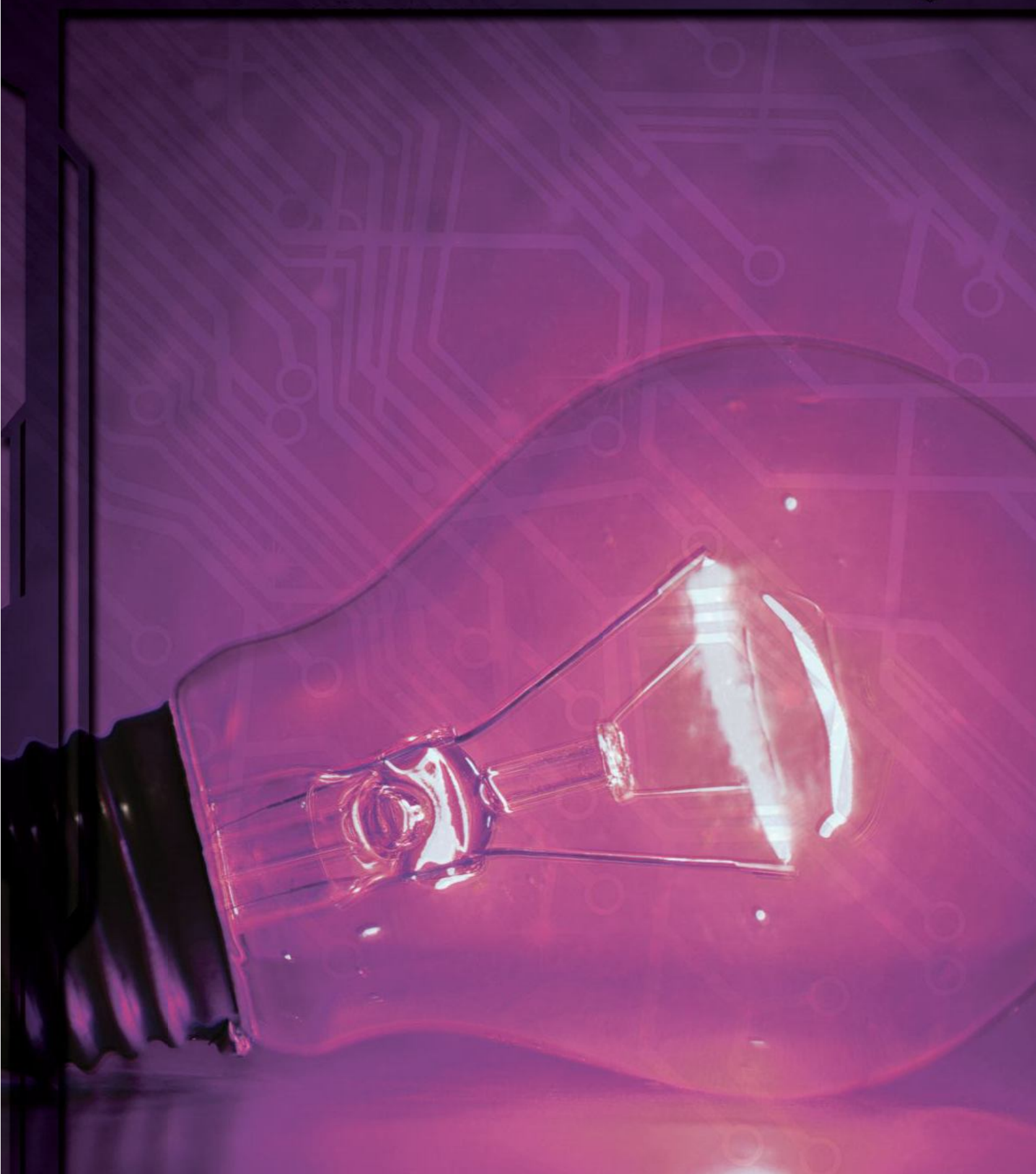




Department of Electrical and Electronics Engineering  
National Institute of Technology Tiruchirappalli



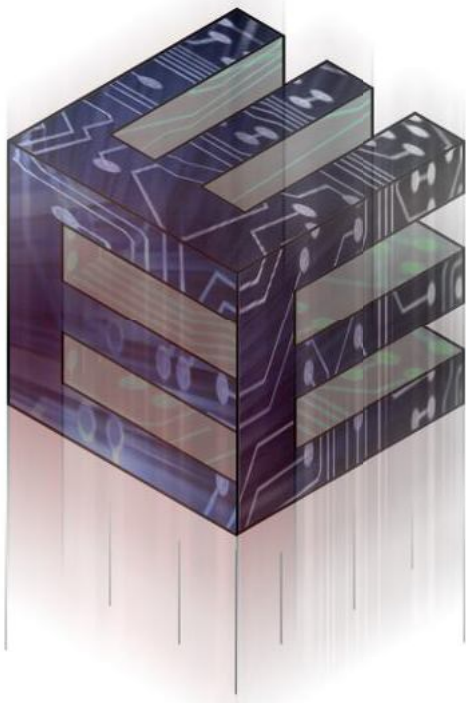
# EEE NEWSLETTER



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# EDITORIAL

Currently the Department of Electrical and Electronics Engineering is focussing on further enhancing the curriculum with new electives in two major streams, namely, Electrical Power and Electronics & Computer Science; upgradation of laboratories over an estimated cost of Rs. 1.5 crores and preparing for the accreditation of the UG and PG programmes by NBA in the new format.

The department has also strengthened its interaction with industries. To quote a few, (i) experts from Schneider Electric have started to deliver

technical lecture series to our students and they have also donated electronics/power electronics components for encouraging the students to carry out hardware projects and (ii) by the way of recognising the talent of our students, Texas Instruments have entered into a MoA with the department through their co-partners. I am happy to mention that, our student R. Kishore Kumar (2008-2012 batch) has donated electronic components and has initiated activities under the aegis of the ARM University Program with our department. With the upgraded laboratory facilities and industry involvement, the quality of research in EEE department has reached greater heights as reflected in the publications by our faculty members and research scholars in international journals of repute.



Professor Sarath B Tennakoon from Staffordshire University, United Kingdom visited our department during January 2013 and delivered very informative technical lectures in the emerging area of application of “power electronics in wind energy”. This year our students have shown greater interest in participating in technical competitions conducted by other organizations such as the TI Analog Design contest, ANVESHAN 2012 an analog design contest by Analog Devices, First-Tech challenges robotic competition and Freescale racing cup. Some of the other notable achievements of our students are the prestigious DAAD german fellowships, MITACS fellowships, OPJEMS scholarship and securing near 100 % placement. I am also happy to note that more number of our final year students have appeared for this year GATE 2013. The first issue of EEE newsletter released during the ‘CURRENTS’ 2012 presented the details of our major achievements in all spheres of our activities from its inception. With unstinted efforts of all the members of the editorial board, I hope this newsletter will also provide a wide coverage and earn the appreciation of all its readers.

(N. Kumaresan)

Head of the Department, EEE

## EDITORIAL BOARD

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# VISION & MISSION OF THE DEPARTMENT

## VISION:

To be a centre of excellence in Electrical Energy Systems

## MISSION:

- Empowering students and professionals with state-of-art knowledge and Technological skills.
- Enabling Industries to adopt effective solutions in Energy areas through research and consultancy.
- Evolving appropriate sustainable technologies for rural needs.

## PROGRAMME EDUCATIONAL OBJECTIVES OF B.TECH PROGRAMME:

The main objective of the B.Tech. Programme in Electrical and Electronics Engineering is to prepare students for either one or more of the following:

1. Graduate study
2. Research and development work in government or industrial laboratories
3. Work in power sector and public sector undertakings
4. Work in electronic circuit design and fabrication industries
5. Work in IT and ITES industries

## PROGRAMME OUTCOMES OBJECTIVES OF B.TECH PROGRAMME:

The students who have undergone the programme will

- a) have an ability to apply knowledge of mathematics and science in electrical engineering problem.
- b) have an ability to identify the problems and provide solutions by designing and conducting experiments, interpreting and analyzing data, and reporting the results.
- c) have comprehensive understanding of the entire range of electronic/Power electronic devices available.
- d) be able to control and convert power for industrial applications from their knowledge and exposure on different configurations into which the devices are connected.
- e) have in-depth knowledge in transmission and distribution systems, power system analysis and protection systems, which will be a shot in the arm of the students who wish to pursue a career in the power sector.
- f) have a good knowledge in data structures, object oriented programming, operating systems and computer architecture.
- g) have an ability to use the techniques & skills on modern Electrical & Electronics engineering software tools such as MATLAB, PSCAD, PSIM, PROTEUS VSM, ETAP, MiPOWER, OrCAD etc., for engineering practice.
- h) have a sound knowledge in the areas of analog and digital Electronics with the added state-of art knowledge on VLSI systems.
- i) be able to take up projects related to electrical and electronic hardware implementations.
- j) be able to develop application programs related to modelling, simulation, instrumentation and control of engineering systems.



k) will have an ability to participate as members of engineering and science laboratory teams, as well as members of multidisciplinary design teams.

l) will demonstrate the ability to choose and apply appropriate resource management technique/s so as to optimally utilize the resources available.

m) will be proficient in English language in both verbal and written forms which will enable them to compete with graduates of international engineering institutions.

n) will have the confidence to apply engineering solutions in global and societal contexts.

o) should be capable of self-education and clearly understand the value of achieving perfection in their professional endeavours.

p) Will understand and uphold professional, ethical and social responsibilities.

q) Will be able to design and develop renewable energy systems for cauterize to clean energy and sustainable technologies.

#### **COURSE OUTCOMES OBJECTIVES OF B.TECH PROGRAMME:**

The students will

1. Apply fundamentals of electrical and electronics engineering principles in real time practical applications.
2. Apply mathematics and science for solving / troubleshooting electrical and electronics engineering problems.
3. Develop confidence in handling real time systems and get involved in team effectively.
4. Develop working models/mini projects (wherever possible) for understanding the concepts.
5. Simulate the electrical system/ develop the software package for studying the electrical systems.
6. Develop the habit of Self learning and preparing for competitive examinations.

Further each course of the programme will have will have specific objectives/course outcome(s) which are listed in the syllabi.



# SHORT COURSES

## SHORT COURSES BY STUDENTS

### MATLAB

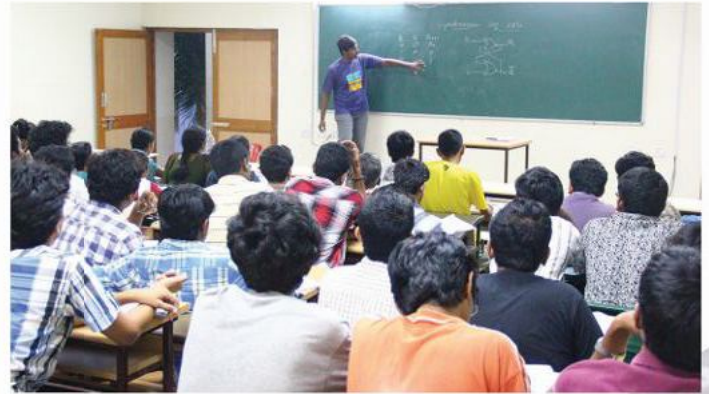
This year's MATLAB course was conducted on September 18<sup>th</sup> of 2012 for the second years, who were newbies to any technical term related to EEE. Lectures on basic MATLAB functions and its use in machines, Power Systems and Power Electronic simulations were conducted by the various faculty members of our department. The students were very happy to learn the new software and a course on PSpice(a software to simulate electronic circuits) was requested. Around 60 students attended the course.



MATLAB course

### DIGITAL ELECTRONICS AND VLSI

The final year students of our department conducted a week long course on the basics of Digital Electronics and VLSI for the pre-final year students as part of the Campus Placement Course. Around 70 students attended the course and the proceeds from the course were donated as part of the Joy of Giving Week. The response was overwhelming and there were requests for courses on Electrical Machines and Analog Electronics.



Digital Electronics course

## SHORT COURSES BY FACULTY

### WE ECS - SPVECS

In recent times, the demand for electrical power is rapidly increasing both for industrial and domestic applications. The dependent on the conventional sources has to be necessarily reduced since such sources are depleting fast and pollute the environment. So, the exploitation of renewable energy sources for the generation of electrical power is being emphasized, either to augment the grid power or for supplying certain isolated loads. Among the various renewable energy sources, wind and solar electric energy conversion systems have been found to be viable in contributing significant amount of electric power.



Wind Energy Electric Conversion Systems (WE ECS) - 4 - 5, January 2013



Keeping the importance of these renewable energy sources, two short term courses, namely, Wind Energy Electric Conversion Systems –WEECS (during 4<sup>th</sup>– 5<sup>th</sup> January 2013) and Solar PV Electric Conversion Systems – SPVECS (during 18<sup>th</sup> – 19<sup>th</sup> January 2013) have been conducted by the department to create an awareness among the research scholars and faculty members on the recent trends and developments in these emerging areas. Dr. N. Ammasai Gounden and Dr. N. Kumaresan have coordinated these two courses.



SPVECS Workshop Participants

## HIGH VOLTAGE DC TRANSMISSION

A two day course on “High Voltage DC Transmission” was organized and conducted by Ms.M.Venkata Kirthiga on the 17<sup>th</sup> and 18<sup>th</sup> August, 2012. The course saw participation from about 60 students and faculty from various colleges and deemed universities. Day 1 was handled by Ms.M.Venkata Kirthiga and on the second day, a lecture was presented by Mr.P.Raja on “Protection Issues in HVDC”, followed by a simulation demonstration by Mr.Rajasekharan, a M.Tech student.

## MSP430 MICROCONTROLLER BASED SYSTEM DESIGN

A two day course on “MSP430 Microcontroller Based System Design” was organized and conducted by Mrs.S.Mageshwari and Dr.S.Moorthi on the 23<sup>rd</sup> and 24<sup>th</sup> of February, 2013. The course was aimed at educating the faculty and post graduates of the department about the Texas Instruments based microcontroller and associated coding techniques which is extensively used in the design of control circuits for Power Electronics and Power Systems. Dr.S.Moorthi and Mrs.S.Mageshwari gave an introduction to Design of Embedded Systems. Following the above lecture, Amutha Bharathi, a final year student, provided an insight to the MSP430 microcontroller. Anish.N.K, Kowshick.B, Amutha Bharathi, R.Vignesh and Manikandan Ananth handled the various sessions and assisted them with hands-on experience in the lab sessions. Certificates were distributed by Dr. MP Selvan. The participants were provided with individual take-away kits inclusive of an MSP 430 Launchpad.



MSP430 Workshop Participants



# EEE ASSOCIATION INAUGURATION

The EEE Association (EEEE) Inauguration is one of the main events that has been instrumental in improving the interaction among students and faculty members of the Electrical and Electronics Engineering Department. This year's edition, held on 28<sup>th</sup> August, 2012 at EEE Auditorium and was graced by our distinguished alumnus Mr. S. Jayaraman (CEO, SAJAS Electricals). Dr.S.Sundarrajan (The Director,NITT) and Prof. N.Kumaresan (Head of the EEE Dept) presided over the proceedings.



Newsletter (Vol 1, Issue 2) Release



Mr. S. Jayaraman addressing the gathering

The chief guest, Mr. S . Jayaraman, delivered an address filled with nostalgia as he recounted his fruitful years at the yesteryear REC-Trichy and the recognition it earned him. He urged the students to fall in love with their subject and pursue a career in it. Perseverance is a virtue he holds highly. The Director, true to his style, turned a hurdle into an opportunity for the students by asking them to come up with a solution for the power crisis. The Chief guests were kind enough to receive the first copies of this year's EEE Newsletter(Vol 1 Issue 2) which was released on the occasion. The session came to a close with an interaction between the students, council members and the Chief guests.



Office Bearers (2012-2013) of EEE Association



# INDUSTRY INTERACTION

## SCHNEIDER



Students at a Lecture by Schneider Electric

Schneider Electric along with the EEEA conducted a 3-part technical lecture series on various fields in Electrical and Electronics engineering. As part of this lecture series, various experts from Schneider Electric came down to NIT Trichy to enlighten our students. The first of the three lectures was on “Invention to Innovation- Need of the Day for Energy Efficiency and a Greener Planet” by Mr. Thyagarajan Venkatachalam, Senior Director, India R&D Center, the second was on “Embedded Systems and System Architecture” by Mr. Veerendra Vasamsetty, Innovation Manager and the third lecture was on “Power Electronic Converters in UPS Systems” by Dr. Rajesh Ghosh, US-R&D Division. There was great enthusiasm among the students during the lectures.



Students at a Lecture by Schneider Electric

## DANFOSS

Dr. Paramasivam, a lead scientist with Danfoss India, a company that leads in the production of components and solutions for refrigeration, air conditioning, control of electric motors and heating of houses and buildings – as well as solutions for renewable energy such as solar power and heat pumps, visited our department on 8<sup>th</sup> October, 2012 for discussion regarding power electronic drives. Faculty members of the department presented the research conducted by them in the field of Power Electronics to the experts during the discussion. The experts presented information about the latest technology in electric drives and mentioned the salient features of their products. The scientists also visited labs in the department to completely understand the research work undertaken.



Dr.N.Kumeresan handing over a memento to Mr. Veerendra Vasamsetty after the lecture



# CONFERENCE AND JOURNAL PUBLICATIONS BY OUR FACULTY AND STUDENTS

## INTERNATIONAL JOURNALS

1. P. Raja, N. Kumaresan and M. Subbiah, "A Closed Loop System for Inverter Assisted Wind Driven Induction Generators for Supplying Isolated Loads" International Review of Automatic Control (Theory and Applications), Vol.5, No.4, July 2012.
2. B.Indu Rani, G.Saravana Ilango, C.Nagamani, "A power flow management system for Photovoltaic systems feeding DC/AC loads" - Elsevier Renewable Energy, July 2012.
3. Arungalai Vendan, S; Manoharan, S; Buvanashakaran, G, Nagamani, C, "Strength Assessment Using Destructive Testing On MIAB Welded Alloy Steel Tubes And Subsequent Techno-Economical Evaluation", Available online 20 January 2012 Journal of Manufacturing Processes, August 2012.
4. Karthikeyan, A, Nagamani. C, G. Saravana Ilango, "A Versatile Rotor Position Computation Algorithm for the Power Control of a Grid-Connected Doubly Fed Induction Generator," IEEE Transactions on energy conversion, Vol: 27 Issue: 3,Sep 2012,pp.697-706.
5. S.Sudha, N.Ammasai gounden,"An aggregate marker for bandwidth fairness in Diffserv", Journal of Network and Computer Applications (Elsevier),Vol 35, Issue 6, pp. 1973–1978, November 2012.
6. G. Saravana Ilango, A. Deenadayalan, Chintala Dhananjai, "Modified sliding mode observer for wide speed range operation of brushless DC motor," Frontiers of Electrical and Electronic Engineering, Higher Education Press and Springer-Verlag Berlin Heidelberg 2012.
7. Krithiga.S, Binu Ben Jose.D.R, Raghavendra Upadhya.H , Ammasai Gounden.N, "Grid tied PV array using Power Electronic Converters with Fuzzy Logic Controller for MPPT", Australian Journal of Electrical and Electronics Engineering , Vol.9, No.4, 2012.
8. Vasumathi B., S. Moorthi, "Improved neural network algorithms with time-varying Widrow-Hoff learning rule",Australian Journal of Electrical and Electronics Engineering , Vol.9, No. 4, 2012.
9. M.M. Rajan Singaravel, S. Arul Daniel, " Studies on battery storage requirement of PV fed wind-driven induction generators ", Energy Conversion and Management (Elsevier)67 (2013) 34–43 ,December 2012
10. S.Senthil Kumar, N. Kumaresan, N. Ammasai Gounden, Namani Rakesh, "Analysis and control of wind-driven self-excited induction generators connected to the grid through power converters", Frontiers in Energy, Vol.6, issue.4, December 2012, pp.403–412.
11. S.Senthil Kumar, N.Kumaresan, N. Rakesh, K.Vijayakumar and M. Subbiah, "Wind-driven SEIGs for supplying isolated loads employing DSP based power electronic controllers", International journal of Wind Engineering , December 2012.
12. M. Venkata Kirthiga, S. Arul Daniel and S. Gurunathan, " A Methodology for Transforming an Existing Distribution Network Into a Sustainable Autonomous Micro-Grid" , IEEE Transations on Sustainable Energy, Vol. 4, No. 1, January 2013.



13. B.Indu Rani, G.Saravana Ilango, and C.Nagamani, "Enhanced Power Generation from PV Array under Partial Shading Conditions by Shade Dispersion Using Su Do Ku Configuration," IEEE Transactions on Sustainable Energy, Vol. 4 ,Issue. 1, 2013.
14. M. Jaya Bharata Reddy, Rama Krishnan Raghupathy, K.P. Venkatesh and D.K. Mohanta, "Power quality analysis using Discrete Orthogonal S-transform (DOST) ", International Journal of Digital Signal Processing (Elsevier Publication), Vol.23, Issue 2, pp. 616-626, March 2013.
15. Binu Ben Jose.D.R and N. Ammasaigounden, "A Unified Power Electronic Controller for Wind Driven Grid Connected Wcund Rotor Induction Generator using Line Commutated Inverter", Frontiers in Energy , March 2013.
16. B.Indu Rani, M.Srikanth, G.Saravana Ilango, and C.Nagamani, "An active islanding detection technique for current controlled inverter," Elsevier Renewable Energy, Vol 51, 2013, pp. 189-196.
17. M.Jaya Bharata Reddy, D.Venkata Rajesh and D.K.Mohanta,"Robust Transmission Line Fault Classification Using Wavelet Multiresolution Analysis", Computers and Electrical Engineering (Elsevier publication), accepted for publication.
18. Alarmel Mangai, M. and Ammasai Gounden, N., "Subspace-Based Clustering and Retrieval of 3-D objects", Computers and Electrical Engineering, Elsevier, accepted for publication.
19. Alarmel Mangai, N. Ammasai Gounden, "PCA-Based Learning for Preceding Vehicle Recognition", IET Intelligent Transport Systems , accepted for publication.
20. B.Indu Rani, G.Saravana Ilango, and C.Nagamani, "Control Strategy for power flow management in a PV system supplying DC loads ", accepted for publication in IEEE Transactions on Industrial Electronics.
21. M. Jaya Bharata Reddy, Karthik Chandra B and D. K. Mohanta, "Condition Monitoring of 11 kV Distribution System Insulators Incorporating Complex Imagery Using Combined DOST-SVM Approach", IEEE Transactions on Dielectrics and Electrical Insulation, accepted for publication.
22. K.Vijayakumar, N. Kumaresan, and N. Ammasaigounden, "Operation of inverter assisted wind-driven slip-ring induction generator for stand-alone power supplies", IET Electric Power Applications , accepted for publication.



# TIME FOR REMINISCENCE...





# SOME GLORIOUS MOMENTS...





## INTERNATIONAL CONFERENCES

1. Deenadayalan. A , G.Saravana Ilango.; "Position sensorless sliding mode observer with sigmoid function for Brushless DC motor," International Conference on Advances in Power Conversion and Energy Technologies (APCET), pp.1-6, 2<sup>nd</sup>-4<sup>th</sup> Aug 2012.
2. Anish NK, Deepak Krishnan, S. Moorthi, Selvan MP, "FPGA Based Microstepping Scheme for Stepper Motor in Space-Based Solar Power Systems", Seventh International Conference on Industrial and Information Systems, IEEE-ICIIS 2012, IIT Madras, Chennai, INDIA, 6<sup>th</sup>-9<sup>th</sup> August 2012.
3. Namani Rakesh, N. Kumaresan, S. Senthil Kumar and M. Subbiah, "Major methods of steady-state analysis of three-phase SEIGs-A summary", Proceedings of the 3rd IEEE International Conference on Sustainable Energy Technologies (IEEE ICSET 2012), 24<sup>th</sup> – 27<sup>th</sup> September 2012, Kathmandu, Nepal, pp. 415-419.
4. Gauri Shankar Singh, Devesh Singh, S. Moorthi, "Low power Low Jitter Phase Locked Loop for High Speed Clock Generation", IEEE- PRIMEASIA 2012, December 5<sup>th</sup>-7<sup>th</sup>, 2012.
5. Venkatraman K, T.R. Aashish, Selvan MP, S. Moorthi, "Experimental verification of FPGA Controller Based Series Active Filter", IEEE- PRIMEASIA 2012 December 5<sup>th</sup>-7<sup>th</sup>, 2012.
6. Purna Chandra Rao, M. Venkata Kritiga; Optimal Siting and Sizing of Distribution Generators in Microgrids – IEEE INDICON 2012, 7<sup>th</sup> - 9<sup>th</sup> December 2012.
7. Sandeep Rao, Aravind Natarajan, S. Moorthi, Selvan MP, "Real Time Object Tracking in a Video Stream using FPGA", IEEE- INDICON 2012, December 7<sup>th</sup>-9<sup>th</sup>, 2012.
8. Lalit Negi and Selvan, M.P., "Maximum Penetration Ranking based Siting and PSO Assisted Goal Programming based Sizing of DG units in Radial Distribution System", National Power Systems Conference (NPSC 2012), 12<sup>th</sup>- 14<sup>th</sup> December 2012, IIT-BHU, Varanasi, INDIA.
9. Srinath, S., Anu G. Kumar and Selvan, M.P., "Experimental Verification of Unified Power Quality Conditioner with Transformation Less Combined Mode Control", National Power Systems Conference (NPSC 2012), 12<sup>th</sup>-14<sup>th</sup> December, 2012, IIT-BHU, Varanasi, INDIA.
10. Srinath, S., Anu G. Kumar and Selvan, M.P., "Simulation and Experimental Verification of Transformationless Control of Series Active Filter for Mitigating Load Voltage Harmonics", National Power Systems Conference (NPSC 2012), 12<sup>th</sup>-14<sup>th</sup> December, 2012, IIT-BHU, Varanasi, INDIA.
11. Namani Rakesh, N. Kumaresan, S. Senthil Kumar and M. Subbiah, "Performance predetermination of variable speed wind-driven grid-connected SEIGs", Proceedings of the IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2012), 16<sup>th</sup> – 19<sup>th</sup> December 2012, Bangaluru, India.
12. Vinothkumar, K. and Selvan, M.P., "DG Planning Method for Enhancement of Voltage Stability Margin in Distribution System", IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2012), 16<sup>th</sup>-19<sup>th</sup> December, 2012, CPRI Bangalore, INDIA, pp. 1-6.
13. Dinesh .P, Kishore .P, Vivekanandan .B, Moorthi .S , "RFID Based Navigation System for Unmanned material handling vehicles using FPGA" , IEEE Conference on Intelligent systems and signal processing(ISSP 2013) ,1<sup>st</sup> -2<sup>nd</sup> March ,2013 ,GCET , Anand, INDIA.



4. Surendhar, S. , S.Ranjith Kumar and Raja, P. "Assessment and Comparison of Different Neutral Current Compensation Techniques in Three-Phase four-wire Distribution System", 3<sup>rd</sup> IEEE International Symposium on Power Electronics for Distributed Generation Systems (PEDG), 2012, 25<sup>th</sup>-28<sup>th</sup> June 2012, Aalborg, Denmark.

### Students' Experience in International Conferences:

#### Anish NK:



I visited IIT-Madras – IEEE International Conference on Industrial and Information Systems (ICIIS), 2012 to present my paper on "FPGA Based Microstepping Scheme for Stepper Motor in Space-Based Solar Power Systems" was accepted for oral presentation at the conference in "Machines" track. From the moment I got the acceptance notification, I was apprehensive about presenting my research findings to an expert panel fearing criticism. On the other hand, when I reached the presentation hall, I was greeted by few experts who enquired about my paper and we engaged in a discussion about the research findings, which made me feel at ease. After the presentation, the chair of the session appreciated the work and it was a joyous moment. Apart from my presentation, I gained a lot of knowledge and updated myself with the latest research being conducted in various fields of Electrical and Electronics Engineering which was the most significant aspect of attending the conference.

#### Surendhar S:



I presented a paper on "Assessment and Comparison of Different Neutral Current Compensation Techniques in the Three-Phase Four Wire Distribution System" at PEDG 2012, Denmark (3<sup>rd</sup> International Conference on Power Electronics for Distributed Generation Systems). Through this conference, I got a chance to interact with reputed Professors and researchers around the world. Dr.Mehrdad Moallem from Simon Fraser University, Canada is a leading Professor in the field of Control and Power Electronics for Sustainable Energy Systems with whom I had an interesting conversation on current research in Distributed Generation.

#### Vivekanandan B:



I attended an IEEE conference held in Gujarat on Intelligent Systems and Signal Processing to present my paper titled, "RFID based Navigation System for Unmanned Material Handling Vehicles using FPGA". Listening to the keynote speakers was an enriching experience. While the fear of presenting the paper in front of the jury was daunting at first, the thought of attending an international conference helped me overcome it and the presentation went on smoothly. The conference also provided me a platform to interact with other delegates which helped me gain valuable feedback on the project. In addition, attending a conference exposed us to the culture and cuisine of that region which made the whole journey a complete experience.

#### Sree Ramya:



I presented my paper titled "Estimation and performance evaluation of An Induction machine Using Optimisation Techniques" in IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) at IISc Bengaluru which was organised for 3 days by The Central Power Research Institute(CPRI),Bengaluru. It was a great experience presenting in front of a huge audience which was then followed by questioning session. There were many sessions taking place simultaneously in different halls. In the afternoon, I attended a session on FACTS, STATCOM and HVDC.PEDES provided a major forum for the exchange of information among practicing professionals from all over the globe, in the area of Power Electronics, Drives and Energy systems. I also visited several research and testing laboratories in



# ALUMNI INTERACTION

## R Kishore Kumar

Hi all,  
I am R. Kishore Kumar, working at ARM Embedded Technologies Pvt Ltd. I provided ten kits to our electronics lab last year each kit containing a breadboard, a complete set of resistors and capacitors, soft wires and a wire stripper. I am telling this not to boast but rather to emphasise our responsibilities as a student and hoping my juniors will follow suit .A strong wish to do something for the department and create a better scenario for my juniors is what drove me. I would like to avail this opportunity to thank those who helped me. First and foremost, I would like to thank Dr.G.Saravana Ilango who taught our batch Digital Electronics and Power Electronics. His last speech concluded with "Try providing things that are needed (If you want to do something for the department) or try opting for teaching profession (if you want to do something for us)" and it greatly inspired me. I would also like to thank Ms.M.Venkata Kirthiga for her support and suggestions.



R Kishore Kumar



J Naizath

## Naizath J

Naizath J is currently pursuing Masters in Computer Engineering from University of Southern California, Los Angeles. He graduated from our department in 2010. His primary research interests include Computer Architecture, Digital VLSI System Design and HDL based RTL Design. He has published a paper in Australian Journal of Electrical and Electronics Engineering during July 2012, based on the project work he carried out in EEE department, NIT Trichy. He visited the department in September 2012 and interacted with several faculty members and students. He shared many of his ideas on the modification of the curriculum and syllabus for the undergraduate EEE programme.



# CONVOCAATION 2012

The college witnessed one of its most prestigious events – the day for which the students of the college wait for; to get their hard earned degree in hand – The Convocation. The 8<sup>th</sup> convocation of National Institute of Technology, Tiruchirappalli was conducted on the 11th of August, 2012. The event was presided by Mr.B.Prasada Rao, Chairman, BHEL and a total of 1323 degrees were awarded to students of B.Tech, B.Arch, M.Tech, M.Sc, M.C.A and M.B.A, M.S (By Research) and Ph.D programmes.

It was a day of pride for the department of Electrical and Electronics Engineering, as for the first time in history, Sambhav.R.Jain, an undergraduate student belonging to 2008–2012 batch received the esteemed President Medal for being the overall topper among all undergraduate students, with a CGPA of 9.93. He also received the Institute Medal for our department, being the topper of the department (quite obviously :P). Many students received the degree in person, interacted with the faculty of the department and shared a few nostalgic memories of their stay in the college.



Sambhav.R.Jain

K.Devi and R.Karthigaivel, who worked in the field of Power Electronics, received their doctorate degrees. Apart from the above, 86 undergraduate students and 39 postgraduate students, who had worked in the fields of Power Electronics and Power Systems, received their degrees on the day of the convocation.



R.Karthigaivel



K.Devi



# PROJECTS BY STUDENTS OF EEE

## TI ANALOG DESIGN CONTEST

The annual Texas Instrument Analog Design Contest has five teams participating from NIT Tiruchirappalli with three teams from the Electrical and Electronics Engineering department. The teams consist of four third year members each. With increasing concern about the depletion of natural resources such as petrol and diesel and the clamour for renewable energy gaining a lot of momentum, the three teams have taken up projects revolving around solar energy.

The team headed by P.Kishore (Other members : Manikandan Ananth, Sethu Chidambaram, Vivekanandan B) have built a solar powered wheel chair for the differently abled. The strongly socially motivated project is also hybrid in its power supply needs, thus making it versatile.



Solar Powered Wheelchair developed by P.Kishore and Team

The team under P.Dinesh (Other members : Kowshick B, Pankaj Raghav, Ramesh K Govindarajan) have built an intelligent inverter with an aim to bring relief to the power cut hit nation. This device can switch between solar energy and power from the grid to utilize energy effectively.

These two teams have been listed amongst the 23 winners of first phase and will compete in the finals scheduled on April 4<sup>th</sup> – 5<sup>th</sup> at Texas Instruments, Bengaluru.

The third team, consisting of Mandakini PV, Rathna Ramesh, Divya S, Padmapriya P (ECE) have built a mobile solar charger and this team has won a consolation prize.

## ANVESHAN: ANALOG DEVICES

Three final year students - Deepak, Harini and Praneetha are participating in ANVESHAN, a contest organised by Analog Devices. Their project lies in the area of application of analog electronics in bio-medical field.

## SANGAM

Arjun Prasath, Sandeep David, Suryanarayanan and Sachin P Santhosh from the EEE department have won first place in Sangam, the project presentation competition of Pragyan 2013, for their solar charging module to power air conditioners in buses. EEE department (courtesy : Pankaj Raghav and Ramesh K Govindarajan) had won the first prize in Sangam last year for the project on solar powered pump.

## CATERPILLAR FRC

A huge team of 10 students, with seven from the EEE department (Arjun Prasath, Suryanarayanan, Sachin, Valliyapan, Aravind S, Navaneeth Gokul and Rudresh) are busy building a robot for the contest conducted by Caterpillar. The entire kit has been provided by the organisers and the team has to innovate and construct it. Their robot will be pitted against other robots in a game in the finals. There is one other team from the mechanical department that is also participating in the same.

This year a total of six teams are gearing up and providing final touches to their projects. Hopefully the teams are successful in their endeavours and bring laurels to the department.



# OPJEMS SCHOLAR

Character cannot be developed in ease and quiet. Only through experience can the soul be strengthened, ambition inspired, and success achieved, Late O. P. Jindal was one of those few people. He was one who envisioned success not only for himself, but also for those who shared his vision and had the faith to see his dreams transform into India's shining example of corporate excellence. Our constant endeavour is to promote such excellence, and this is our tribute to this great visionary, a statesman, and an entrepreneur par excellence.

OP Jindal Group awards the OP Jindal Engineering and Management Scholarship (OPJEMS) every year in the memory of Late Shri.O.P Jindal. The scholarship is aimed at encouraging and promoting academic and leadership excellence and are be awarded to meritorious students of the leading Engineering and Management institutes in the country.

OP JEMS scholars receive a one time amount of INR 1,25,000 if they belong to the Management stream and INR 65,000 if they are from Engineering stream. Two toppers from each batch from Civil/Mech/Electrical/Metallurgical streams for all 4 years and top 12 students from each batch (any specialization or stream) for all 4 years are shortlisted for the process. Being ranked 2<sup>nd</sup> in my batch, I had the opportunity to take up the 8 minute personality test which constituted the first round of the selection process. I found the test a little confusing initially, as there were questions that seemed entirely different but required similar behaviour (I think those questions were intended to test the behavioral consistency of the candidate). But as I progressed through the test, I got a hang of it and answered the questions to my satisfaction.

I was really excited when I got a call from the O P Jindal group informing me that I have been selected for the 2<sup>nd</sup> round. As a part of this I had a one hour HR interview in Bangalore and here is a gist of it:  
(3 interviewers welcomed me when I entered the interview hall)

**Interviewer 1:** Hello Harini. Good Afternoon. Sorry for making you come all this way during a week day.

**Me:** Good Afternoon Sir! No trouble at all. The pleasure is mine sir. Though I regret missing classes today(I had to miss a lab)

**Interviewer 2:** We are really sorry for it. Let us begin now. Tell us all about you. We don't want anything written in this (they were pointing to my resume)

**Me:** I was expecting this question. I think I spoke about myself for 25 mins. It was a walk down the memory lane for me and I was very absorbed in what I spoke, but I was aware enough not to stare at a particular interviewer when I think(something I usually do). I started with where I was born, how I was as a child, what competitions that I participated when I was in school, my hobbies, my interest in sport, etc.

I would have talked on and on but an interviewer decided to stop me.. :P

**Interviewer 3:** who was just watching me and did not utter a single word till then, asked a question that I found a little tricky. He asked me, "What makes you happy?"

**Me:** I was struck by the bluntness of the question but soon gathered myself to reply thus, "Sir, according to me, happiness is not something I get when I do something. From my childhood, I have made myself in such a manner that I become unhappy when things do not go the way I expect them to, but otherwise I am just happy and pleasant within myself. I may not be bursting with happiness outside, but in the inside, I am always pleasant. And in my life, I value that pleasantness more than anything I get from the world. I always believe that my life should be an expression of my inner happiness and should not be in mere pursuit of happiness, which will turn the process of life very ugly. (I really do not know how I was able to talk all this. But then I realized that I had just answered a question that brought out my unconscious fundamental nature)

**Interviewer 2:** Looking into the future, where do you see yourself in 10 years?

**Me:** I am an ardent fan of electronics. In the next few years, I am planning to join an electronics company, gather sufficient experience and then start one of my own!

**Interviewer 1:** That is wonderful! But Harini, in that case, tell me what your idea of success is. When would you feel that you have succeeded in life?



**Me:** I don't have ambitions to make a lot of money. I have always seen money as an entity created by man to bring some order in society and hence increase human well-being. But today money is raised to a level higher than even god unfortunately. I am not commenting on whether it is good or bad. I just feel it is stupid. If the firm that I establish delivers products that increase the level well-being of each and every human being if not each and every creature in the existence, then I think I will rate myself to be successful in life.

I just feel every one in the world are miserly even in their greed. Greed: I must live well; More greed: My family and I must live well; Even more greed: My community should live well; Even more: My country should live well; and the Peak of greed will be: everyone should live well. I signed off thus: I don't think this greed is the problem. Miserly greed is..

All the interviewers really seemed impressed with what I had told. They bid me goodbye and in a fortnight's time I found that I had been selected for the scholarship!

## **PHD STUDENT SELECTED FOR AWARD**

Dr K Vinoth Kumar, a passed out PhD student of EEE department has been selected among the top 15 candidates (doctoral category) from all over India for the POSOCO Power Systems Award (PPSA 2013) based on his PhD thesis. PPSA 2013 award is conferred by the Power System Operation Corporation (POSOCO) – a subsidiary of Power Grid, in partnership with the Foundation for Innovation and Technology Transfer (FITT), IIT Delhi. This award includes a cash prize of Rs. 75000 along with a certificate.



## INTERN LIST - THIRD YEAR B.TECH

S.No.	Name Of Student	Company
1.	Dinesh P	Texas Instruments
2.	Mandakini PV	Texas Instruments
3.	Suriyanarayanan	Texas Instruments
4.	Abhilash Mahadevan	Qualcomm
5.	Akhilesh Iyer Narayanan	Qualcomm
6.	Vivekanandan B	ITC
7.	Rohini Muthuvelan	P&G
8.	Sachin P Santosh	Tata Steel
9.	Pratyush Pandey	Tata Steel



## CONDOLENCE



## ARUN MATHEW

A true friend and brother, Arun Mathew, you have made us smile and laugh as we have never before. Every moment spent with you is an unforgettable experience. We will miss you, we will remember you, we will keep you in our hearts and minds forever.

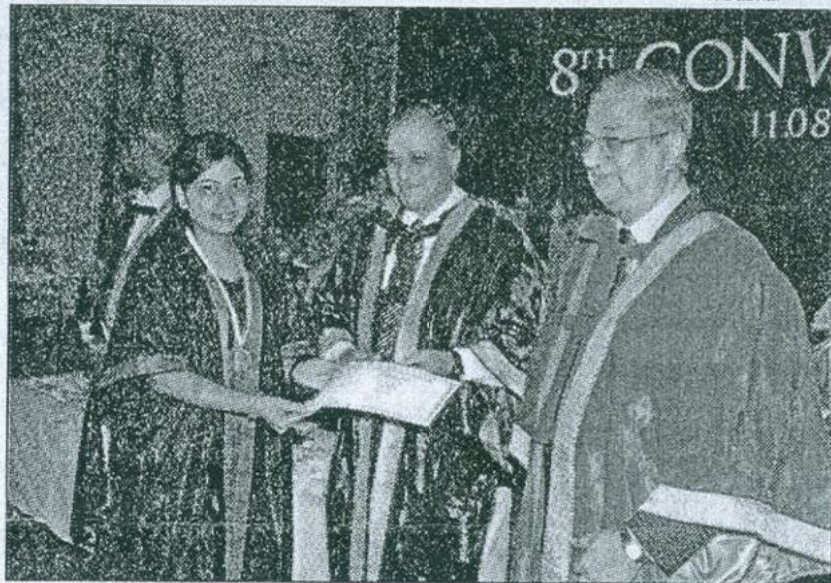




# NIT-T students receive degrees amid jubilation

TIMES NEWS NETWORK

R Baskar



**EFFORTS PAY OFF:** A student at the NIT-T convocation

**Trichy:** The National Institute of Technology (NIT-T), Trichy, received 19 major projects this year from leading funding agencies for a value of Rs 6.26 crore, which is more than the average project value for the last four years, said S Sundarrajan, its director.

He spoke at the eighth convocation of NIT-T held at the institute on Saturday. As many as 1,322 students from various disciplines received their degrees from B Prasada Rao, chairman and managing director of Bharat Heavy Electricals Limited (BHEL) who was the chief guest of the function.

Sundarrajan appreciated the young faculty members of NIT-T for getting most of these projects from the Council for Scientific and Industrial Research, Coir Board, Ministry of Information Technology, Department of Atomic Energy and Defence Research and Development Organisation. The institute is currently carrying out 141 projects with a funding of Rs

34 crore from as many as 25 leading national and international funding agencies. Moreover, the institute has on-going MoUs with 10 leading industrial organizations and 10 reputed universities from India and abroad.

On a long relationship with BHEL, Trichy, he said the MOU with BHEL had been renewed for a further five years with focus of strategic partnership in areas such as development of super-critical boilers. During this year, NIT-T trained

around 500 engineers and managers from BHEL in personality development. The students of NIT-T also got placed in India and abroad with the highest offer of \$ 1,25,000 ever made for any T-school being bagged by NIT-T.

Earlier, Prasada Rao addressed the media saying that as part of industry-oriented research and industry-institute interaction programme, BHEL would spend 2.5 per cent of its total turnover for research and development (R&D).

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# GUEST LECTURES AT CURRENTS '13



*Jeff Samstad, BS in Electrical Engineering, University of Oklahoma, USA, He was part of the team that developed the first low-power Online UPS. Jeff moved to Bangalore to build a new "India for India" team. This team defines (Product Management) & develops (R&D) single-phase UPS "from scratch" specifically for the challenging Indian market. He will be delivering a lecture on "Uninterruptible Power Supplies".*



*Dr. P Murali Krishna, PhD from IIT Bombay, is presently working as a scientist at the Naval Physical and Oceanographic Laboratory (DRDO). He specialises in the areas of Signal Processing, Wireless Communications and Array Processing. He has over 40 papers published in refereed journals and conferences, and is a member of IEEE, SIAM and IETE. He will be speaking on "Channelizer Design for Wireless Transceivers: Think Digital, Act Digital!"*



*Pradeep Deshpande is a seasoned professional with illustrious career of over 22 years in Sales & Recruitment functions. He joined Schneider Electric in 2011 as Head of Recruitment for its India operations & since then, has helped grow the organization strength by 1500+ employees from both campus & lateral hires. He is also responsible for managing the employer branding apart from partner management. He is a Post Graduate in Statistics with specialization in Operations Research (OR) from Hyderabad Central Univer-*