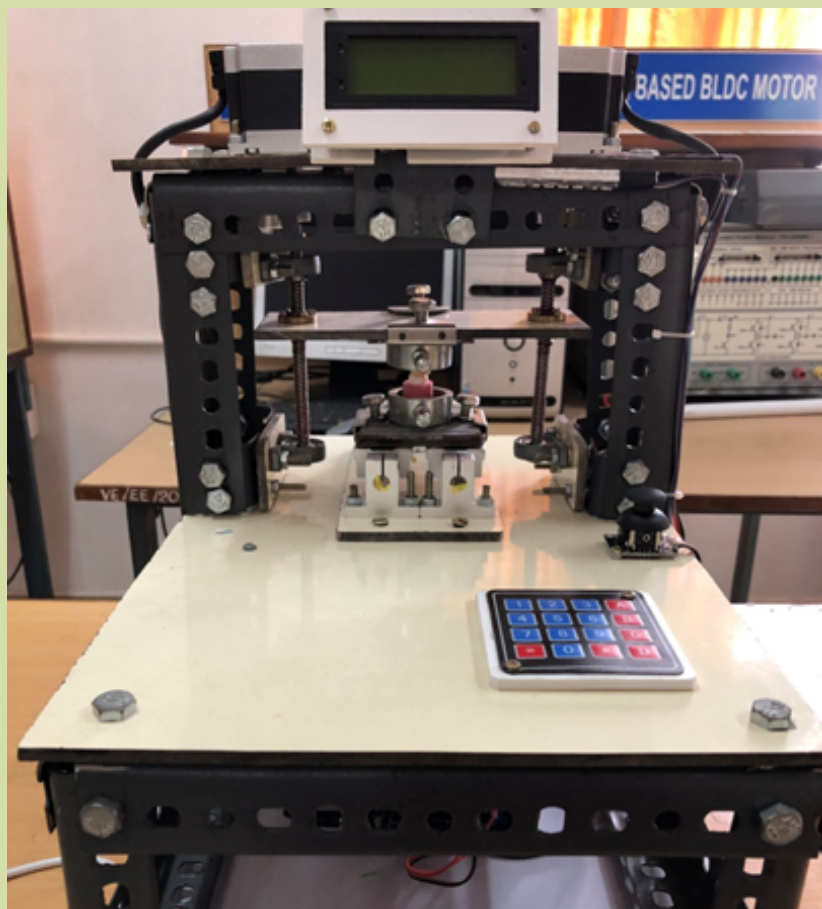
2) Areti Keerthi

3) Bokka Suma

4) Akhila Rajeev

5) Kadari Navya Chandana

**Technical Description:** *The present medical stream needs an instrument in order to reach the requirement of certain dental issues faced. Issues need in this project to apply a constant cyclic loading on teeth for a preset number of times. The user required to apply the loading on tooth made of different materials in order to study their performance. Prior to this model there was equipment called the Timing Wheel. In this system, a belt type arrangement is made to apply forces on the tooth.*



**Title:2** COUNTER YAW SYSTEM is to Design a Control Mechanism which maintains the Azimuthal angle, User Interface System and to decrease the maintenance of wind turbine.

**Authors:** 1) G.Bandhavi  
2) J.Srikala  
3) TNVD Akanksha  
4) P.Kavya  
5) V.Sadhana Reddy  
6) Y.Leela Pranathi

**Technical Description:** As the size of a population increases, energy consumption increases. This energy demand can't be able to meet by the non-renewable resources as they will extinct in future. Wind and solar has more scope in future for power generation as world is converting from non-renewable to renewable resources. This prototype will be helpful in this sector to decrease its maintenance cost which was due to auxiliary components of wind turbine like oil pumping, auxiliary motors.

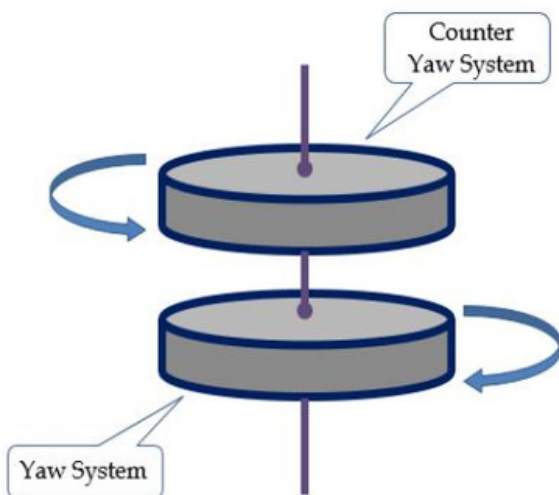


Figure – 2. CYS mechanism

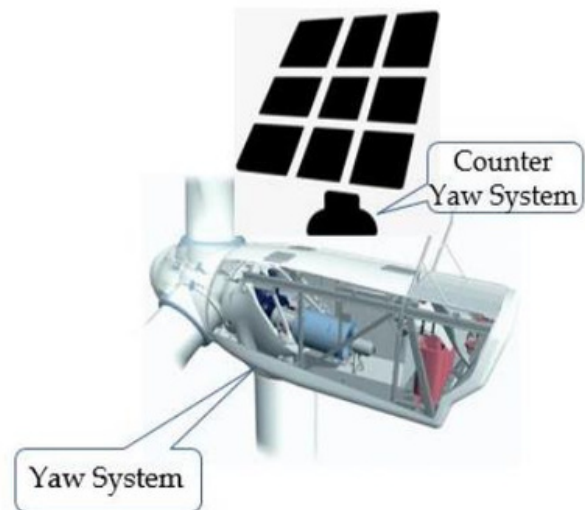


Figure – 3. Yaw and Counter Yaw systems

# FACULTY ACTIVITIES



## WORKSHOPS ATTENDED

1) **KVS.Prasadarao**, Assistant Professor has Participated A 5-Day FDP online Workshop "Power Electronics in Electrical Vehicle and Renewable Energy" at Sanjay Ghodawat University Kolhapur" during 22.02.2021 to 26.02.2021.

2) **J.Venkatesh**, Assistant Professor has participated in online Webinar by UBA CELL RGIT by Unnat Bharath Abhiyan on 13-03-2021.



## PUBLICATIONS

### SCI/SCOUPUS JOURNALS:

**Mr.M.V.Srikanth** : M.V. Srikanth Assistant Professor, EEE Department, SVECW published an article entitled "Analytical tuning rules for Reduced-order Active Disturbance Rejection Control with FOPDT models through Multi-Objective optimization and multi-criteria decision-making", ISA Transactions, Volume 114, 2021, Pages 370-398, ISSN 0019-0578,

<https://doi.org/10.1016/j.isatra.2020.12.035>.

(<https://www.sciencedirect.com/science/article/pii/S0019057820305541>)

**Abstract:** *Quantitative tuning rules for RADRC are proposed for industrial processes approximated as FOPDT models. The proposed tuning rules provide a good trade-off between tracking and disturbance rejection performance Exhibits good repetitive tracking and better performance in stochastic environment.*



**Mr K V S Prasadarao:** K V S Prasadarao, Assistant Professor, EEE Department, SVECW published an article entitled "A New Fault -Tolerant Multilevel Inverter Structure with Reduced Device Count and Low Total Standing Voltage" in IEEE Transactions on Power Electronics.

**Doi:** [10.1109/TPEL.2022.3149531](https://doi.org/10.1109/TPEL.2022.3149531).

**Abstract:** *A new fault-tolerant (FT) multilevel inverter (MLI) structure that can tolerate the faults on the switches and sources is introduced in this article. The presence of redundant states in the proposed structure ensures the FT capability which is an important requirement for emergency loads. Lower total standing voltage (TSV), reduced switch count, higher efficiency, and improved reliability are the key features of the proposed topology.*



# FACULTY ACTIVITIES



## PUBLICATIONS

### **International Conferences:**

- 1) M Siva Rama Ganesh and et al, Design of Decision Based Recursive Weighted MedianFilter With Exponential Weights. Journal of Physics: Conference Series, 2089(1),p.012016. (SCOPUS).
- 2) Durga Prasad Garapati and et al, SHE-PWM Low Cost Multi Level Inverter for PV water Pumping Applications. Journal of Physics: Conference Series, 2089(1),p.012019. (SCOPUS).
- 3) B.SureshBabu, A. Radhika, G. Thenmozhi, and V. Vidhya, Power Conversion in PMSG Wind Energy Conversion Systems using Trans Z Source Inverter, 2021 InternationalConference on Advancements in Electrical, Electronics, Communication, Computing and Automation (ICAECA), 2021. (SCOPUS).
- 4) Ramu Bhukya and et al, Designing of Lithium - Ion Battery Pack Rechargeable on a Hybrid System with Battery Management System (BMS) for DC Loads of Low Power Applications – A Prototype Model. Journal of Physics: Conference Series, 2089(1),p.012017. (SCOPUS).
- 5) Praveen Kumar Nalli and et al, Experimental Validation for A Nine-Switched 3-phase Multilevel Inverter (MLI) With a Photovoltaic (PV) Source of Array. Journal of Physics: Conference Series, 2089(1), p.012089. (SCOPUS).
- 6) G. Bharathi, P. Kantarao and R. Srinivasarao, Control and Optimization of DC Microgrid Power Management with Energy Storage Devices and Photovoltaic System, 2021 5th International Conference on Electronics, Communication and Aerospace Technology (ICECA), 2021, pp. 60-69. (SCOPUS).
- 7) M V Srikanth, A magnitude optimum approach for tuning Reduced order ADRC with FOPDT models, 2021 7 th Indian Control Conference, IIT Mumbai, Dec. 20-22, 2022. (SCOPUS).
- 8) Saravanan S., Kalaiyarasi M., Karunanithi K., Karthi S., Pragaspathy S., Kadali K.S. (2022) Iot Based Healthcare System for Patient Monitoring, IoT and Analytics for Sensor Networks. Lecture Notes in Networks and Systems, Vol 244, Springer, Singapore. (SCOPUS).
- 9) Durga Prasad Garapati, Multilevel Inverter Fed 1- $\Phi$  Asynchronous Motor Based Water Pumping System, IEEE International Conference on Computing, Communication and Power Technology (IC3P-2022), 07-08 January 2022. (SCOPUS).
- 10) Durga Prasad Garapati, SM Padmaja, R Sudheer Kumar and N Praveen Kumar, Fish Feeding Boat using BLDC Motor for Aqua Applications, IEEE International Conference on Computing, Communication and Power Technology (IC3P-2022), 07-08 January 2022. (SCOPUS).

### Department Vision

To establish a knowledge hub in the field of Electrical & Electronics Engineering to meet the needs of society

### Department Mission

- To produce quality Electrical and Electronics Engineers
- To inculcate discipline and ethical values among the students
- To empower students to succeed in higher education and research

PEOs (UG Programme)		(PEOs of PG Programme)	
<p><b>PEO1:</b> Demonstrate employability skills and leadership qualities to serve the society.</p> <p><b>PEO2:</b> Achieve personal and professional success with awareness and commitment to their ethical and social responsibilities.</p> <p><b>PEO3:</b> Improve professional competence through life-long learning including higher education and research.</p>		<p><b>PEO1:</b> Graduates acquire technical knowledge to solve complex real-world problems.</p> <p><b>PEO2:</b> Graduates will exhibit competencies to excel in academia or industry.</p> <p><b>PEO3:</b> Graduates acquire ability to practice ethical values.</p>	
POs (UG Programme)		POs (PG Programme)	
PO1	An ability to apply knowledge of mathematics, science and engineering.	PO 1	The graduates have ability to discriminate, evaluate and analyze by acquiring conceptual knowledge base in power electronics.
PO2	An ability to design and conduct experiments as well as analyze and interpret results to provide valid conclusions.	PO 2	Ability to analyze complex engineering problems critically and synthesize information independently for conducting research in theoretical and practical context.
PO3	An ability to design system components (or) processes optimally.	PO 3	Ability to think originally and arrive at optimal solutions for power electronic systems after considering safety and environmental factors.
PO4	An ability to contribute individually/ in group(s) representing varied engineering disciplines to accomplish a common goal.	PO 4	Ability to identify, formulate research problems individually or in group(s) to the development of technological in the field of power electronics
PO5	An ability to identify, formulate and solve complex engineering problems.	PO 5	An ability to develop mathematical models to use modern tools for designing power electronic topologies for various applications.
PO6	An understanding of professional and ethical responsibilities.	PO 6	An ability to identify the opportunities in multi-disciplinary and collaborative research work
PO7	An ability to use written and oral communication skills effectively	PO 7	Ability to manage projects effectively after consideration of technical and financial factors.
PO8	An ability to understand the impact of engineering solutions in a global, economic, environmental and societal context.	PO 8	An ability to develop networking in power electronics community and to make effective presentations and technical reports.
PO9	An ability to engage in independent and life-long learning.	PO 9	An ability to engage in life-long learning and an understanding of the needs to meet current trends of developments in the field of power electronics.
PO10	Knowledge of contemporary issues related to engineering.	PO 10	An ability to acquire professional and ethical responsibilities for sustainable development of society.
PO11	An ability to use appropriate techniques, resources and modern engineering tools for engineering practice.	PO 11	An ability to examine critically the outcomes of one's actions and make corrective measures independently
PO12	An understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team to manage projects.		