KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
S.P.G. Chidambara Nadar - C. Nagammal Campus,
S.P.G.C. Nagar, K.Vellakulam - 625 701, Near Virudhunagar, Madurai District.
Accredited by NAAC with "A" Grade

Department of Electrical & Electronics Engineering

(Accredited by NBA, New delhi)

E - SHOTS

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NEWSLETTER includes Articles on,

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VISION OF THE DEPARTMENT

"*To make the Department of Electrical and Electronics Engineering of this Institution the unique of its kind in the field of Research and Development activities in this part of world*".

MISSION OF THE DEPARTMENT

"*To impart highly innovative and technical knowledge in the field of Electrical and Electronics Engineering to the urban and unreachable rural student folks through Total Quality Education*"

VEHICLE TO GRID – ELECTRIC CAR AS A POWER STATION

The electric vehicle revolution will do more than reduce carbon emissions. Vehicle-to-grid technology (V2G), can give you ultimate control over your energy, and even make you money.

'Vehicle to grid' technology, also referred to as 'V2G' enables energy stored in electric vehicles to be fed back into the national electricity network (or 'grid') to help supply energy at times of peak demand. It's just one technological advancement in a slew of new initiatives like 'smart charging' and 'demand side response' that are aimed at changing the way individuals, and businesses, use energy in the future.

Benefits of V2G technology:

We are hurtling towards a place where 'two-way' electric car chargers can enable homeowners with electric cars to sell their energy back to the national network. It's a smart idea when you consider that over 90% of cars are parked at any one time – which is a lot of energy just sitting there doing nothing. This technology will give you the opportunity to manage your energy your way, and potentially become energy self-sufficient, reducing everyone's reliance on energy companies. Get solar panels fitted, then adopt vehicle to grid technology and your home could become a private mini-power station!

This game-changing tech is about far more than potentially making EV owners money, it also plays an important part in helping to 'balance' the national electricity network. And it feeds into a national initiative called demand side response (DSR): a programme that aims to rebalance our energy needs around the country by changing how we produce, supply and use energy.

DSR works on all levels. On an individual scale, smart meters are being rolled out to help homeowners control and reduce their energy use. While on a macro level, businesses and large public sector organizations are being encouraged to save energy costs, reduce carbon footprints and adopt new ways to use lights, appliances, air-conditioning, and fridges etc. As part of this initiative, they're also being empowered to:

• Increase their onsite generation of renewables like wind and solar PV.

• Adjust the times they use energy (in order to help national network balance energy demand).

• And even feed excess energy back to the network.

Balancing the grid:

We take it for granted that if we flick a switch, our lights will come on. Or our oven will heat up. But the odds are that when we do this, millions of others will be doing the same. 'Balancing the grid' is about making sure there's enough electricity on the network when we all need it, so the country doesn't 'blackout', but not so much that we experience 'surges'. These occur when excess energy surges into our homes, potentially damaging our equipment or causing electrical fires.

And it's not just about satisfying our demand for energy. Getting renewable energy onto the network, while maintaining this 'balance' makes for a challenging future. Think about how fickle our weather is and it's easy to understand how tricky it is to predict how much wind power, for example, might be generated at any one time. A network that's flush with renewable energy mean lower carbon emissions which, in turn, helps build a cleaner, greener country for us all.

As electric cars become ever more popular, and more and more people adopt cheaper off-peak energy tariffs allowing them to charge their cars overnight, we could see night times becoming the new 'peak demand' for energy. That's where another new initiative called 'smart charging' will come into its own...

Smart charging:

Smart charging is the intelligent charging of electric cars. It's essentially where energy suppliers incentivise car owners to opt into a programme that allows the supplier to curtail charging when energy demand is particularly high.

A piece of tech is fitted to the diagnostic port of your electric car, which communicates with your supplier, letting them know whether charging could be cut short at times of high demand. Owners also use an app on their mobiles which will tell the supplier things like; what times and days of the week you need your car to be fully charged by, and whether there are days that you'd like to opt out of the intelligent charging programme altogether – if you're planning a long journey to visit the in-laws, for instance.

Smart charging is very much based on mutual benefits. Electric car owners enjoy monetary rewards from the suppliers, along with the feel-good factor that they're helping to 'balance the grid' in order to make way for more renewables. Suppliers, on the other hand, are better able to serve everyone when demand is high. And the knock-on effect is that there will eventually be fewer power plants needed, particularly back-up stations that sell dirtier energy at higher prices to suppliers who can't fulfil demand without them.

With electric cars and the raft of innovative technology being developed to realise their potential as energy storage systems, the future is bursting with possibility. Cleaner air, smarter homes, energy self-sufficiency. It's seriously exciting stuff.

Own an EV, or thinking of buying one?

We can help you charge your electric car everywhere, for less. Our EV Everywhere

tariff is designed specially for owners of electric (and plugin hybrid) cars, and comes with fixed energy prices for two years, 100% renewable energy and free membership of Polar Plus, the UK's biggest EV charging network.

Curious about V2G and the future of EVs?

Our exciting new partnership with Nissan is driving forward the future of mobility and energy. If you want to be the first to know about our upcoming smart charging and vehicle-to-grid products, register your interest here and we'll be in touch.

- www.ovoenergy.com

QUOTES

"If you Don't give up, you still have a chance. Giving up is the greatest failure."

- Jack Ma, CEO of Alibaba

GATE CORNER

A bulb in a staircase has two switches, one switch being at the ground floor and the other one at the first floor. The bulb can be turned ON and also can be turned OFF by any one of the switches irrespective of the state of the other switch. The logic of switching of the bulb resembles.

(A) an AND gate
(B) an OR gate
(C) an XOR gate
(D)a NAND gate.

Answer: (C)
Explanation:

Ground Floor	First Floor	Lamp
0 (off)	1 (on)	1 (glow)
1 (on)	0 (off)	1 (glow)

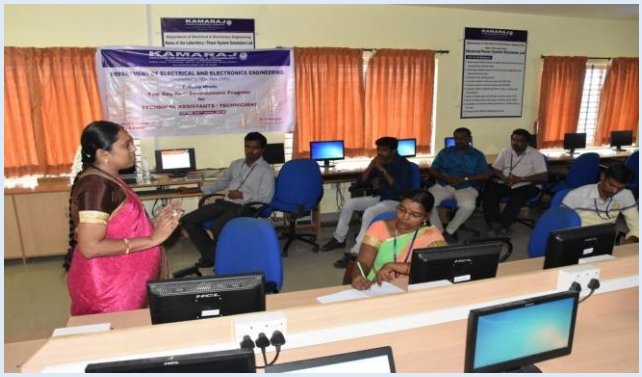
EVENTS HAPPENED IN THE DEPARTMENT

- The Department of EEE, EIE and Mechatronics jointly organized a **Two day National Level Conference "RENEWABLE ENERGY SYSTEMS, EMBEDDED SYSTEMS AND**

ROBOTICS" (NCREER - 2018) on 3rd & 4th April, 2018.

- The Department of Electrical and Electronics Engineering organized Guest lecture on **"Circuit Breakers"** on **04.04.2018,** The resource person for the program was Mr. T. Hari Prasath, Assistant Professor, Department of EEE, Kalasalingam University, Krishnan Kovil
- The Department of Electrical and Electronics Engineering Organized **THREE DAY Skill Development Program for Technical**

Assistants/Technicians 22nd to 24th June, 2018. The resource person for the program was Mr.S.S.M.Meeran, Managing Director, Madura Institute of Fire and Safety Engineering, India Pvt. Ltd., Madurai and Er.N.R.Balamurugan, Managing Director, Measuring Instruments, Madurai.



- The Department of Electrical and Electronics Engineering organized a **Three Day FDTP on "Power Converters and its Applications"** from 13th - 15th June, 2018**.** The resource person for the program was Dr.G.S.Ayyappan, Senior Scientist, Central Scientific Instruments Organization, Chennai and Dr. J. Gnanavadivel, ASP/EEE, Mepco Schlenk Engineering College, Sivakasi.

- **On behalf of Green Energy Club,** Department of Electrical and Electronics Engineering Organized a **workshop on "Basics of photo voltaic systems" on 07/07/18.**
- On behalf of the Electronics club, Department of Electrical and Electronics Engineering is Organized a Two day Demo & Hands on Training Programme on **"Prototype PCB Design Machine" by SCIENTECH technologies Pvt.Ltd. and NVIS Technologies Pvt.Ltd.** from **11.07.2018 to 12.07.2018**.
- On behalf of the Electronics club, Department of Electrical and Electronics Engineering Organized Hands on Training Programme on **"Soldering Practice" on 21.07.2018. The resource person for the program was** Mr.Sivasubramanian, Consultant, Electronic hobbies.
- The Department of Electrical and Electronics Engineering Organized a **ISTE approved Guest lecture titled "Power System Technologies and Renewable Energy" by** L.T.Arjun Raja, Assistant Manager- Training, Voltech Engineers Pvt. Ltd, Chennai on **30.07.2018.**
- The Department of Electrical and Electronics Engineering Organized a **Guest lecture titled "Importance of C Programming in Core Placements**" by Mr.Vasudevan, Full Time Research

Scholar, Department of Electrical Engineering, IIT Kharagpur **on 06.07.2018**

- On behalf of EEE association of Department of Electrical and Electronics Engineering conducted, "**AN ADDRESS BY HoD ABOUT SYSTEM AND POLICY OF THE COLLEGE AND DEPARTMENT**" on 5.7.2018.
- The Department of Electrical and Electronics Engineering Organized an Orientation Program on "AUTOCAD" on 17.07.2018 by Practical Technologies, Madurai.

ACHIEVEMENTS BY FACULTY MEMBERS

- **Mr.S.Rajeshbabu AP/EEE has published a paper "**Assessment and mitigation of power quality events using a DVR **" Journal of Cluster computing /Springer** in **March 2018.**
- **Dr.D.Prince Winston, ASP/EEE** has published a paper "**Experimental investigation on Peltier based hybrid PV/T active solar still for enhancing the overall performance**." Journal of Energy Conversion and Management - SCI Journal in June, 2018.
- **Dr.S.Kalyani , Professor & HoD/EEE** has published a paper " **Usage Based Power Flow for Transmission Line Cost Estimation in Bilateral Power Market using Power Flow Tracing Principle** " Journal of Electrical Engineering - SCI Journal in June, 2018.
- **Dr. J. Jeslin Drusila Nesamalar., AP/EEE** has published a paper "**Optimizing Renewable based Generations in AC/DC Microgrid system using Hybrid Nelder-Mead–Cuckoo Search Algorithm**" *Journal of Engineering* **- SCI Journal** in **June, 2018.**
- **Mr. S. Rajesh Babu., AP/EEE** has published a paper "**Speed Control on AC Induction Motor using PWM Controlled Voltage Source Inverter**" International Journal of Pure and Applied Mathematics - **SCI Journal** in **June, 2018.**
- **Dr. S. Kalyani, Professor & HoD/EEE and Dr. D. Prince Winston, ASP/EEE** filed Patent for their work **"Power enhancement in solar pv systems by coconut coir and waste polyethylene bags"** from Intellectual Property, India, Government of India in May 2018. Patent No: 201841019064 A F24J 2/00
- **Dr.S.Kalyani , Professor & HoD/EEE and Dr.D.Prince Winston, ASP/EEE** filed Patent for their work **"A Novel method for early detection of Power quality disturbances using Arduino"** from Intellectual Property , India,

Government of India in May 2018. Patent No: 201841019063 A G01N 33/00

- **Dr.S.Kalyani , Professor & HoD/EEE and Dr.D.Prince Winston, ASP/EEE** filed Patent for their work **"Couple matching and current injection based PV circuit for partially shaded PV systems"** from Intellectual Property , India, Government of India in May 2018. Patent No: 201841019073 A H01S 5/00
- **Dr.D.Prince Winston, ASP/EEE and Dr.K.Muthulakshmi, ASP/EEE** filed Patent for their work **"Reduced leg voltage mismatch method for temporary or permanent faulted PV systems"** from Intellectual Property, India, Government of India in May 2018. Patent No: 201841019065 A F24J 2/00
- **Dr.D.Prince Winston, ASP/EEE received Consultancy Project work** on **"Design & Development of Electric Vehicle for Cops Feeding in Autoconer Section of Spinning Mills"** from Dharmarathina Textile (P) Ltd Aruppukottai worth of Rs 75000/-

GUEST LECTURE DELIVERED/INTERNS ATTENDED BY FACULTY MEMBER

- **Mr.D.Mariappan AP/EEE** delivered a guest lecture on **Basic Electrical and Electronics Engineering** at KLN College of Engineering, Madurai on 07.04.2018.
- **Mrs.M.Rajagomathi AP/EEE** attended a faculty development program on **NLP master Practitioner program (Module-I Redesign your life)** conducted by **Neo way Academy** from 07.04.2018 to12.04.2018.
- **Mrs.N.Amuthu Priya AP/EEE** attended a faculty development program on **Role of Virtual instrumentation in power quality issues using LAB VIEW** from 19.04.2018 to 21.04.2018 at Mepco Schlenk Engineering College Sivakasi.
- **Ms. A. Preejith Irudhiya Ronisha**, **AP/EEE** attended a Faculty development program on 23.04.2018, KLN College of Engineering, Madurai.
- **Ms. G. Saranya Devi, AP/EEE & Ms. P. Aukalya, AP/EEE** attended a Two day Faculty Development Program on **"Research scope – Smart Grid"** at Mepco Schlenk Engineering College Sivakasi.
- **Dr.S.Kalyani,HoD/EEE** delivered a guest lecture on **"Stability Analysis"** at Anna university Sponsored One week FDP on Power System Analysis held at Anna University Regional Campus, Madurai.

- **Mrs.M.Rajagomathi AP/EEE** delivered a guest lecture on **"Sound in mind in a sound in body"** at SFR College for Women, Sivakasi on 19.06.2018.
- **Mrs. C. Nagadevi, AP/EEE** has got selected as **Summer Faculty Research Fellow** at **Indian Institute of Technology, Delhi** for the period of 6 Weeks during June-July 2018.
- **Mr.A.Thenkani, AP/EEE and Mr.B.Guru Karthik Babu, AP/EEE** has attended AICTE – ISTE Sponsored Induction / Refresher Programme On "Pedagogical Initiatives in Outcome Based Education" 18th June 2018 – 23rd June 2018 at Kamaraj College of Engineering & Technology.
- **Dr.S.Kalyani, Prof & HoD/EEE**, has attended Department Advisory Board (DAB) meeting as an Academic Expert at Sethu Institute of Technology, Kariapatti.
- **Mrs.M.Rajagomathi, AP/EEE** has attended a One week Development program on **" Masterful Communication"** at Neoway Academy, Bangalore from 07/07/2018 to 12/07/2018

STUDENTS' INDUSTRIAL EXPOSURE

- **Mr.Aravind Bhaskar.P.V** of IV EEE has attended one month internship at Kalsalingam University, Krishnan Kovil with a stipend of Rs-5000/- during 4th -30th June 2018
- **Mr.A.Manikanda Gokul and Ajith Kumar.A** of IV EEE has attended one month internship at VOC Port Trust, Tuticorin under **Tamilnadu Energy Development Agency (TEDA)** during 4th - 30th June 2018
- **Mr.M.Udhayapraksh** of IV EEE has attended one month internship at United Electronics, Bangalore during 4th -30th June 2018.
- **Ms.D.V.Poornima** of IV EEE has attended one month internship at Optithought, Chennai during 4th June to 2nd July 2018.

STUDENTS' ACHIEVEMENTS

- **Ms. G.NANDHINI of 2014-2018 Batch has shown their amazing talents and is selected for ISTE chapter Best student award TN section.** The award was presented during inaugural function of 17th ISTE TN Section Annual convention for Engineering College Students, held on 10-

04-2018 at Tagore Engineering College, Chennai 600127.

- 11 Project Batch students presented paper in International Journals, 9 Project Batch students presented paper in International Conferences and 21 project batch students presented paper in National Conferences.

- **Mr.B.Arun of IV EEE** was shortlisted among 22481 candidates for "**HACKATHON 5.0**" final during 25.07.18 to 28.07.18 at Government Polytechnic College, Bikaner, Rajasthan.

- **Mr.P.V.Aravind Bhaskar of IV EEE** has won **second prize of Rs.5000 cash** in SS12 competition held at Kalasalingam University. Also he got selected for grand finale in Colombo, Srilanka to be held in 7th & 8th September, 2018.

- **Mr. K. Sundareswar** of IV EEE has donated 22 plant saplings to Gardening club on his birthday 27-07-2018. This would be a great contribution in inspiring other students.

Chief Editor:

Dr. S. Kalyani, Prof& Head
Dept of EEE

Editor:

Ms. G. Saranya Devi, AP/EEE
Ms. P. Aukalya, AP/EEE

Co - Editors:

Ms. R. Amreetha - IV EEE B
Mr. B. Arun – IV EEE B
Mr. A. Manikanda Gokul – IV EEE A
Ms. T. Nandhini – IV EEE A