# REDEEM

**JANUARY - 2016** 

**Quarterly Newsletter** 

**ISSUE - 15** 

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SSN COLLEGE OF ENGINEERING

#### From HoD's Desk...

Department of Electrical and Electronics Engineering strives to achieve excellence in teaching, research and development activities along with professional societies such as ISTE, IEEE Power Electronics Society and IEEE Control Systems Society. Dr. R. Seyezhai is involved in the process of setting up a Technical Business Incubator in our college. On behalf of our department, Mr. Pandikumar is coordinating the activities of Innovation center. Dr. V. Rajini, Professor is appointed as the nodal officer for the college for the National Ranking Framework. During this period we have obtained approval and letter of acquisition from IEEE for conducting third International Conference on Electrical Energy Systems. The Department is doing well in handling and implementing many sponsored projects and publishing in reputed journals. Our progress in research in the specialization of Energy and Materials is periodically monitored by Dean-Research and external experts.

We have achieved 92% placement with a large number of students in core industries. Danfoss Ltd. has selected two students in ME (PED) for internship with stipend. We congratulate Mr. Aashish Ghosh of final year for authoring a book titled "The End Takes All". This book is a collection of stories that describe the lives of people we may simply pass by. Fifteen of our students are actively involved in sports and four of them are selected to represent Anna University. I wish to thank and appreciatiate all the faculty members and the students who have contributed to the progress of our Department.

| Index                |   | Research Progress    | 7  |
|----------------------|---|----------------------|----|
| Preface              | 2 | Guest Lectures       | 8  |
| Journal Publications | 3 | Reviews              | 8  |
| Conferences          | 5 | Meetings             | 8  |
| Workshop             | 5 | IEEE Day Celebration | 9  |
| Grants and Fundina   | 6 | Seminars Organized   | 10 |
| Accolades            | 7 | The end takes all    | 10 |
|                      |   | Money, well spent!   | 11 |
|                      |   | Alumni Talk          | 12 |

#### Preface

appy New Year to all the readers. Every individual wants peace of mind. But it is hard to find a person who can say that he has attained such a state of mental equilibrium as will allow him to live a life of tranguillity. Peace of mind is a distant dream for all of us. The reason is that people hanker after ideal peace, that is, pure peace—a peace that is free from all kinds of non-peace items. But this kind of absolute peace is not in nature's storehouse. Let us take the analogy of the rose. A rose is a very beautiful flower, but every stem has its thorns. Indeed, thorns are an integral part of the rose plant. Thorns serve as security guards for the flower. So flowers have to be accompanied by thorns. There must be hard thorns along with soft flowers-that is, there must be non-peace items along with peaceful items. A peaceful mind is a very precious aspect of human nature and it too needs safety to maintain its sublime quality.

Psychology says that an untroubled mind very soon becomes stagnant. It loses its creativity. For this reason, nature always leads people into challenging situations. It is a non-peace item which acts as a challenge for the mind. This guarantees that the creativity of a peaceful mind never comes to an end. A creative mind is always alive. It is a common phenomenon that one who is born in affluence and has a problem-free life, very soon finds his mind becoming dull, while the one, who is born into a life of problems and hardship, has an active mind. Such a person develops creative thinking and his intellectual development continues unhindered. The human mind needs constant challenges. In the environment of challenge, it continues to grow till it becomes a supermind. On the other hand, in an environment where there is no challenge, the human mind becomes like a stunted plant and gradually, it shrivels away into a state of underdevelopment.

Peace is not a ready-made item. It is a self-managed item. One should be intelligent enough to develop one's mind along positive lines so that one may deal effectively with unwanted situations. A peaceful mind is only the other name of a positive mind. It is not ease, but effort, not facility but difficulty that makes a man. It is a fact that ease and facility are constant obstacles to intellectual development, while effort and difficulties are like stepping stones to the sharpening of the intellect. Success is in the effort but not in the result. Character is built on turbulences of life. It is not about how you behave in comfort and conveniences but it is about how you behave in challenging and hard circumstances.

"Boats are safe in the harbour, but that is not it is made for"

#### JOURNAL PUBLICATIONS



Dr.R.Seyezhai (ASP/EEE), Ms.D.Umarani (AP/EEE) published a paper titled "Total Power Control for Quasi Z-Source Inverter based Grid Tie Single Phase Photovoltaic System" in Journal of Applied Sciences Research, Volume 11, Issue 14, pp 59-66, September 2015. [Anna University-Annexure II].

Dr. Ashwin Kumar Sahoo, Prof/EEE, published a paper titled "Modeling and Simulation of Superconducting Magnetic Energy Storage Systems" in International Journal of Power Electronics and Drive System (IJPEDS) Vol. 6, No. 3, September 2015, pp. 524-537, ISSN: 2088-8694 (Annexure – II)

M. S. Anandhi (II Year PG Student) and Dr. R. Ramaprabha (Asso. Prof.) published a paper titled, "Modelling of Multi-Stacked Voltage Equalizer for Photovoltaic Array under Partial Shaded Conditions" in International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (IJAREEIE), (ISSN: 2320 – 3765) ISSN (Online): 2278 – 8875, Vol. 4, No. 10, pp. 8059-8067, Oct 2015 (DOI: 10.15662/IJAREEIE.2015.0410002).

D.Umarani, AP/EEE and Dr.R.Seyezhai, ASSP/EEE, published a paper titled "Total Power Control for Quasi Z-Source Inverter Based Grid Tie Single Phase Photovoltaic System" in Journal Of Applied Sciences Research 11(14), September 2015, pages 59-66, Annx.-II

Dr. R.Seyezhai, ASSP/EEE Mounica Ganta, Pallamreddy Nirupa and Thimmadi Akshitha (passed out UG Batch) published a paper titled "Dynamic Analysis of Interleaved Boost Converter for Fuel Cell Applications", Journal of Engineering and Interdisciplinary Research: 2015, 2 (1):1-9, ISSN No: 2349-378X

Dr.R.Seyezhai, ASSP/EEE and P.Vaishnavi, (Passed out M.E.PED) published a paper titled "Simulation and Performance Analysis of a Novel Seven-Level inverter with DC-DC Converter for Photovoltaic System" in International Journal of Engineering and Applied Sciences (IJEAS) ISSN: 2394-3661, Volume-2, Issue-8, August 2015.pp.66-71.

Vommi Nithin, P.Siva Priya, Dr. R.Seyezhai, K.Vigneshwar and N.Siva Sumanth (passed out UG Students) published a paper titled, "Design and Implementation of a Bridgeless Interleaved Boost Converter for Plug- in Hybrid Electric Vehicles" in Journal of Engineering And Technology Research, 2015, 3 (5):1-11.

Dr.R.Seyezhai, ASSP/EEE A.Archana, K.Arthi, J.Bhavani & M.Deepa (Passed out UG Students), published a paper titled "Performance Analysis of Switched Inductor Quasi Z-source Inverter for Photovoltaic Applications" in Journal of Engineering And Technology Research, 2015, 3 (5):22-31.

S Dharani (passed out UG Student) and Dr.R.Seyezhai published a paper titled "Performance investigation of asymmetric multilevel inverter with reduced switch count for fuel cells", International Journal on Electrical & Computer Engineering ,Volume 4, Number 2, June 2015, pp.43-55. This project was funded by SSN Management.

Dr.R.Seyezhai and M.UmaMaheswari (AP/EEE, RMD Engineering College) published a paper titled, "Simulation of a bi-directional dc-dc converter for PV applications" in International Journal on Electrical & Computer Engineering, Volume 4, Number 2, June 2015, pp.31-42.

K. N. Dinesh Babu, Dr. R. Ramaprabha, Dr. V. Rajini and V. Nagarajan, published a paper titled, "A Novel Solution to Restricted Earth Fault Low Impedance Relay Mal operation", in International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, World Academy of Science, Engineering and Technology Publishers, (ISSN: 2010-376X, E-ISSN: 2010-3778), Vol. 9, No.8, pp. 809-814, August 2015. SJR Impact factor 0.13. (DOI: http://scholar.waset.org/1999.5/10002664

N. Subramanian, P. Prasanth, R. Srinivasan, R. R. Subhesh (passed out UG Students) and Dr. R. Seyezhai, published

a paper titled "Analysis and Experimentation of Soft Switched Interleaved Boost Converter for Photovoltaic Applications" in IJE TRANSACTIONS A: Basics Vol. 28, No. 10 (October 2015). (scopus indexed).

S Dharani (Passed out PG Student) & Dr.R.Seyezhai, published a paper titled "Analysis And Implementation of FPGA Control Of Asymmetric Multilevel Inverter For Fuel Cell Applications" in International Journal of Advances in Materials Science and Engineering Vol.4, No.4, October 2015. This work was funded by SSN Management under Students Internally funded project.

M.Vageesh, R. Rahul (III Yr.EEE, B), Dr.R.Seyezhai & Yash Oza, published a paper titled "Design, Analysis and Implementation of Tapped Inductor Boost Converter for Photovoltaic Applications" in International Journal of Scientific Engineering and Applied Science (IJSEAS) Volume-1, Issue-8,November 2015, ISSN: 2395-3470.This work was funded by SSN Management under Students Internally funded project.

D.Umarani & Dr.R.Seyezhai, published a paper titled "A Comparative study of Cascaded Z-source and Quasi Z-source Multilevel inverter for photovoltaic applications" in Proceedings of Mechanical Engineering Series 01, July-August 2015.

S.Krishnaveni AP/EEE, Dr.V.Rajini Prof/EEE, Rajes Rengarajan published a paper titled "Development of PEF Source in Nanosecond Range for Food Sterilization", in Journal of Electrical System, vol 11(4), 2015, pp; 407-419, ISSN; 11125209 (Annexure II),SJR factor 0.17.

Dr.R.Deepalaxmi (Asso.Prof/EEE) and Dr.V.Rajini (Prof/EEE) published a paper titled "Performance Evaluation of Electron Beam Irradiated SIR-EPDM Blends" in "IEEE Transactions on Dielectrics and Insulation" Vol .No-22, Issue no-6, Page no-3366-3375;Impact factor-1.278; ISSN-1070 9878;Annexure-I,Thomson reuter indexed, December 2015.

M.Shanthi (Research Scholar) and Dr. R.Seyezhai ASSP/EEE published a paper titled, "A Comparative Analysis of Bridgeless Power Factor Correction (Pfc) Ac-Dc Converter Topologies For Battery Charging Applications, MAGNT" in Research Report, Vol.3 (8), PP. 210-222, ISSN. 1444-8939, (Indexed in Thomson Reuters).

R. Seyezhai ASSP/EEE, VommiNithin, P. Siva Priya, K.Vigneshwar and Nagineni Siva Sumanth (passed out UG Students), presented a paper titled, "Design and Implementation of a Bridgeless Zeta Converter for Power Factor Correction in Hybrid Electric Vehicles MAGNT" in Research Report, Vol.3 (7), PP: 24-34, 2015, (ISSN. 1444-8939) Indexed in Thomson Reuters.

Dr.R.Deepalaxmi ASSP/EEE, Desigan.V, Dineshkumar.S, Ishwarya.V and Jayabjharathi.K (Passed out BE/EEE students) published a paper titled "PAPER ID : 150101630-Performance Analysis of Resonant Converter Using LLC Topologies" in International Journal For Science And Advance Research In Technology IJSART Volume 1, Issue 12, December 2015. ISSN [ONLINE] : 2395-1052

S. Malathy AP/EEE and Dr. R. Ramaprabha (Assoc. Prof.) published a paper titled, "A New Multilevel Inverter Topology with Reduced Number of Switches for Photovoltaic Systems" in Australian Journal of Basic and Applied Sciences (ISSN: 1991-8178), Vol. 9, No. 33, pp. 78-83, 2015. (AU Annexure 2, Scopus indexed, SJR Impact factor - 0.15)

S. Malathy (AP) and Dr. R. Ramaprabha (Assoc. Prof.) published a paper titled "A virtual study on the effects of partial shading on the performance of photovoltaic array" in Australian Journal of Basic and Applied Sciences (ISSN: 1991-8178), Vol. 9, No. 33, pp. 92-97, 2015. (AU Annexure 2, Scopus indexed, SJR Impact factor - 0.15)

Dr. R. Ramaprabha (Assoc. Prof.) and M. Venmathi (FT Research Scholar) published a paper titled, "A systematic approach to the optimal sizing of 500 W stand-alone Photovoltaic System using Multi-port Converter " in Australian Journal of Basic and Applied Sciences (ISSN: 1991-8178), Vol. 9, No. 33, pp. 98-103, 2015. (AU Annexure 2, Scopus indexed, SJR Impact factor - 0.15)

Dr. R. Ramaprabha (Assoc. Prof.) and S. Rithika (PG student) presented a paper titled "Design and Implementation of Photovoltaic Based Islanded Microgrid with Inverter Control" in Australian Journal of Basic and Applied Sciences (ISSN: 1991-8178), Vol. 9, No. 33, pp. 104-109, 2015. (AU Annexure 2, Scopus indexed, SJR Impact factor - 0.15)

### CONFERENCES

Dr. Ashwin Kumar Sahoo Prof/EEE, K. P. Abhitharan, A. Kalaivani and T. J. Karthik presented a paper titled "Feasibility Study of Microgrid Installation in an Educational Institution with Grid Uncertainty" in 4th International Conference on Eco-friendly Computing and Communication Systems(Elsevier conference)-ICECCS-2015, 7-8 December 2015, organized by NIT –Kurukshetra.

Dr U.Shajith Ali, ASSP/EEE participated and presented a paper titled "Z-source DC-DC Converter with Fuzzy Logic MPPT Control for Photovoltaic Applications", in 5th International Conference on Advances in Energy Research (ICAER-2015) at IIT Bombay, Mumbai.

Dr.R.Seyezhai/ASP/EEE and D.Umarani/AP/EEE presented a paper titled "Modeling and Control of Quasi Z-Source Cascaded H-Bridge Multilevel Inverter for Grid Connected Photovoltaic systems" in ICAER 2015 - The 5th international conference on Advances in Engineering Research at IIT Bombay, Mumbai, Powai.

Dr.R.Seyezhai, ASSP/EEE and Mr.A.Bharathi Sankar(full-time research scholar) presented a paper titled,"Performance Analysis of Multilevel Inverter for BLDC Drive", in the International Conference on Electrical, Electronics, Instrumentation and Communication Engineering at Karpagam College of Engineering, Coimbatore.

Dr. R. Ramaprabha (Assoc. Prof.) and M. Venmathi (FT Research Scholar) presented a paper titled "A systematic approach to the optimal sizing of 500 W stand-alone Photovoltaic System using Multi-port Converter "in International Conference on Advances in Science, Management and Engineering (ICASME-15) organized by International Organization of Scientific Research and Development, pp. 76-83, December 26, 2015 at Hotel Benzz Park, Chennai - Presented by Dr. R. Ramaprabha - Received Best Presentation Award

S. Malathy AP/EEE and Dr. R. Ramaprabha (Assoc. Prof.) presented a paper titled, "A virtual study on the effects of partial shading on the performance of photovoltaic array", International Conference on Advances in Science, Management and Engineering (ICASME-15) organized by International Organization of Scientific Research and Development, pp. 69-75, December 26, 2015 at Hotel Benzz Park, Chennai.- This work is supported by SSN-Internal Project funding - Presented by S. Malathy

S. Malathy AP/EEE and Dr. R. Ramaprabha (Assoc. Prof.) presented a paper titled, "A New Multilevel Inverter Topology with Reduced Number of Switches for Photovoltaic Systems", International Conference on Advances in Science, Management and Engineering (ICASME-15) organized by International Organization of Scientific Research and Development, pp. 63-68, December 26, 2015 at Hotel Benzz Park, Chennai.- This work is supported by SSN-Internal Project funding - Presented by S. Malathy.

Ms. Alagu Dheeraj AP/EEE and Dr.V Rajini Prof/EEE presented paper on "Novel Efficient Core Resetting Techniques for Isolated Forward Converter" at National Conference on Recent Trends in Power Engineering, IIT Madras, Chennai.

#### WORKSHOP

Dr. Ashwin Kumar Sahoo, Prof/EEE, attended the one day national workshop on "Internet of Things", organized by ECE Dept., SSNCE on 9th October 2015.

Alaghu dheeraj AP/EEE participated in one day workshop on "Author Workshop", organized byAnna University – Springer India, at Anna University, Chennai

Dr.V.Rajini Prof/EEE attended a winter internship programme on Nano Science at Ramakrishna engg college, Coimbatore.

Dr.R.Seyezhai, ASSP/EEE attended the two days Programme on "Capacity Building Programme on Business Incubation" held at PSG-STEP, PSG College of Technology, Coimbatore in association with Entrepreneurship Development Institute, Chennai, Government of Tamilnadu.

## **GRANTS AND FUNDING**

The proposal titled, "Isolated active clamp forward DC-DC converters for microprocessor" was sanctioned for internal funding. Amount: 3.7 lakhs. PI: Ms.AlaguDheeraj, Co PI: Dr.V.Rajini

The following students projects submitted have been sanctioned internal funding:

1. B.Sakthi priya, R. Shivapriya, A. Sumithra (IV year), "New intelligent semiconductor Transformer with unidirectional power flow capability", Supervisor: Dr.V.Rajini

2. V.MahaLakshmi, (II year ME), "Modular Boost and multilevel buck converter for hybrid battery energy storage systems", Supervisor: Dr.V.Rajini

3. R. Santhana Poongodi (II year ME), "Energy Management for standalone power generation systems", Supervisor: Dr.V.Rajini

T. Nivedhitha, S. Sahithya & G. Vaishnavi (IV yr.EEE, B) under the guidance of Dr.R.Seyezhai received the funding from SSN Management for the project, "Investigation of high gain switched capacitor dc-dc converter for PV Application" under Student's scheme.

K. Deepak, R. Gowtham, T. Hariharan and S. Manimaran (IV yr. EEE, A) under the guidance of Dr.R.Seyezhai received the funding from SSN Management for the final year project under Student's scheme.

P.A. Priya, G. Shabbeer Basha and S.V. Sujith Niranjan (II yr.EEE, B) under the guidance of DR.R.Seyezhai received the funding from SSN Management for the project, "Design and implementation of sic based quadratic boost converter for solar powered hb-led lighting system" under Student's scheme.

S. Dhivya (II Year M.E., PED) under the guidance of Dr.R.Seyezhai received the funding from SSN Management for the project, " Design and control of pv module integrated converter based on quasi z-source inverter", under Student's scheme.

R. Amala Niruba (II Year M.E., PED) under the guidance of Dr.R.Seyezhai received the funding from SSN Management for the project, "Simulation and implementation of hybrid boosting converter for photovoltaic applications", under Student's scheme.

Thiyagarajan V. AP/EEE Received Internally funded Student project: Title: Tesla turbine powered solar refrigerator for students: V. Gokul kumar, B. Karthikeyan, E. Naveen kumar, A. Nikilaesh for Amount: Rs. 30,000/-

Thiyagarajan V. AP/EEE Received Internally funded Student project: Title: Preparation of different quantum dots (qds) and tio2 nanostructures and their application in quantum dot sensitized solar cells (QDSSC). Students: K. G. Venkatesh Babu, R. Sudharsan. Amount: Rs. 25000

Thiyagarajan V. AP/EEE Received Internally funded Student project: Title: Fabrication of dye sensitized solar cells (dssc) using different tio2 nanostructures for improved performance. Students: S. Arun Sairam, M. Nitesh kumar. Amount: Rs. 25000

Thiyagarajan V. AP/EEE Received External project: "Smart street light system" Company: Horizon Engineering Solutions, Waterloo, Canada. Amount: CAD 2100

Thiyagarajan V. AP/EEE Received Internally funded Student project: Title: Electrical, optical, structural and thermal properties of high quality unidirectional 4-nitrophenol derivative single crystals for shg device applications. Students: M. Pachaiyappan, C. Rajavarman. Amount: Rs. 25000

The project titled "Design and development of long duration impulse current generator" has been selected under "Internal Funding Projects for Students" scheme of SSN Institutions. Sanctioned amount: Rs 22,000. Project students : C.Preethi, V.Preethi, R.Priyadharshini (Final yr EEE students). Project supervisor: Dr.R.Deepalaxmi, Asso.Prof/EEE

The following 4 student projects have been sanctioned (SSN student project funding) under the guidance of Dr. R. Ramaprabha (Assoc. Prof.) for the year 2015-2016:

#### Redeem | January '16 | Issue #15

Global Maximum Power Tracking of PV Array using Fractional-Order Extreme Seeking Method by M. Nivetha (II year M.E.PED) – Rs. 22,000/-

Development of Low-Cost Solar Array Simulator using an Off-The-Shelf DC Power Supply by R. Supriya and V. Aishwhariya (III Year EEE Students) – Rs. 14,000/-

Design of a Multicolour Pen Using Sunlight by P.Arjun and B.V.Arjun (II Year EEE Students) - Rs. 19,000/-

Design of Smart Sockets for Domestic DC Distribution with Renewable Energy Generation by N. Raja Nadhini G. Priyadharshini and S. Shunmugapriya (II Year EEE Students) – Rs. 17,000/-

#### Accolades

Dr. R. Ramaprabha (Asso.Prof.) has been nominated for Member for Technical Review Committee for 2nd International Conference on "Electrical Electronics Instrumentation and Computer Communication" (E2IC2 2015) on 18th and 19th December 2015 at Karpagam College of Engineering, Coimbatore.

Dr.R.Seyezhai has been nominated for the phase-1 ASDF Global awards-2015 for the Best Academic Researcher award. She was interviewed by the experts of ASDF members at SSNCE.

Dr.V.Rajini is nominated as the nodal officer for National Institutional Ranking Framework, MHRD

Dr. R. Ramaprabha (Assoc. Prof.) served as a Chair session in an International Conference on Advances in Science, Management and Engineering (ICASME-15) organized by International Organization of Scientific Research and Development, December 26, 2015 at Hotel Benzz Park, Chennai.

Dr.R.Deepalaxmi (ASSP/EEE) has been recognized as Supervisor under the Faculty of Electrical Engineering by Centre For Research, Anna University on December 28, 2015

Dr.R.Seyezhai, ASSP/EEE has been nominated as editorial board member for the International Journal for Research in Science and Advanced Technologies.

## **Research Progress**

Faculty members of EEE department presented their progress to SSNRC.

Dr.V.Rajini, Prof /EEE Submitted CSR proposal to Dean, Research, SSN

Dr.V.Rajini, Prof /EEE Submitted WOS A proposal to DST for full time research scholar Jeyapradha R

Dr.V.Rajini, Prof /EEE had a discussion with the president, SSNI about the CSR proposal.

Dr.V.Rajini made a presentation on her two completed internally funded projects

R. Supriya (III EEE) and Gadapalli Sai Krishna Dileep (IV EEE) submitted proposal for IEEE Student funded Project Scheme (IEEESPF) under the guidance of Dr. R. Ramaprabha (Asso.Prof.) for the year 2015-2016 and the proposal is shortlisted for final approval.

J.Jeyapradha, full time research scholar of Dr.V.Rajini Prof/EEE, has been selected as JRF with effect from 1-11-2015

Dr. R. Ramaprabha (Assoc. Prof.) evaluated a Ph.D. Thesis of Mr. Aranzazu Delgado Martin about PV systems and MPPT control systems in the University of Huelva, Spain as an External Expert Member - report sent on 08/12/2015

Ms. T. Porselvi successfully defended her thesis in the Ph.D. Public Viva-voce Examination, under the supervision of Dr. Ranganath Muthu, Prof/EEE.

#### **Guest Lectures**

Dr M Deveshraj ASSP/EEE went as a Guest Speaker for Anna University sponsored FDTP on "FACTS" in the topic of "TCSC and its applications" at Saveetha Engineering College, Thandalam, Chennai.

#### Reviews

Dr. R. Ramaprabha reviewed a paper for the International Journal Renewable and Sustainable Energy Reviews (Elseiver)

Dr. R. Ramaprabha (Assoc. Prof.) reviewed papers for an International journal on IET Renewable Power Generation; International Journal of Photo energy, Hindawi Publications and IEEE Transactions on Power Electronics.

Dr.V.Rajini, Prof /EEE reviewed a paper titled, "The System of Fast Charging Station for Electric Vehicles with Minimal Impact on the Electrical Grid" submitted to Advances in Electrical and Electronics Engg. after the first revision.

Dr Mrunal Deshpande ASSP/EEE reviewed a paper for International Journal of Electromagnetics and Applications" from Scientific & Academic Publishing, USA.

Dr. R. Ramaprabha (Assoc. Prof.) reviewed paper for an International journal – Springer Plus.

Dr. R. Ramaprabha (Assoc. Prof.) reviewed a paper for an International journal on IET Renewable Power Generation

Dr. R. Ramaprabha (Assoc. Prof.) reviewed 5 papers for an International Conference on Electrical Energy Systems (ICEES 2016)

Dr. Ashwin Kumar Sahoo Prof/EEE, has reviewed 3 research papers for 3rd IEEE International Conference on Electrical Energy Systems (ICEES-2016) to be held at SSNCE.

Dr. Ashwin Kumar Sahoo Prof/EEE, has reviewed a research paper for "International Journal of Power Electronics and Drives (IJPEDS)".

#### Meetings

Dr.R.Seyezhai, ASSP/EEE attended the Yokogawa Users Meet Conference held at Hotel Raj Park, Chennai.

Dr Mrunal Deshpande ASSP/EEE attended the Yokogawa Users Meet Conference held at Hotel Raj Park, Chennai.

Dr. R. Ramaprabha (Asso. Prof.) attended FDP on Application of Intelligent Controllers in renewable Energy System at Jeppiaar Engineering College on Oct 30, 2015 conducted by IEEE Madras Section.

Ms.S.Krishnaveni, AP participated in Faculty Development program on Application of Intelligent Controllers in renewable Energy System at Jeppiaar Engineering college - Oct 30, 2015 conducted by IEEE Madras Section.

Ranganath Muthu Prof/EEE attended the Elsevier Connect Seminar at Courtyard Chennai.

#### Others

IEEE Day was celebrated at SSN College of Engineering on Oct 13, 2015 at 02.00 p.m. The day was jointly organized by SSN-IEEE student branch, IEEE Engineering in Medicine and Biology Society (EMBS) Student Branch Chapter (SSNCE) and IEEE Microwave Theory and Techniques Society (MTT-S). Around 300 UG/PG students attended this celebration. Dr. T. Thyagarajan, Chairman, IEEE Control System Society, Madras Section has been invited as Guest Speaker. Dr. R. Ramaprabha (Assoc. Prof./EEE), Student Branch Counselor organized the event.

Dr.V.Rajini conducted mock accreditation for EEE, ECE and CSE departments of Anand Institute of Higher Technology

#### **IEEE Day Celebration**



STB60551- Sri SivasubramaniyaNadar College of Engineering

Reported by Dr. R. Ramaprabha, SSN-IEEE Student branch counselor

Date: October 13, 2015

IEEE Day was celebrated at SSN College of Engineering on Oct 13, 2015 at 02.00 p.m. The day was jointly organized by SSN-IEEE student branch, IEEE Engineering in Medicine and Biology Society (EMBS) Student Branch Chapter (SSNCE) and IEEE Microwave Theory and Techniques Society (MTT-S). Around 300 UG/PG students attended this celebration.

Dr. T. Thyagarajan, Chairman, IEEE Control System Society, Madras Section has been invited as Guest Speaker. He highlighted the importance of joining in IEEE professional society in this occasion. He motivated the students to apply projects, importance in publishing papers in IEEE conferences/journals, IEEE student awards, etc. There was an interesting interactive session with IEEE students. The event ended with group photo session.

Few glimpses are:



#### **Research seminars organized**

Department research seminar on the topic "Control of parallel buck Converter" was taken by Mr.S.Vinod on 18/10/2015

Department research seminar on the topic "Reliability improvement of transformers with HTS conductors using G10 FRP" was taken by Mr.S.Vijesh on 15/12/2015

#### THE END TAKES ALL

The End Takes All is a book written by Aashish Ghosh of IV year EEE-A



#### About the book

There are so many people living around us. We sometimes hear of people who have died, we know nothing about them. And how could we?

The End Takes All is a collection of stories that describe the lives of people we may simply pass by. The stories are based on specific events in people's lives: doctors, craftsmen, artists, detectives, friends, children, sons and assassins.

The book portrays how people react to their own ends or to the ends of people around them either by passively watching and contemplating it or through the moral battles they are involved in, with their own demons as they play a role in people's deaths.

- See more at: https://notionpress.com/read/the-end-takes-all#learnmore

#### About the author

Aashish Ghosh spends most of his time thinking about life and other philosophical matters, and he has often been accused of thinking too much. Aashish loves painting and writing and at the same time enjoys reading and watching Japanese anime. When he is not searching for answers to life's difficult questions or expressing his emotions on canvas, he indulges himself in his love for electronics-related projects.

In a moment of epiphany, Aashish realized the irreversibility of death and how it wins every battle against mankind. The idea for this book came when he started thinking about how death finally conquers everything – every emotion triggered in man and every quest that defines him. He wrote these stories during his time as an undergraduate student.

- See more at: https://notionpress.com/read/the-end-takes-all#learnmore

#### Money well spent!

The profit obtained from Eupraxia 2015 was utilized for providing book, notebooks and stationery for students of flood affected schools.

The IV year EEE students went to the following schools and distributed the materials:

1. Government schools at Jafferkhanpet, Ashok Nagar

2. Government school at Perungudi - both intermission and primary school

3. Schools in Kandanchavadi - A Government primary school consisting of 250 students and a nearby school consisting of 120 students.

## History of EM (Part 4)

1831:

Multiply in the discovery may have been anticipated by the work of Francesco Zantedeschi. His breakthrough came when he wrapped two insulated coils of wire around a massive iron ring, bolted to a chair, and found that upon passing a current through one coil, a momentary electric current was induced in the other coil. He then found that if he moved a magnet through a loop of wire, or vice versa, an electric current also flowed in the wire. He then used this principle to construct the electric dynamo, the first electric power generator. He proposed that electromagnetic forces extended into the empty space around the conductor, but did not complete that work. Faraday's concept of lines of flux emanating from charged bodies and magnets provided a way to visualize electric and magnetic fields. That mental model was crucial to the successful development of electromechanical devices which were to dominate the 19th century. His demonstrations that a changing magnetic field produces an electric field, mathematically modeled by Faraday's law of induction, would subsequently become one of Maxwell's equations. These consequently evolved into the generalization of field theory.

1832:

Baron Pavel L'vovitch Schilling (Paul Schilling) creates the first electromagnetic telegraph, consisting of a singleneedle system in which a code was used to indicate the characters. Only months later, Göttingen professors Carl Friedrich Gauss and Wilhelm Weber constructed a telegraph that was working two years before Schilling could put his into practice. Schilling demonstrated the long-distance transmission of signals between two different rooms of his apartment and was the first to put into practice a binary system of signal transmission.

1833:

einrich Lenz states Lenz's law: if an increasing (or decreasing) magnetic flux induces an electromotive force (EMF), the resulting current will oppose a further increase (or decrease) in magnetic flux, i.e., that an induced current in a closed conducting loop will appear in such a direction that it opposes the change that produced it. Lenz's law is one consequence of the principle of conservation of energy. If a magnet moves towards a closed loop, then the induced current in the loop creates a field that exerts a force opposing the motion of the magnet. Lenz's law can be derived from Faraday's law of induction by noting the negative sign on the right side of the equation. He also independently discovered Joule's law in 1842; to honor his efforts, Russian physicists refer to it as the "Joule-Lenz law."

Lenz's law has tremendous importance. Well, there is hardly any Electrical Machines book that doesn't talk about that!

## ALUMNI TALK

#### -Adwaith

Getting into a good masters course at a renowned institution influences the confidence of a student more than anything. Especially when grades were pretty average. As John Nash puts it "every problem has more than one solution", it certainly seemed true in my case. Thanks to my professors at SSN, with their teaching, a few publications and conferences compensated for the 'so called high GPA'. On getting the admit and on meeting people, all the accolades made me feel good about doing 'something' productive in the last four years. And of course, the thought that I would be going to one of the top universities did make me feel good about myself. The feeling that 'after the next one and a half years, my life is set' sort of got into me! But, what would take to get through the next one and a half years in a productive manner, is something that certainly hasn't been all that comforting! Blah blah blah... basically, my CGPA wasn't great and to bail myself out, wrote a couple of papers, got an admit from a decent place, and I was excited about it!

On reaching here, one of the most intimidating things which I came across was when many of the other students introduced themselves to be from universities like MIT, Princeton and Stanford. Initially the thought of competing against such students did imbibe a sense of fear as well as a feeling of being a misfit. However, my view towards 'competition' changed gradually over time. It was no more about grades or who makes the toppers list or for the matter of fact, who took the best/toughest courses. What tends to matter the most was the knowledge possessed. At the end of the day, its about application of that knowledge. After switching so many schools, getting used to this environment and culture wasn't much of a deal but I did observe that it made some of them reserved and contain themselves. But as a fact, CMU is populated the most by the Chinese and the Indians. You could expect to bump into one of them as the every third person you meet. When classes commenced, I was advised by seniors and cousins that you should never make a team with people from the same country, else professionalism would be lost. I did not realize that, and since there was a natural tendency to first interact with those from a similar background, my group members in a particular course were Indians too. Well, no offense meant, but with time and with the course load building up gradually for everyone, there were often texts exchanged reading "I have some work now, can you manage it this week please". Being a group project and knowing them personally, you couldn't really deny but to put in that extra time in compensating for the absence of another. This became a habit and eventually there was a scapegoat in the team who would end up doing all the work. I would probably give the same suggestion to all those coming over for their masters or have plans of doing it down the line, "never team up with people from the same place". More often than not, it will not end too well! Sleep! Ah yes, something which has been void in life for the past five months! So, after a month of classes, everyone would be like 'there was a decent amount of work, I got to sleep for almost 8 hours everyday!'. And then, after two months, 'dude, this month is killing man, I probably slept for just six hours on most days'. The final month of the semester, and you would end up meeting someone who's like 'I'm so happy dude, I got to sleep for 5 whole hours last night!' and overjoyed about it, not to mention that he'll soon be unhappy getting back to a 4 hour sleep cycle! And gradually, you would find yourself to be making night-outs with liters of coffee and red bull by your side to keep you going all night long. There have been several weeks where you would find yourself not budging away from the laptop even for a minute, from 11 am to the next day morning 8 am, sleeping for the next 3 hours and repeating the same till the submission is done. Initially, I used to find such a routine terrifying and felt 'there is no way I'm going to be doing this', but with friends around and working in company of peers will definitely keep you going. More than it being a strenuous regime, you would have those little moments of fun and laughter with friends around, that half hour coffee break or that half hour counter strike on 42 inch screens at 4 in the morning!

Amidst all this ruckus, being independent is probably one of the biggest tests when you do your masters. To be able to manage the household as well the coursework is something which all of us would become an expert at towards the end of the course. I've never done so much planning in my entire life till now! Right from the time you wake up (after the 4 hours of sleep you get ;)) till you shut your eyes, 'what should I do for breakfast', 'should I eat at home or on campus', 'how much can I spend today', etc, etc. Although after a point of time, you lose track and end up skipping meals or eating out. On top of this, promptly paying monthly bills certainly does not let you spend time off studies in peace! Despite all this work, having some time off from such a schedule at least once a week (probably the maximum you can afford) is definitely mandatory. Whether it is catching up on sleep, or hitting the bar, or exercising by playing a sport or gymming, is definitely mandatory! This reminds me of a friend here who would not

do anything at all on Sundays, no matter what. Even if there were a hundred submissions that day, he would just not do it. It seemed ridiculous at first, but in the end seemed logical. That period of rest always feels blissful but at the end of it, the thought of getting back to routine is like a kid crying to go back to school! I sometimes used to wonder why it is taking so much time for us to get work done here. There used to be thoughts like 'did I never have work in my undergrad? Why was I so laid back?'. Four years of undergrad at SSN seemed like heaven and jobless when compared to the situation right now! Thinking of it, when the professor issued an assignment in undergrad, most cases than not, either a few 'sincere' ones in class (which never fails to go extinct each year) would complete it ahead of the deadline and others would follow suit using his answers, or there would be books by the god of students, Bakshi, to pick out answers from! And within a couple of hours, our assignments would be done and we would get scores for it as well. But, plagiarism is treated as a serious offense here. Even if a single word was copied from a source, and when found guilty, the student receives a fail grade instantaneously and is debarred from the course for the semester. When the level of assignments are of high difficulty, it certainly demands that the student learn and acquires a thorough understanding of the subject before proceeding with the assignment. From a period where the professors and parents used to push us to complete our work (it happened even till the end of undergrad), and we being reluctant about it, knowing that we would eventually get our marks, its come down to a point where you realize that 'if you don't work, your life is going to be screwed up!'. It could probably be the peer pressure around us as well as increase in our maturity levels. With people around you being thoroughly involved into their work, you would definitely feel lagging back if you didn't. Also, when you know that if you don't do well in your course, you're probably not going get a job, in turn messing up your visa status in the country and eventually heading back home after literally dumping all that cash. I've often heard that doing masters in USA will get you settled. After spending the last eight months here, I can assert that life here is not a bed of roses. In reality, it is just the opportunity and the exposure that is provided, but utilizing it to the maximum is the student's responsibility. By now, I presume, after reading everything above, pursuing masters looks tedious and dreadful and killing. But at the end of the day, one has to put in that effort at some point in his life. The sooner the better! The earlier you get trained to handle such pressure, the more seamless would be the transition in a new environment. At the end of the day, one can put up with such schedules only if he/she likes what they do. Being forced, will just not help! There have been many days when I have thought if this is what I wanted to do all my life, and had I worked for a couple of years, irrespective of the industry, I would've had a better idea on what I would've loved to do the most. But certainly no regrets, as even if there was 1% of it, I wouldn't have been able to survive it so long. There is always the thought of 'will this help me, why am I stressing myself out so much', but in the end, who would not want to get a job that you like to be doing, especially when you're getting paid almost seventy lakhs a year and getting a global recognition! Therefore, unless you're 100% sure of what you want to be doing for the next 40 years, do not rush yourself into things just because you will be losing a couple of years early in your career. Best of luck to all my friends in SSN, and enjoy the rest of the stay there as those four years were something that I wish would come again even now!

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