



NATIONAL ENGINEERING COLLEGE

(AN AUTONOMOUS INSTITUTION, AFFILIATED TO ANNA UNIVERSITY, CHENNAI)

K.R.NAGAR, KOVILPATTI - 628 503



EEE

NEWSLETTER

August 2015

Volume No. 3

Issue 3

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Dear Friends,

We are happy to introduce the third issue of *Volume 3 Issue 3 of EEE Newsletter*. “You have to dream before your dreams can come true” says *Dr. A.P.J. Abdul Kalam*. He was an inspiration to millions and now he left us with an aspiration to achieve our dreams. We hope this issue succors your progress.

“To improve is to change, to be perfect is to change often” said Winston Churchill. So we present this issue with new colors to entice (upsurge) your curiosity and new information to hone your knowledge. From this issue we are adding a unique column titled “News To Share” where you will find information and top news of the month. We Hope it would help you be updated on the recent trends.

A professional is not the one who gives importance to profit and authority but the one who is ethical and dedicated is regarded as a professional. Being an engineer is all about innovation, application and motivation. So strive to be an engineer with professionalism.

I thank all those humble hearts who supported the evolution of the newsletter.

“Successful people ask better questions, and as a result, they get better answers”. We would be delighted to hear from you anytime.

Happy reading.....

PranavaKartikeyan. M.S

Final Year, EEE

CONTENTS

Staff Achievements/Activities.....	04
Department Activities.....	05
Implementation of Soft Computing Techniques – (ISCT'15).....	05
EEE Association Activities.....	06
Institute of Engineers (INDIA).....	07
GATE Forum.....	08
Industry Institution Interaction.....	08
Special Interest Group – (SIG).....	09
Social Awareness Cell.....	10
Hot News – Online Source.....	11
Entrepreneurship Development Cell.....	12
Alumni Interaction.....	13
Department Advisory Board Committee.....	14
Technical Article By Staff Members.....	15
Industry Profile.....	19
Time to know our Alumni.....	21
Students Achievements.....	22

STAFF ACTIVITIES/PUBLICATIONS/ACHIEVEMENTS**ACTIVITIES:**

S.No.	Name of the Staff	Events/Guest Lecture	Topic	Date	College
1	Mr.B.Vigneshwaran, Ms.S.Divya, Ms.G.Shunmuga Lakshmi &Mr.K.Kumar, (Assistant Professor)	IEEE CIS sponsored Three Days Workshop	Implementation of Soft Computing Techniques – ISCT'15	05.08.2015 to 07.08.2015	National Engineering College, Kovilpatti.
2	Dr.L.Kalaivani, Asso.Prof(SG)	Guest Lecture/ IEEE CIS sponsored Three Days Workshop	Introduction and Implementation of Genetic Algorithm using MATLAB	05.08.2015 to 07.08.2015	National Engineering College, Kovilpatti.
3	Dr.R.V.Maheswari, Asso.Prof	Guest Lecture/ IEEE CIS sponsored Three Days Workshop	Introduction to MATLAB and Implementation of Support Vector Machine using MATLAB	05.08.2015 to 07.08.2015	National Engineering College, Kovilpatti.



Dr.L.Kalaivani, Asso.Prof(SG), delivered a Guest lecture at ISCT'15.



Dr.R.V.Maheswari, Asso.Prof, delivered a Guest lecture at ISCT'15.

DEPARTMENT ACTIVITIES

IEEE Computational Intelligence Society, Madras Sponsored a three day workshop on

“IMPLEMENTATION OF SOFT COMPUTING TECHNIQUES” ISCT ‘15



Staff Coordinators

Dr.N.Kumarappan, EAC Chair, IEEE CIS Madras Chapter and Prof/EEE, Annamalai University
Dr.M.Willjuice Iruthayarajan, Prof & Head/EEE
Dr.L.Kalaivani, Asso. Prof (SG)/EEE

Staff Co-coordinators

Dr.R.V.Maheswari, Asso. Prof/EEE
Mr.M.Gengaraj, AP/EEE

Department of EEE and IEEE Computational Intelligence Society, Madras chapter have jointly organized a three day workshop on “IMPLEMENTATION OF SOFT COMPUTING TECHNIQUES” ISCT ‘15 during 5th –7th, August 2015. The scope of the workshop is wide to address all major aspects of Soft Computing Implementation Techniques to various Electrical Engineering applications. The function was presided over by ***Dr.Kn.K.S.K.Chockalingam, Director*** and ***Dr.S.Shanmugavel, Principal*** of the College in the presence of ***Dr. M. Willjuice Iruthayarajan, Prof. & Head/EEE and Secretary, IEEE CIS, Madras Chapter***. The function was honored by ***Dr.N.Kumarappan, EAC Chair, IEEE CIS, Madras Chapter and Professor/EEE, Annamalai University, Chidambaram***. Around 35 participants from various institutions have participated and benefitted by this workshop.

The three days sessions were handled by ***Dr.L.Kalaivani, Associate Professor (Senior Grade)/EEE, Dr.R.V.Maheswari, Asso.Prof/EEE, Dr.V.Gomathi, Prof/CSE and Dr.D.Santhi, Asso. Prof/E&I***.

Topics covered in 3 days are

- Introduction to MATLAB Programming
- Introduction and implementation of soft computing techniques using MATLAB toolboxes like Fuzzy Logic, Genetic Algorithm, Neural Network, ANFIS and Support Vector Machine.
- Case Studies: PID Controller Tuning for SISO and MIMO systems, Economic Dispatch Problem, Speed Control of Drives, Medical Analysis, Pattern Recognition on Partial Discharges, etc.

EEE ASSOCIATION ACTIVITIES

BASICS OF MATLAB



In continuation with a workshop held at 04.07.2015. Phase – II, “**BASICS OF MATLAB**” was conducted on 08.08.2015 by **Mr.S.Thirumalai Kumar, AP/EEE** at Research Simulation Lab was organized by EEE Association. Totally 20 participants were utilized this workshop.

BASICS OF ELECTRONICS



EEE Association organized a GATE coaching class for the final year students from 03.08.2015 to 07.08.2015 and 10.08.2015 to 14.08.2015 on 5.20 p.m. to 6.15 p.m. The GATE class are being conducted by **Mr. S. Thirumalai Kumar, AP/EEE** on the topics of Basics of Digital Logical Circuits were discussed in detail. The subjects are being taught in depth and then the problems related to those topics were being solved. The classes were really helpful and simply comprehensible.

JAVA PROGRAMMING CLASS



EEE Association organized a JAVA Programming class for the final year students from 03.08.2015 to 07.08.2015 and 10.08.2015 to 14.08.2015 on 5.20 p.m. to 6.15 p.m. The JAVA classes were being conducted by **Ms.M.Sathya, final EEE student**. The main objective of the class is to bring out the basic ideas about JAVA programming, Code Debugging

HUNT THE ANSWER

- A. Anto Sharon Prakash &
R.UmaMaheswaran, Final/EEE

INTERACTIVE QUESTION

1. Construct a circuit to get 10V DC from 230V AC.
2. The Islamic State of Iraq and Syria has recently blown out an ancient temple at Syria, beheading an antiquist cum historian.
 - a. What is the temple and the significance of it?
 - b. Who is the beheaded historian?

Mail ID: neceenewsletter@gmail.com

INSTITUTE OF ENGINEERS (INDIA) – WEEK’15

Staff Coordinators : *Mr.M.P.E.Rajamani, AP(SG)/EEE*
Mr.M.Gengaraj, AP/EEE

The Institute of Engineers (INDIA) Students chapter of our department has organized and celebrated “IE (I)-week 2K15” From 29.7.15 to 31.7.15. The week was a total package of technical events conducted focusing on the second and third year students of our Department. The week started with a lectures session on the topic of “**HOW TO PRESENT THE PAPER PRESENTATION**” to the second and third year students by final year student IE (I) President, Mr.P.Shanmugam, final year/EEE. About 47 students of second and third year attended the lecture and get beaoned about the stage mannerism, presentation skills, etc.

In continuation with that the most reputed and awaited event “**TECHNICAL PAPER PRESENTATION**” on the next two days. The students responded for the call of paper presentation by sending 45 papers, 33 from third years and 12 from second year. Out of it, a total of 24 papers were short listed for the presentation, were 14 from third years and 10 from second years .The event was held for third years on 29.07.2015



Mr.M.Arun Kumar and **&Mr.K.Madasamy @ Yuvaraja** Won the **first Prize** for their paper “**Haptic Technology**”. **Ms.R.Bavithra** for her presentation on “**Virus Build Nano M/C Battery**” won the **second place**.

The third place was shared by two teams Ms.A.AcsalPremiSubha for “Bubble power” and Ms.k. Maheswari and Ms.S.Aksha for “Spintronics”.

The event for Second year was conducted on 31.07.15. The team of Mr.S.Prabhu and Mr.P.R.Prakash won the first prize on the topic “Super Capacitor” and second place was bagged by Mr.S.ArunJeya Kumar and Mr.M.AbdulkaderRiyaz for “Energy Conservation”.



PARENTS TEACHER ASSOCIATION



Parent Teachers Association (PTA) was held at 19.07.2015. On that day, parents were interacted with Class tutors, Class Incharges, HOD/EEE and subject taking faculties regarding, student’s improvement in academic and non curricular activities.

GATE FORUM

NEC GATE Forum and Triumphant Institute of Management Education (TIME) Pvt Ltd have jointly conducted TIME Talent search Exam for EEE final year & pre final year students on 29-07-2015. The final year students (22 Nos) & pre final year students (96 Nos) have appeared for the offline written exam at NEC assembly hall & EEE seminar hall respectively. The Exam was conducted by **Dr. S. Manikandan, AP(SG)/EIE, Convener/ NEC GATE Forum** and Department Coordinators **Mr.P.SamuelPakianathan, AP/EEE, Mr.M.Bakruthen, AP/EEE, Ms.S.Jayanthi, AP/EEE** and TIME officials.

INDUSTRY - INSTITUTION INTERACTION

ALUMNI INTERACTION



Mr. Rajesh Ananth. K
Manager - Protection Applications, Alstom, Dubai
Alumni: 1999

Mr.RajeshAnanth. K, Manager, Protection Application, Alstom delivered a presentation on “The ways to get a career in core Industries” in the Industry Institute Program which is an initiation part of the “GOLDEN PROJECT (next two years 100% placement). He started throwing lights on current advancements in protection system such as NCIT (Non-Conventional Instrument Transformers), Digital Substation etc. His whole interaction centered on a single point that students who have understanding of problems arising Protection system accompanied with hands on practice of software like Micom S1 could shine in the glorious Electrical domain. As a whole the Final year students gathered information about various carrier opportunitiessuch as Protection Engineer, Communication Engineer (with Electrical background) etc.

PLACEMENT CELL

CODE VITA



For every year TCS organizes a worldwide Coding competition. This year it was conducted on 08.08.2015. The session started at 09.00 AM and ended at 03.00 PM. Our students of final year eagerly participated in that competition.

SPECIAL INTEREST GROUP

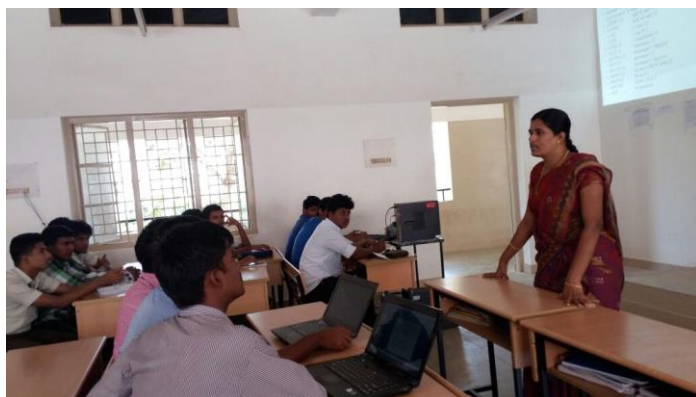
CONTROL AND INSTRUMENTATION



An Introduction class was conducted on 01/08/2015 in the topic of “**Introduction to TRMS**” held at 10.30 A.M to 12.00 A.M. Totally 18 students were attend the class. The content of the class are as follows

1. Brief about the un manned Aerial Vehicles
2. Mechanical description of TRMS model
3. The Controlling methodologies of TRMS
4. Use of MATLAB for controlling TRMS
5. Brief the Simulation and Real time model of TRMS

EMBEDDED SYSTEM



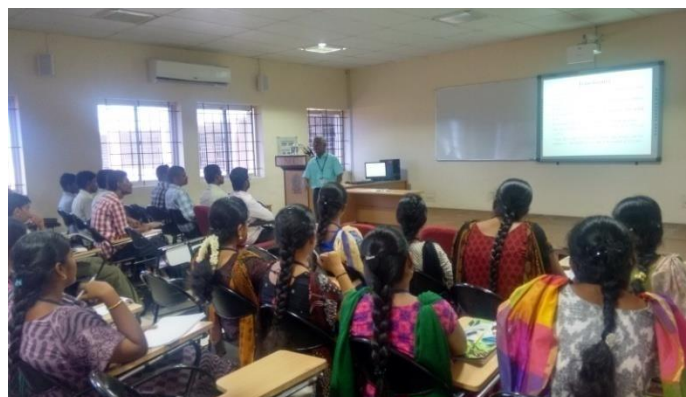
An Introduction to “**IMAGE PROCESSING ENHANCEMENT**” was given by **Mr.N.B.Prakash, Associate Professor/EEE** on 01.08.2015. Then the session was continued with an introduction to “**PIC**

MICROCONTROLLER & MPLAB SOFTWARE” handled by **Mrs.K.Gowthami, Assistant Professor /EEE** at Class Room H3 for Special Interest Group (SIG) members. The objectives of the session are:

- Introduction to Image Processing Enhancement
- Difference between Microprocessor and Microcontroller
- Introduction to PIC microcontroller
- Architecture of PIC microcontroller
- MPLAB Software Introduction

The session was started by 10.00 AM and completed by 12.30 PM. Totally 12 students from third year & Final year were participated and got the relevant information about Image Processing Enhancement, Embedded System, Basics of Microprocessor and Microcontroller, PIC Microcontroller and MPLAB software.

POWER AND ENERGY SYSTEM



A seminar presentation on ‘**Energy Conservation**’ was conducted on 01.08.2015 by **Dr.P.Subburaj, Professor / EEE** at Seminar Hall.

The presentation was started with the details about transmission sector in TamilNadu and present power scenario. He gave the information regarding the energy conservation in both customer and supplier side.

Then he discussed about the utilization of domestic and industrial applications for saving the energy economically. Finally, he shared his personal experience in Tuticorin Thermal power station and Electrical Maintenance experience in our college.

Then the session was continued by **Mr.A.Pandiyarajan Assistant Professor/EEE**, He gave a brief talk on power quality mitigation using Custom Power Devices for real time applications. Finally the class was ended around 1.P.M.

SOCIAL AWARENESS CELL



Staff Coordinators:

Dr.M.Ravindran, Asso. Prof/EEE
Mr.N.B.Prakash, Asso. Prof/EEE
Mr.R.Madavan, AP/EEE

Social Awareness Cell of Department of Electrical and Electronics Engineering, National Engineering College organized a “**Social Awareness Program**” on “**Electricity Safety and its Awareness**” on 29th July 2015 at Kutralingeswarar Hall, E.B Colony, Kovilpatti. The main objective of the program is to create awareness about the necessity of electricity, safety and its generation. The students present a slide and video presentation to the peoples.

FEEDBACK FROM STUDENTS

MATLAB class is very useful for me. I learned how to use the MATLAB that helps me to gain more knowledge. They taught the classes very practically with the implementation of coding by each line.

- *Kalaiveni. S*
Third Year EEE-A

JAVA class is very awesome. The basic concepts of Java were taught very clearly and I gained a lot of knowledge through the class. The core java class was very useful. I suggest you to take the advanced JAVA class also.

- *Subbiah. M*
Final Year EEE-B

I was aware of MATLAB but through this class I got the opportunity to learn about it. I learnt to write coding for smaller concepts through this class. It would be better if you could provide additional sessions to learn more about MATLAB.

- *Sri Jawahar.M*
Second Year EEE-C

Basic concepts about the subject were taught by the Gate class. More problems were solved. The way to approach a problem was clearly dealt in the class. It was really useful for us to improve our technical knowledge.

- *Selvajothi. S*
Final Year EEE-C

HOT NEWS - ONLINE SOURCE

- *Bavithra.R – Third Year ‘A’*

CURRICULUM BASED

Electronic Interfaces: Bridging the Physical and Digital Worlds:-	https://www.edx.org/course/electronic-interfaces-bridging-physical-uc-berkeleyx-ee401x-0
Discrete-Time Signal Processing:-	https://www.edx.org/course/discrete-time-signal-processing-mitx-6-341x-0
Silicon Photonics Design, Fabrication and Data Analysis:-	https://www.edx.org/course/silicon-photonics-design-fabrication-ubcx-phot1x-0
Fundamentals of Nanoelectronics: Basic Concepts:-	https://www.edx.org/course/fundamentals-nanoelectronics-basic-purdue-nano520x
Introduction to Bioelectricity:-	https://www.edx.org/course/introduction-bioelectricity-purdue-nano525x

ARTICLES FROM ELECTRONICS FOR YOU (EFY)

Raspberry Pi and M2M Technology Power This Smart Street Lighting System	http://electronicsforu.com/electronicsforu/circuitarchives/view_article.asp?sno=2405&title%20=%20Raspberry+Pi+and+M2M+Technology+Power+This+Smart+Street+Lighting+System&id=13715&article_type=5&b_type=new
Be Safe With B-Safe	http://electronicsforu.com/electronicsforu/circuitarchives/view_article.asp?sno=1978&title%20=%20Be+Safe+With+BSafe&id=13378&article_type=5&b_type=new
Daylight Harvesting With Automatic Lighting	http://electronicsforu.com/electronicsforu/circuitarchives/view_article.asp?sno=1891#.VDeSjhZlg2w&title%20=%20Daylight+Harvesting+With+Automatic+Lighting&id=13250&article_type=5&b_type=new
Control Everything with Your Hand	http://electronicsforu.com/electronicsforu/circuitarchives/view_article.asp?sno=2236&title%20=%20Control+Everything+with+Your+Hand&id=13625&article_type=5&b_type=new
SmartCane: Indigenous Device to Help the Visually Impaired	http://electronicsforu.com/electronicsforu/circuitarchives/view_article.asp?sno=2328&title%20=%20SmartCane%3A+Indigenous+Device+to+Help+the+Visually+Impaired&id=13663&article_type=5&b_type=new

ENTREPRENEUR DEVELOPMENT CELL

Staff Coordinator: Mr.N.B.Prakash, Asso. Prof/EEE
Mr.K.Kumar, AP/EEE

As a part of EDC-EEE, we have conducted an awareness program on Entrepreneurs Development for EEE students on 04.08.2015 (5.15-6.10.P.M) at EEE department research and simulation lab. The speech was delivered by **R.S.Saravanakumar** of final year. He gave an explanation about Entrepreneur Development. He also discussed with students **“How to become An Entrepreneur with the Right Mindset”**.

Tuticorin District Tiny and Small Scale Industries Association (**THUDITSSIA**), National Small Industries Corporation Ltd (NSIC), and MSME - DI have organized, a National level **Mega Industrial Exhibition** on 07.08.2015. Products from various companies like generator manufacturing companies, home appliances, fashion items, tea products and food products etc, are shown and demonstrated. In this program around 20 students (future entrepreneur) were participated and get benefited.

EDC-EEE, have conducted Entrepreneurs Development program for EEE students on 18.08.2015 (5.15-6.10.P.M) at EEE department PG class room. **“Innovative use of paper art can bring a contemporary design to life”**, as per above saying students made paper diary, envelope, greeting cards, paper bouquet, sandals model etc.



ALUMNI INTERACTION

The idea behind inviting **ALUMNI** was to make students aware about the current market trends, so that they could prepare for their careers and also motivate the students who have backlogs in their previous semesters or there whose results are not as expected.



Ms.Kaveri.C
Tata Consultancy Services
Alumni:2015

Keeping this in mind, *Ms.Kaveri.C*, ALUMNI of our college was interact with Third year Electrical and Electronics Engineering Studentson 10.08.2015. All the queries of students were solved by her as she has already passed through this stage recently. About preparations, she suggested that group study is better because it saves time for everyone involved and covers more topics and one can easily understand the subject. She advised that you need to be mentally strong even if you get rejected over and over and face every new opportunity with your best preparation. She also said that everyone should give equal importance to their regular studies along with their placement preparation. The Entire session was interactive and interesting for the students. It helped boost up their confidence and gave proper direction to their preparations



Ms.Praisline Golda. E
Pandiyam Grama Bank
Alumni: 2014

On August 19,2015 *Praisline Golda.E*, Alumna of our college visited our College and had an interaction with Pre-final year Electrical and Electronics Engineering students. She gave more information about the Banking sector and vacancies available in it. About the current market, she said that the students must be flexible enough to accept any platform. After getting the job, one has to be punctual, no matter how good you work, but discipline and etiquettes always matter. She also said that, one has to be open-minded and should accept the work positively even if initially it seems difficult. One should be versatile and enthusiastic about their work. She also mentioned in corporate environment, interaction with seniors needs formal communication skills. The session helped the students to gain more knowledge about and current status of the banking sector. It provided them the details about the examinations conducted in Banking sectors and the ways to clear the exams

DEPARTMENT ADVISORY BOARD COMMITTEE

STAKE HOLDERS - PARENTS



Second Meeting of Department Advisory Board Committee with Parents was held at **Research Simulation Lab** of EEE Department on **19.07.2015** during the Academic year 2015-2016. The function was presided over by **Dr.P.Subburaj, Prof/EEE** Convener of the Department Advisory Board, under the guidance of **Dr.M.Willjuice Iruthayarajan, Prof & Head/EEE**.

Dr. L.Kalaivani, Programme Coordinator for Under Graduate and **Dr.R.V.Maheswari, Programme Coordinator for Post Graduate** were discussed about the present status of National Board of Accreditation (NBA) under **TIER-I** for the BE(EEE) Program and its advantages. Department vision, mission and Program Educational Objective. Choice based Credit system was introduced to the parents and a brief explanation was given to them.

The importance of Non CGPA courses and its categories were explained to the members. It was said by the UG Programme Coordinator that minimum of 4 credits should be earned by the students for the attainment of Degree. The parents asked the Board to **arrange for an alumni interaction** and to improve the **self confidence** and **patience** among the students.

The parents requested the board to improve the **communication skills** of the students. Department Advisory Board Convener conveyed the parents that, the department has already taken many steps for their improvement in communication skills by allotting separate classes for Seminar, Group Discussion etc.

It has been informed that the department has already arranged for research based activities like Special Interest Group, Class on Simulation Software packages through association, paper presentation and field visit etc.

STAKE HOLDERS - STUDENTS



Second Meeting of Department Advisory Board Committee with Students was held at **Research Simulation Lab** of EEE Department on **22.07.2015** during the Academic year 2015-2016. The function was presided over by **Dr.P.Subburaj, Prof/EEE** Convener of the Department Advisory Board, under the guidance of **Dr.M.Willjuice Iruthayarajan, Prof & Head/EEE**.

Dr. L.Kalaivani, Programme Coordinator for Under Graduate and **Dr.R.V.Maheswari, Programme Coordinator for Post Graduate** were discussed about the Choice based Credit system and the importance of Non CGPA courses.

TECHNICAL ARTICLE BY STAFF MEMBERS

IMPACT OF DIFFERENT TECHNOLOGIES OF WIND TURBINE GENERATOR SYSTEMS

Mr.S.Thirumalai Kumar
Assistant Professor

Department of Electrical and Electronics Engineering

There are many different generator types for wind power applications in use today. The main distinction can be made between fixed speed and variable speed wind generator types.

1. FIXED SPEED WIND TURBINE GENERATOR

In the early stage of wind power development, most wind farms were equipped with fixed speed wind turbines and induction generators. A fixed speed wind generator is usually equipped with a squirrel cage induction generator whose speed variations are limited. Power can only be controlled through pitch angle variations. Because the efficiency of wind turbines depends on the tip-speed ratio, the power of a fixed speed wind generator varies directly with the wind speed. Since induction machines have no reactive power control capabilities, fixed or variable power factor correction systems are usually required for compensating the reactive power demand of the generator. Fig. 1 shows the schematic diagram of the fixed speed induction machine.

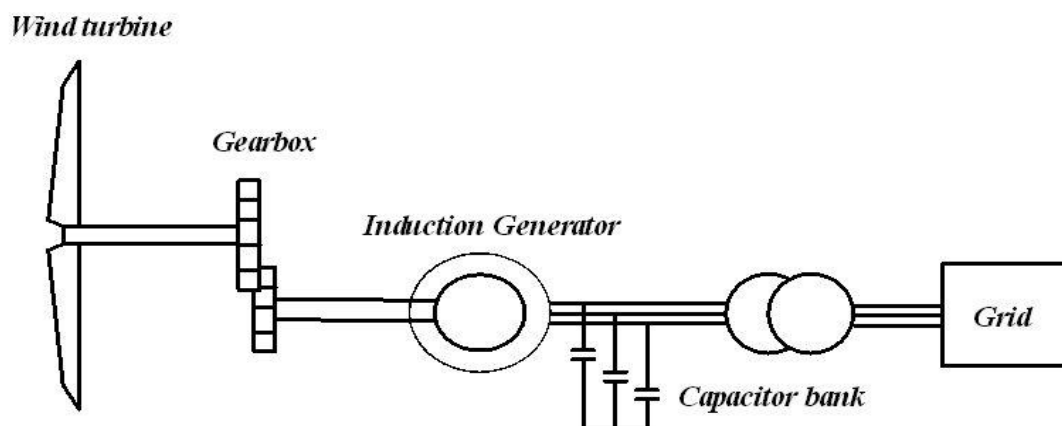


FIGURE 1

Fixed speed induction generator

2. VARIABLE SPEED WIND TURBINE GENERATOR

Variable speed concepts allow operating the wind turbine at the optimum tip-speed ratio and hence at the optimum power coefficient for a wide wind speed range. The two most widely used variable speed wind generator concepts are the DFIG and the converter driven synchronous generator.

2.1. DOUBLY FED INDUCTION GENERATOR WIND TURBINE

Due to advantages such as high energy efficiency and controllability, the variable speed wind turbine using DFIG is getting more attention. DFIG is basically a standard, wound rotor induction generator with a voltage source converter connected to the slip-rings of the rotor. The stator winding is coupled directly to the grid and the rotor winding is connected to power converter as shown in [Fig. 2](#).

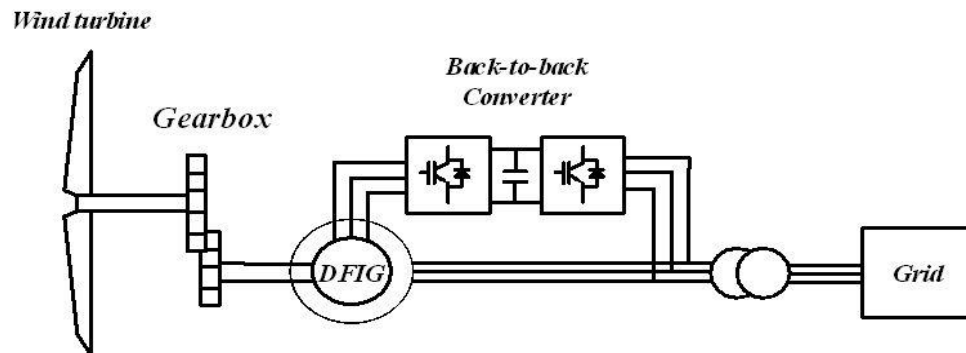


FIGURE 2.

Doubly fed induction generator

The converter system enables two way transfer of power. The grid side converter provides a dc supply to the rotor side converter that produces a variable frequency three phase supply to generator rotor via slip rings. The variable voltage into the rotor at slip frequency enables variable speed operation. Manipulation of the rotor voltage permits the control of the generator operating conditions. In case of low wind speeds, the drop in rotor speed may lead the generator into a sub synchronous operating mode. During this mode, DFIG rotor absorbs power from the grid.

On the other hand, during high wind speed, the DFIG wind turbine running at super synchronous speed will deliver power from the rotor through the converters to the network.

Hence, the rotational speed of the DFIG determines whether the power is delivered to the grid through the stator only or through the stator and rotor. Power delivered by the rotor and stator is given by :

$$P_R = S.P_s \quad \text{--- 1}$$

$$P_G = (1 \pm S) P_s \quad \text{--- 2}$$

Where, P_G is the mechanical power delivered by the generator, P_s is the power delivered by the stator, and P_R is the power delivered to the rotor. However, under all operating situations, the frequency of rotor supply is controlled so that, under steady conditions, the combined speed of the rotor plus the rotational speed of the rotor flux vector matches that of the synchronously rotating stator flux vector fixed by the network frequency. Hence, the power could be supplied to the grid through the stator in all the three modes of operation, namely, sub synchronous, synchronous and super- synchronous modes. This provides DFIG a unique feature beyond the conventional induction generator as the latter can deliver power to the grid during super synchronous speed only.

2.2. CONVERTER DRIVEN SYNCHRONOUS GENERATOR

This category of wind turbines uses a synchronous generator that can either be an electrically excited synchronous generator or a permanent magnet machine. To enable variable-speed operation, the synchronous generator is connected to the network through a variable frequency converter, which completely decouples the generator from the network. The rating of the power in wind turbine corresponds to the rated power of the generator plus losses. The schematic diagram of the converter driven synchronous generator is as shown in Fig. 3.

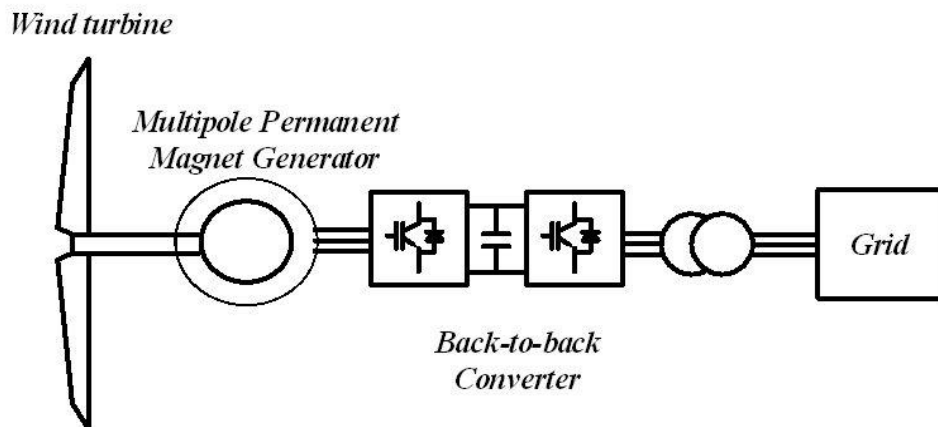


FIGURE 3.

Converter-driven generator

The comparison between the fixed speed and variable speed wind turbines shows that variable speed operation of wind turbines presents certain advantages over constant speed operation. Variable speed wind turbines feature higher energy yields and lower power fluctuations than fixed speed wind turbines. The last feature is particularly important as flicker may become a limitation to wind generation on power systems. Also, variable speed wind turbines produce more reduced loads in the mechanical parts than fixed speed wind turbines. When comparing torque mode control and speed mode control strategies, literature review shows that speed mode control strategy follows wind speed, in order to achieve maximum power coefficient, more accurately, and the higher the speed control loop bandwidth is, the better the tracking is. Nevertheless, as a consequence, it produces more power fluctuations, since speed is rigidly imposed to the turbine. So, from power quality point of view, torque mode control strategy presents better behavior because speed is not directly imposed to the turbine and this control strategy lets the wind turbine to freely change rotational speed during the transient.

Reference:

1. "Modeling and Control Aspects of Wind Power Systems", book edited by S. M. Muyeen, Ahmed Al-Durra and Hany M. Hasaniien, ISBN 978-953-51-1042-2, Published: March 20, 2013 under CC BY 3.0 license. © The Author(s).
2. "Wind Energy Systems – Solutions For Power Quality and Stabilization" Book Edited by Mohd.Hassan Ali CRC Press Taylor & Francis Group, LLC. Published : 2012.

INDUSTRY PROFILES



Vestas is the only global energy company dedicated exclusively to wind energy - improving business case certainty and reducing the cost of energy for our customers. Vestas works in close partnership with customers to offer the most effective solutions towards energy independence. Their core business is the development, manufacturing, sale and maintenance of wind power plants – with competencies that cover every aspect of the value chain from site studies to service and maintenance.

Vestas History [110 years of expertise, willpower and passion]

“The Vestas” name was born in 1945. After Second World War, Hand Smith (DENMARK) and his son Peder Hansen and a handful of colleagues, established VESTJYSKSTAALTEKNIK A/S. The name proves unmanageable and was soon shortened to Vestas. In 1971 Vestas starts to experiment with alternatives to traditional energy production, developing wind turbine technology in secret. The first prototype looks like a giant egg whisk - and fails to produce sustainable, economical electricity. Vestas sells and installs its first Successful turbine in 1979 with a 10-metre rotor and capacity of 30 KW and the first costumers begin to benefit from clean, sustainable electricity from wind in Lem, Denmark in 1981. Thirty-three years after the installation of its first successful turbine, Vestas installed its 50,000th MW in Q1 2012. With projects installed in 73 countries, Vestas solidifies its position as the world’s leading and most global manufacturer of wind power solutions. Wind energy currently accounts for less than two percent of the world’s energy production. Vestas expects it to account for 10 percent by 2020.

Anders Runevad

Group President & CEO, Vestas Wind Systems A/S

Vestas Headquarter

Vestas Wind Systems A/S

Hedeager 42
8200 Aarhus N Chennai 600-119
Denmark India
Phone: (+45) 97 30 00 00
Fax: (+45) 97 30 00 01 Fax: (+91) 44 2450 5101
vestas@vestas.com
response@vestas.com

Vestas India

298, Rajiv Gandhi Salai

Sholinganallur
Phone: (+91) 44 2450 5100

Job Openings

To search for job openings with Vestas you can either search on the location or job field you are interested in. You can apply for a job opening by using the bottom Apply Online in the individual job advertisement. When submitting your CV and application, you will receive a confirmation mail through the email address you have provided.

If you do not receive the confirmation message within a few minutes after your registration, please check the spam folder in your email account to check that the confirmation email has not been delivered to that instead of your inbox. If the confirmation message has been delivered to your spam folder then please mark it 'Not Spam', which should allow any future messages to be sent directly to your inbox.

Recruitment Process

In order to ensure the best candidate is identified, selected and hired, a comprehensive recruitment process will always take place, but can differ depending on the position you are applying for. The recruitment process is always carried out by the Hiring Manager in collaboration with Human Resources. A key focus for us is that you as an applicant have a good experience and we will do our very best to ensure that the process is handled in a professional manner every time. After submitting your CV and application in our recruitment system, your profile will be reviewed to ensure that your skills and experience meet the essential criteria for the role you have applied for. Recruitment process ensures that all applicants are reviewed on a fair and equal basis. Once the most suitable candidates have been identified; each candidate will be contacted directly and be invited to participate in an interview.

If they see a potential match between you and a position you will be invited for an interview at a Vestas location or through an online telephone call. For some positions, the initial interview to learn more about your capabilities and skills will also be a telephone interview. As a candidate, your experience is important to them, which is why the interview will always include an introduction to Vestas as well as thorough insight to the potential role and department you are interviewing. For many of their positions there is both a first and a second interview. Prior to the second interview for most positions, you will be asked to participate in a personality assessment. This assessment includes questions about you and your behavior in different situations and is focused on getting to know you even better. Candidates applying for a position that is part of one of the career paths (Manager, Specialist and Project Manager) must also go through the Vestas Assessment Center in addition to the personality assessment.

Candidate Pool

Are you interested in a career at Vestas but have not found the vacancy that you are looking for? Then you are always welcome to register in Vestas candidate pool! When creating your profile in their Candidate Pool you will be asked to submit information about yourself, your previous work experience, your educational background and your professional and personal competencies. The more specific information you enter, the greater your chances are of being found in our job-specific "Search & Match" process where we look for candidates for future positions in Vestas. By registering in Vestas Candidate Pool your profile will be searchable to relevant Human Resources people in Vestas. You can also choose to be notified when new jobs that match your profile have been posted. Please note that you will only be contacted if they see a match between you and an open position. In the Candidate Pool you can register a profile in multiple languages.

TIME TO KNOW OUR ALUMNI

MR. MUTHUKUMAR. D, BE., M.B.A.,

Email: *muthukumardc@gmail.com*

Contact: +91 9042644742

PASSED OUT: 1997



CURRENT WORKING STATUS:

Specialist, State Street HCL Services Ltd, Coimbatore

PROFILE SUMMARY

1	(11-06-2015 to till date)	Specialist, State Street HCL Services Ltd, Coimbatore
2	(18-03-2013 to 05-06-2015)	Senior Analyst, eClerx services Ltd, Hinjewadi, Pune
3	(04-07-2011 to 02-07-2012)	Management Trainee, HCL Technologies Ltd, Greams Road Chennai
4	(02-06-2010 to 03-06-2011)	Business Executive, Centre For Monitoring Indian Economy Pvt. Ltd, Kochi
5	(14-12-2006 to 16-08-2008)	Technical Support Officer, HCL Technologies Ltd, Greams Road Chennai

ACADEMIC SUMMARY

Qualification	Degree	Board/University	Abode of Study
Post Graduation	MBA	Anna University	PSG Institute of Management
Graduation	BE	Anna University	National Engineering College
Pre-UG	HSC	State Board	Sri Parasakthi Vidyalaya
Qualification	SSLC	CBSE	Sri Parasakthi Vidyalaya

Students Achievements

Second Year A

S NO	NAME	EVENT	VENUE	REWARDS	DATE
1.	M. Abdul Kader Riyaz	Paper Presentation(IE Club)	EEE Seminar Hall,National Engineering College	<i>Second Prize</i>	31-07-2015
2.	S ArunJeyakumar			<i>Second Prize</i>	
3.	G.Gowsalya Devi			Participation	31-07-2015
4.	S.DivyaPrithi				
5.	S.BalaAbirami	Paper Presentation(IE Club)			
6.	U.Iswaramoorthy				
7.	M. Abdul Kader Riyaz	Youth Talk(IE Club)	EEE Elective Hall,National Engineering College	Participation	04-08-2015
8.	S.BalaAbirami				
9.	K.Kowsalya				
10.	N.Deepa				
11.	A.Dhanushya	Workshop	KNSK Engineering College,Nagercoil		27-07-15 to 29-07-15

Second Year B

S.NO	NAME	EVENT	VENUE	REWARDS	DATE
1.	S.Prabhu	Paper Presentation	EEE-Seminar Hall	<i>First Prize</i>	01.07.2015
2.	P.R.Prakash			<i>First Prize</i>	01.07.2015
3.	R.Narain Krishna			Participation	01.07.2015
4.	B.MathanaGopal				
5.	P.PonSharmila	Paper Presentation	EEE-Seminar Hall	Participation	01.07.2015
6.	R.Narain Krishna	Essay Writing	National Engineering College, Kovilpatti	<i>Third Prize</i>	03.07.2015

Second Year C

S.NO	NAME	EVENT	VENUE	REWARDS	DATE
1.	S.Suriya	Youth Talk	National Engineering College	<i>Second Prize</i>	4-08-2015
		Paper Presentation		Participation	31-7-2015
		Essay Writing		<i>First Prize</i>	
2.	N.ShammemaFarhana	Youth Talk	National Engineering College	Participation	4-8-2015
3.	K.P.ShanumugaSundar				
4.	M.SriJawahar				
5.	F.Sam Christopher Ponraj				
6.	S.S.Siva Shankar				
7.	B.Sorna Kumar	Paper Presentation			
8.	K.Vinoth Kumar				
9.	A.Sankara Narayanan	Paper Presentation	National Engineering College	Participation	31-07-2015
10.	S.Rajesh				
11.	N.Vijay				
12.	T.RajeshPandi				

Third Year A

S.NO	NAME	EVENT	VENUE	REWARDS	DATE
1.	R.Bavithra	Paper Presentation	IE Club – National Engineering College	<i>Second Prize</i>	29.07.2015
		Youth Talk		Participation	04.08.2015
2.	A.AcsalPremiSubha	Paper Presentation	IE Club – National Engineering College	<i>Third Prize</i>	29.07.2015
		Youth Talk		Participation	04.08.2015
3.	K.Maheswari	Paper Presentation	IE Club – National Engineering College	<i>Third Prize</i>	29.07.2015
		Youth Talk		Participation	04.08.2015
4.	J.Aksha	Paper Presentation	IE Club – National Engineering	<i>Third Prize</i>	29.07.2015

		Youth Talk	College	Participation	04.08.2015
		Paper Presentation	Loyola College	Participation	25.07.2015
5.	K.Abirami	Paper Presentation	IE Club – National Engineering College	Participation	29.07.2015
6.	D.Abarna				
7.	G.Esakkiammal				
8.	K.Madasamy @ Yuvaraja	Paper Presentation	IE Club – National Engineering College	<i>First Prize</i>	29.07.2015
9.	M.Arunkumar	Paper Presentation	IE Club – National Engineering College	<i>First Prize</i>	29.07.2015
10.	R.HariSankar	Paper Presentation	IE Club – National Engineering College	Participation	29.07.2015
11.	S.GanapathyVinayagam				
12.	S.Kalaiveni				
13.	R.Jessintha	Youth Talk	IE Club- National Engineering College	Participation	04.08.2015
14.	S.Kirthika				
15.	C.Jayashree				
16.	E.AbbiramyDevibala				
17.	R.BalajiKarikalan				
18.	A.AmalaAani	Catc Cum- Iuc National Games Camp Ncc	VHNSN College Of Arts And Science , Virudhunagar		24.07.2015-02.08.2015
		Catc Cum- Iuc National Games Camp Ncc	Kongunadu Arts And Science College , Coimbatore		05.05.2015-14.08.2015
19.	C.Jayashree	Workshop - “ Microgrids For Renewable Energy System “	Sri Ramakrishna Engineering College	Participation	07.08.2015
20.	B.Jerlin				
21.	K.Kiruthika				
22.	J.Manisha Mariel Raj				

Third Year B

WORKSHOP				
S.NO	NAME	TOPIC	VENUE	DATE
1.	Ramesh.V Raj Kumar.M Perumalsamy.K Ramesh.V Vishnu.R.M Vishnu Kumar.V VijayaSankarVignesh.B	Embedded Systems	Department of IT, National Engineering College	24.08.2015- 25.08.2015

Final Year A

S.NO	NAME	EVENT	VENUE	DATE
1.	M.Gopal M.Gurusamy R.Muneeswaran K.Muthumanikandan A.Mariappan M.Akila	Electric Energy Conservation and safety awareness	E.B.Colony, Kovilpatti	29.07.2015
2.	A.Arun B.AlwynPrabhu A.Arunkumar K.Elavarasan G.K.ArchanaDharsini	Exhibition visit (EDC)	V.O.C College,Tuticorin	07.08.2015
3.	A.Anto Sharon Praksah	Orphanage visit (YRC)	Hope Foundations,Tirunelveli.	15.08.2015

IN PLANT TRAINING WITH MINI PROJECT

S.NO	NAME	VENUE	DATE
1.	A.Jenifer S.Kanagavalli A.JeniferRomina A.Aishwaryaa A.Anitha	NSIC,Chennai	03.08.2015 to 07.08.2015

EDITORIAL BOARD

<i>Patron</i>	: ThiruK.R.Arunachalam, Member, Managing Committee
<i>Co-Patrons</i>	: Dr.Kn.K.S.K.Chockalingam, Director : Dr.S.Shanmugavel, Principal
<i>Convener</i>	: Dr. M. Willjuice Iruthayarajan, Professor & Head/EEE
<i>Staff Advisory Committee</i>	: Dr. R.V.Maheswari, Associate Professor/EEE : Mr. B.Vigneshwaran, Assistant Professor/EEE : Mr. S. Thirumalai Kumar, Assistant Professor /EEE : Ms. C. Nivetha Indumathi, Assistant Professor/EEE
<i>Editors</i>	: Pranava Kartikeyan. M.S (Final EEE) : Shanmugam. P(Final EEE) : Manogari. M (Final EEE) : Anto Sharon Prakash. A (Final EEE) : Madasamy @ Yuvaraja.K (Prefinal EEE) : Abbiramy Devibala.E (Prefinal EEE)
<i>Reporters</i>	: Uma Maheswaran. R (Final EEE) : Pradeepa.C (Final Year) : Peratchi Harihara sudhan.K (Prefinal EEE) : Selva Karthika. N (Prefinal EEE) : Bavithra.R(Prefinal EEE) : Prakash.P.R (Second EEE) : Suriya.S (Second EEE) : Arun Jeyakumar.S (Second EEE)
<i>Design Team</i>	: Jegan.M (Prefinal EEE) : Derick.C (Prefinal EEE)



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
NATIONAL ENGINEERING COLLEGE
(AN AUTONOMOUS INSTITUTION, AFFILIATED TO ANNA UNIVERSITY, CHENNAI)