NATIONAL ENGINEERING COLLEGE
(AN AUTONOMOUS INSTITUTION, AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
K.R.NAGAR, KOVILPATTI-628 503.

EEE NEWSLETTER

July 2017

Volume No. 5

Issue-1

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Hi Budding Technocrats,

New month; new beginning

New mind-set; new focus

New starts; new intentions

New results

We are so glad to publish the new Volume No. 5 of Issue 1 of our EEE Newsletter. We have now stepped into a new island of knowledge, power and enthusiasm. This month July holds a pride of electrical engineer John Hopkinson's birthday, a British physicist and electrical engineer who worked on the application of electricity and magnetism in devices like the dynamo and electromagnets. Hopkinson's law (the magnetic equivalent of Ohm's law) bears his name.

Leaders are not born and they are made.

So we budding engineers let's start the month with a spirit and goal that we become leaders and masters of electrical engineering.

I wish you a Jubilant July!!!!

By

S. Bala Abhirami

Final Year EEE

CONTENTS

STAFF ACTIVITIES/PUBLICATIONS/ACHIEVEMENTS

ACTIVITIES:

S.No.	Name of the Staff	Events/Guest Lecture	Topic/Event	Date	College/ Company
1.	Dr.M.Willjuice Iruthayarajan, Professor/EEE	QIP	Nonlinear and adaptive Control Design	12th-16th June, 2017	IISC, Bangalore
2.	Dr.L.Kalaivani, Asso. Prof(SG)/EEE, Mr.B.Venkatasamy, Mr.M.Sivapalanirajan, Ms.A.Tamilarasi, AP/EEE	Industrial Know-How		11th-15th April, 2017	National Institute of Wind Energy, Kayathar
3.	Dr.R.V.Maheswari, Asso. Prof/EEE, Mr.P.Samuel Pakianathan, Ms.G.Shunmugalakshmi, Mr.T.Sivakumar, AP/EEE	Industrial Know-How		2nd - 6th May, 2017	Andrew Yule Company Limited, Chennai
4.	Mr.S.Sankarakumar, Mr.M.Bakrutheen, AP/EEE	Faculty Internship Training	Power Quality Solutions Unit	16th-26th May, 2017	EPCOS India Private Limited, Nassik
5.	Mr.M.Gengaraj, AP/EEE	Industrial Know-How		2nd - 8th May, 2017	C.R.I Pumps Private Limited, Coimbatore
6.	Ms.K.Gowthami, AP/EEE	Industrial Know-How		16th - 20th May, 2017	SALZER Electronics Limited, Coimbatore
7.	Mr.S.Senthil Kumar, Mr.B.Vigneshwaran, Mr.K.Kumar, AP/EEE	Industrial Know-How		5th - 9th June,2017	Global power Research Institute, Cuddalore
8.	Mr.M.Sivapalanirajan, AP/EEE	Short-term course	Recent Trends in SCADA, Smart Grid and Industrial Automation	2nd - 15th May, 2017	Coimbatore Institute of Technology, Coimbatore

ACHIEVEMENTS:

The following Staff members have certified in ***NPTEL Online Certification Course*** for the Academic year 2016-2017.

Mr.M.Bakrutheen

Basic electronics

Score:95%

Mr.M.Sivapalanirajan

Modeling and simulation of dynamic system

Score:80%

Ms.A.Tamilarasi

Embedded Systems Design

Score:85%

Mrs.G.Shunmugalakshmi

Basic Electronics

Score:76%

NON-TEACHING STAFF MEMBERS:

ACTIVITIES:

S.No.	Name of the Staff	Topic/Event	Date	College
1.	Mr.S.Alagesan, Lab Technician/Applied Electronics lab	Power Electronics and its industrial applications.	05th - 09th May, 2017	Advanced Training Institute (ATI), Chennai
2.	Mr.S.Bala Murugan, Lab Technician/Control and Instrumentation Laboratory	Siemens PLC-S7-1200 & Drive for position Control applications	08th - 12th May, 2017	
3.	Mr.K.Gopikrishnan, Computer operator/EEE	Do it yourself (DIY) - Build your own Firewall	22th - 26th May, 2017	
4.	Mr.G.Ramachandran, Lab Technician/Electrical machines Laboratory	Operation and Control of AC/DC Motors	22th - 26th May, 2017	
5.	Mr.K.Subburaj, Lab Technician/High Voltage laboratory	Operation and Maintenance of Power Transformers	22th - 26th June, 2017	

DEPARTMENT ACTIVITIES

EEE ASSOCIATION – INAUGURAL FUNCTION

"An Expert in anything was once a beginner" –

Snap During our EEE Association Inaugural Function

On taking these words as inspiration, EEE association helps all emerging engineers to expertise themselves from now on with various technical and non-technical classes that deepens their knowledge, sync them with the modernized world and intensify his/her mastery over the various concepts by numerous activities.

The department of Electrical and Electronics has successfully stepped into its (20thyear) of inaugural function of EEE ASSOCIATION. This markable event held on 14/July/2017 in our Auditorium, NEC at 3:00pm.

The Inaugural function began with praise to our state song. The inaugural was lead by chief guest (***Mr.M.K.Assan Fakkir***, Senior Associate Consultant, Infosys, Thiruvananthapuram), ***Alumni 2010 Batch,*** The chief guest then asked the students have a strong grip over the basics of what they had learnt. He insisted everyone to have good contact with all college friends and attend paper presentation to various colleges and gain knowledge. He then launched the video for the event. And finally, the vote of thanks was given by Pon Sharmila (final EEE) and came to an end with National Anthem.

"Coming together is a beginning; Keeping together is progress; Working together is success"- Hendry ford

SPECIAL INTEREST GROUP

CONTROL AND INSTRUMENTATION

EEE department Control and Instrumentation Special Interest Group (SIG) conducted the Introduction Class, Interaction & Practical Session on Virtual Lab for 16 number of pre-final year SIG students on 1st July 2017 in the Research Simulation Lab, EEE Department.

Session 1 (10.30AM -11.30 AM)

Dr.M.Willjuice Iruthayarajan gave the introduction to the control & Instrumentation SIG with its importance in electrical engineering. He briefed the significance of modeling and control of real time system and encouraged the students to select a specific area in control engineering. He also motivated them to utilize the PC interfacing lab with PLC, MATLAB and LABVIEW (ELVISII+) tools for implementation of innovative ideas.

Session 2 (11.45AM -1.00 PM)

Mr.M.Sivapalanirajan continued the hands on training session with "Virtual Lab", an MHRD initiated online animation site for the students on the topic "characterize the temperature sensor - RTD" in **http://sl-coep.vlabs.ac.in/Rtd/rtd.html**. Static and dynamic characteristics of RTD were analyzed. Then ***Ms.E.Anitha*** gave a practice session on the topic "Characterize the LVDT" in **http://slcoep.vlabs.ac.in/LinearVariableDifferntialTransformer/lvdt.html** and used the interactive platform to simulate the characteristics for a specification.

Students visualized the performance of the transducers through virtual lab and completed a post test on the topics.

HIGH VOLTAGE ENGINEERING

Introduction class for High Voltage Engineering Special Interest Group (SIG) was conducted on 01.07.2017 at Seminar Hall (EEE Dept.) for Special Interested Group (SIG) members.

Dr. R.V. Maheswari (Asso. Prof./EEE), Mr. M. Bakrutheen, (AP/EEE) and Mrs. S. Divya, (AP/EEE) were elaborate the following things to our SIG members:

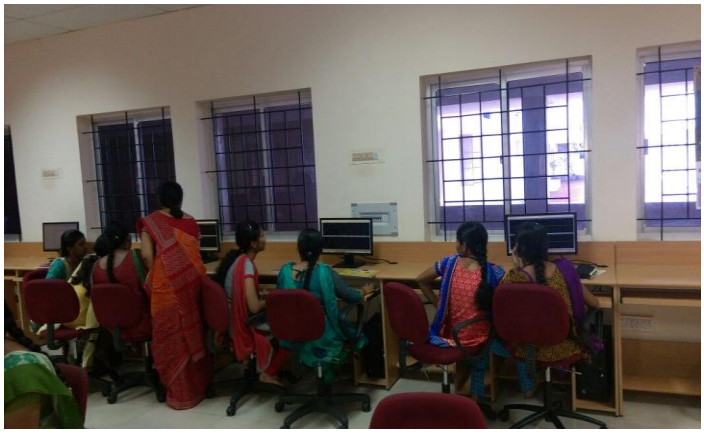
- Introduction to SIG
- Basics about the in high voltage engineering and its applications
- Introduction about the various dielectrics and their properties
- Different aspects on research and career scopes for high voltage engineers
- Various plan in our SIG for the current semester

The session was conducted for third year and final year students. The session for third year students was started by 10.00 AM and completed by 12.30 A.M. Totally 11 students from final & third year were participated and got the relevant information about the high voltage engineering.

POWER ELECTRONICS

The Special Interest Group on "***Power Electronics & Drives***" was held on 15/07/2017 at Computer Centre for Special Interested Group (SIG) members. Around 14 members attended the session.

The session was handled by ***Ms.Mohana Latha. P, AP/EEE*** on the topic "Recent Trends in Power Electronics and Simulation of Power Converter using MATLAB". She explained the importance of Power Electronics course and its applications in Renewable Energy Resources, the recent trends in the industries, and the real time application of Power Electronic Converters in day to day life.



She also gave an introduction to MATLAB and to simulate the Power Converters using MATLAB. Students simulated the basic Half Wave Rectifier with R, RL, RLE Load and the output voltage waveforms were analyzed.

EMBEDDED SYSTEMS

An Introduction on "Image processing" was given by ***Mr. N.B.Prakash, Associate Professor/EEE*** on 15.07.2017 at Seminar Hall for Special Interest Group (SIG) members

Mrs.K.Gowthami, Assistant Professor/EEE started with definition of embedded system and basics of microprocessors and microcontrollers. She described the hardware and software parts used for embedded system design. Then she explained about PIC microcontroller and its applications and also the PIC Microcontroller kit was shown to the students.

Finally, ***Ms.A.Tamilarasi, Assistant Professor/EEE*** gave the basic introduction on Field Programmable

Gate Array (FPGA) and IoT. She also discussed about the importance of FPGA and applications of Internet of Things and its role in real time applications.

The session was started by 10.15 AM and completed by 12.50 PM. Totally 23 students participated and got the relevant information about embedded system, basics of microprocessor and microcontroller, Programming PIC microcontroller using embedded C and FPGA.

SOCIAL AWARENESS CELL

As a part of Social Awareness cell of EEE department an awareness camp was conducted for Villiseri Govt, Higher Secondary School, villiseri, kovilpatti students on 26.07.2017 in the topic "Electricity usage, conservation and safety". The program was started with welcome address given by Saravanakumar (final year B). Followed by that the session was started by ***Dr.M.Ravindran, Asso. Prof(SG)/EEE*** with the importance of energy conservation. Then he explains the importance of renewable over non renewable energy resources as renewable energies generate from natural sources that can be replaced over a relatively short time scale and he listed out the pros of using renewable energy. Following the session final year students explains the safety tips to be followed while handling electricity and also they put vedio demonstration and drama to deliver the content to the school students. The session was coordinated by ***Dr.M.Ravindran, Asso. Prof(SG)/EEE, Mr.K.Kumar, Asst prof/EEE, Mr.Subburaj,*** technician along with lateral entry and NCC volunteers. Around 150 members attend the program and got benefited.

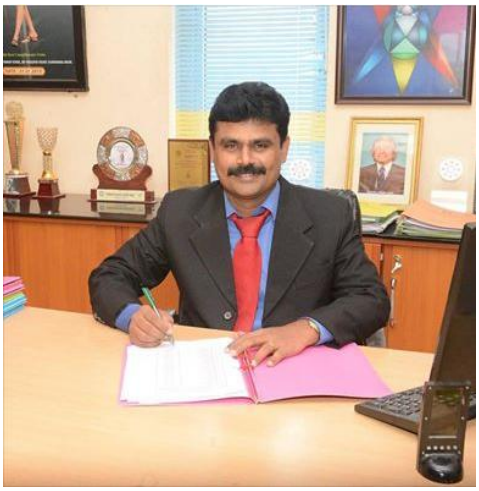
EDC CELL

The inaugural function of Entrepreneurship Development Cell was conducted on 21.07.2017 at 4.30pm in EEE department seminar hall. The Entrepreneur Development Cell has been successfully inaugurated in EEE department with the help of Chief guest ***Dr. M. Willjuice Iruthayarajan (HOD/EEE)***. The Chief Guest Dr. M. Willjuice Iruthayarajan in his speech orated about the functions of EDC cell in our college. He also motivated the students to make their own career path and create awareness of self - financial schemes of various agencies.

Followed by him ***Mr.N.B.Prakash, Asso.Prof/EEE*** motivated the students to create self - employment awareness, to participate in Skill Development programmes and to focus on product development. In the inauguration it is planned to conduct a meeting for the members of EDC cell on every Tuesday last hour. ***Mr.K.Kumar, Assistant Prof/EEE*** coordinated the session.

OUR ALUMNI – ACHIEVEMENTS

Hearty Congratulations to our distinguished alumni who lead their carrier as Principal in various institutions.



Dr. ETTAPPAN. M

(1995-99 Batch)

Principal

Renganayagi Varatharaj college of Engineering,
Thayilpatti,Sivakasi.

Dr.MOHAMED FAIZAL A A

(1994-98 Batch)

Principal

ILAHIA School of Science and Technology (ISSAT),
Muvattupuzha, Ernakulam

Dr. RAJKUMAR. M

(1995-99 Batch)

Principal

J.P.College of Engineering

Ayikudi,Tenkasi.

ALUMNI INTERACTION

Alumni interaction program was organized and conducted on 3rdJuly of 2017 in EEE H5 and H6 Hall with **Mr.Venkatakrishnan, NISSI Engineering Solutions Pvt Ltd, Chennai** and alumni (2017) of EEE department had an interaction with final year students. The interaction went on for about one hour from 11 A.M to 12P.M

He gave the introduction about the scope for an electrical engineer in core industries. He explained about the recruitment and selection process of core industry. He explained about his interview experience and problem faced by him during his interview. He spoke about the importance of communication skills. He also explained the importance of mock interview and Group Discussion. He encouraged the students to improve their soft skills, coding and technical knowledge to get placed in software and core industries. On the whole, the one hour session was very useful and the students gained many ideas about interview skills.

Alumni interaction program was organized and conducted on 14th July of 2017 in EEE seminar hall with **Mr. Assan Fakkir, Senior Associate Consultant, INFOSYS, Trivandrum** and alumni (2010) of EEE department had an interaction with final year students. The interaction went on for about one hour from 11A.M to 12P.M.

He insisted them to choose elective subjects related to meet out the company expectations. He also pointed out to update the upcoming trends and know about all technologies to develop the skills from beginning to get placed in the reputed companies. He explained about the T-technology which is followed by Industries. T technology refers the person should strong in all domains but should have specialization in particular area. Finally he conveyed his hearty wishes to the students to lead a successful life.

GATE FORUM

Tentative schedule of PSU Recruitment through GATE 2018:

1. **AAI through GATE:**

Airport Authority of India recruits applicants on the basis of their GATE score. Most probably, the application form for the recruitment of applicants will release in the month of February. The Airport Authority of India recruits for approx 198 posts and the average salary offered by AAI is Rs. 16400/ – Rs 40500/- per month. Candidates who completed their B.Tech degree from the disciplines of Electronics/aviation/telecommunications/electrical with Electronics with no less than 60% marks are eligible to apply.

- Availability of application form: Updated soon
- Number of posts: 198 (tentative)
- Pay scale: Rs. 16400/ – 40500 per month
- Application Fee: Rs. 1000/- (No fee for candidates from SC/ST/Women Categories)
- Eligible disciplines: Aviation/ Electronics/ Electrical/ Telecommunications

2. **BHEL Recruitment through GATE 2018**

Bharat Heavy Electronics Limited recruits applicants for the post of Engineer Trainee on the basis of GATE score. BHEL will offer approx 50 posts for Engineer Trainees and the average salary given to this post is Rs. 20,600 – 46,500 (in training period). After the successful completion of training period the pay scale increase to Rs.24900 – 50,500. The online application process for the BHEL recruitment through GATE 2018 will commence from January – February 2018 (tentatively).

- Availability of application form: January 2018
- Last date for application submission: February 2018
- of Posts: 50 (Tentative)
- Basic Pay scale: Rs.20, 600 – Rs.46, 500 per month (in training) and Rs.24900 – 50,500 (after training)
- Trial Period: 12 months
- Eligible Disciplines: Mechanical Engineering and Electrical Engineering

3. **BBNL Recruitment through GATE 2018**

Bharat Broadband Network Limited hires eligible applicants as Executive trainee on the Basis of GATE Score 2018. The organization will release the BBNL recruitment Application forms online on its official website. Candidates have to serve the probation period of BBNL Executive Trainee for 12 Months from the date of appointment.

- Application Release Date: January 2018
- Last date for application submission: February 2018
- Basic Pay scale: Rs.16, 400 – 40,500 per month

- Eligible disciplines: Computer Science, Electronics, Electrical Engineer and Information Technology

4. GSECL Recruitment through GATE 2018

Gujarat State Electricity Corporation Limited hires candidates for the post of Junior Engineer through GATE scores. The average salary given to the Junior Engineers under GSECL is Rs.18000/- per month for first year whereas Rs. 20000/- per month for the second year. There is one important condition that candidate should have the Knowledge of Gujarati.

Application Date: Updated soon

No. of posts: Updated soon

Basic Pay scale: 1st year Rs.18000/- per month, 2nd Year Rs.20000/-

Eligible disciplines: Mechanical Engineering, Instrumentation Engineering, Electrical Engineering, and Metallurgical Engineering

5. HAL Recruitment through GATE

Hindustan Aeronautics Limited recruits candidates for Management Trainee and Design Trainee posts through GATE scores. The basic salary given to the candidates during the probation period is Rs.16400/- per month. After completing training period applicant will get Rs.40500/- per month.

- Date of Application: January– February 2018
- of posts: 125
- Basic Pay scale: Rs. 16400/-in training period and Rs.40500 (after that)
- Service Bond: 5 years
- Eligible disciplines: Mechanical Engineering, Electronics, Electrical Engineering, and Civil Engineering

6. HPCL Recruitment through GATE 2018

Hindustan Petroleum Corporation Limited hires applicants on the basis of GATE score. The application form for HPCL through GATE 2018 will starts from January – February 2018 (tentative).

- The basic pay scale: Rs.24900 – Rs.50500/- per month
- Application Fee: Rs. 265 (for general category candidates) and there is no fee for candidates from SC/ST/PwD candidates.
- Eligible disciplines: Mechanical Engineering, Chemical Engineering, Electronics, Electrical Engineering, Instrumentation Engineering, and Civil Engineering

7. IOCL recruitment through GATE 2018

Indian Oil Corporation Limited hires Graduate Engineers on the basis of GATE score. The online application form for the IOCL recruitment will available from January 2018 – February 2018. Candidates who have completed B.Tech in the relevant disciplines with minimum of 65% marks (55% marks for SC/ST/PwD category) are eligible to apply.

- Date of Application: January – February 2018
- Basic Pay scale: CTC of 12 Lakh per annum
- Eligible disciplines: Mechanical Engineering, Electronics, Electrical Engineering, Instrumentation Engineering, Engineering Science, Metallurgical Engineering, Chemical Engineering and Civil Engineering

8. IRCON Recruitment through GATE 2018

IRCON International Limited hires graduate engineers for the post of Executive trainee through GATE 2018 score. The selected candidate will get approx salary package of Rs.20600 – Rs.46500/- per month. For the recruitment of said post candidates need to complete B.Tech with minimum of 60% marks.

- Number of posts: 38 (Tentatively)
- Basic Pay scale: Rs.20600 -Rs.46500/- per month
- Application Fee: Rs 500 (General Candidates) and Rs. 100 (for candidates from reserved category)
- Eligible disciplines: Electrical Engineering, Mechanical Engineering, Electronics Engineering and Civil Engineering

9. L&T Build India Scholarships Recruitment through GATE 2018

L&T will hire engineer graduates on the basis of GATE 2018 score under the Build India Scholarship. During the training period the candidate will get salary package Rs.9000 per month and after that, the employee CTC will be 5 lakh per annum.

10. WBSEDCL recruitment through GATE 2018

WBSEDCL (West Bengal State Electricity Distribution Company Limited) hires eligible and interested candidates to the post of Assistant Engineer on the basis of GATE scores. Apart from Civil and Electrical WBSEDCL will also hire applicants from Computer and IT disciplines for the upcoming year. The applicants who completed B.Tech degree in Civil, Electrical, IT and Computer Engineering from a recognized university or appearing for the same are considered eligible to apply for the mentioned vacancy. Applicants need to qualify the GATE 2018 Exam with the marks equivalent or more than the specified GATE 2018 Cutoff. The online application for WBSEDCL will release in the month of January 2018.

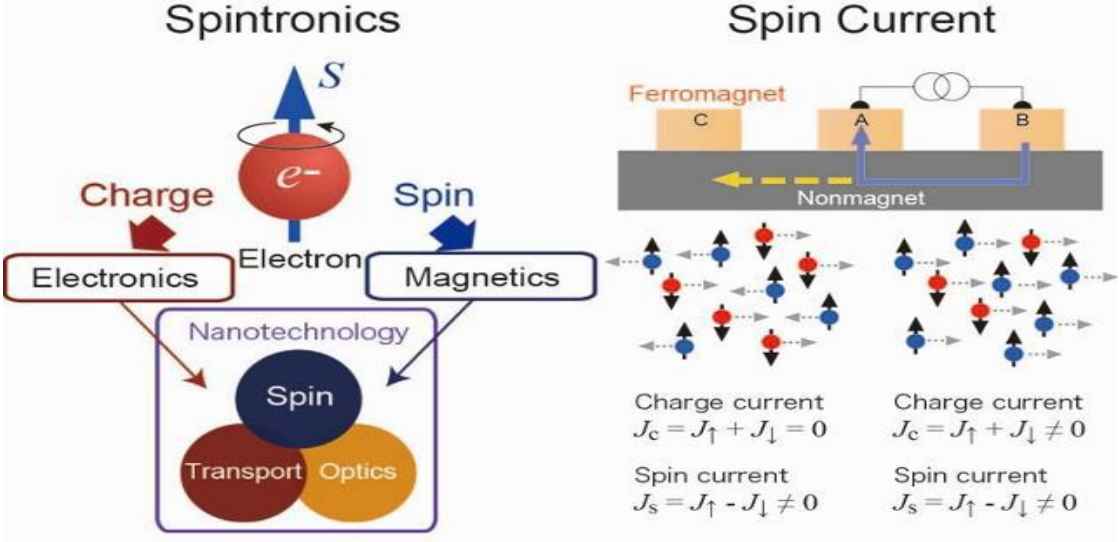
- Application Date: January 2018 (Tentative)
- Vacancies: 38 (Civil), 58 (Electrical), and 17 (IT&C) – Tentative
- Basic Pay scale/ CTC offered: Rs 15600 -Rs 39,100 and Rs 5400

STUDENT ARTICLES

SPINTRONICS

Spintronics or spin electronics is an emerging field of basic and applied research physics and engineering that aims to exploit the role played by electron spin in solid state materials. Spintronics devices make use of spin properties instead of, or in addition to electron charge to carry information, thereby offering opportunities for novel micro- and nano electronic devices. This article reviews the background and current status of this subject, and also some of the applications of Spintronics.

Polarized electrons are used to control electric current. The goal of Spintronics is to develop a semiconductor that can manipulate the magnetism of an electron. Once we add the spin degree of freedom to electronics, it will provide significant versatility and functionality to future electronic products.



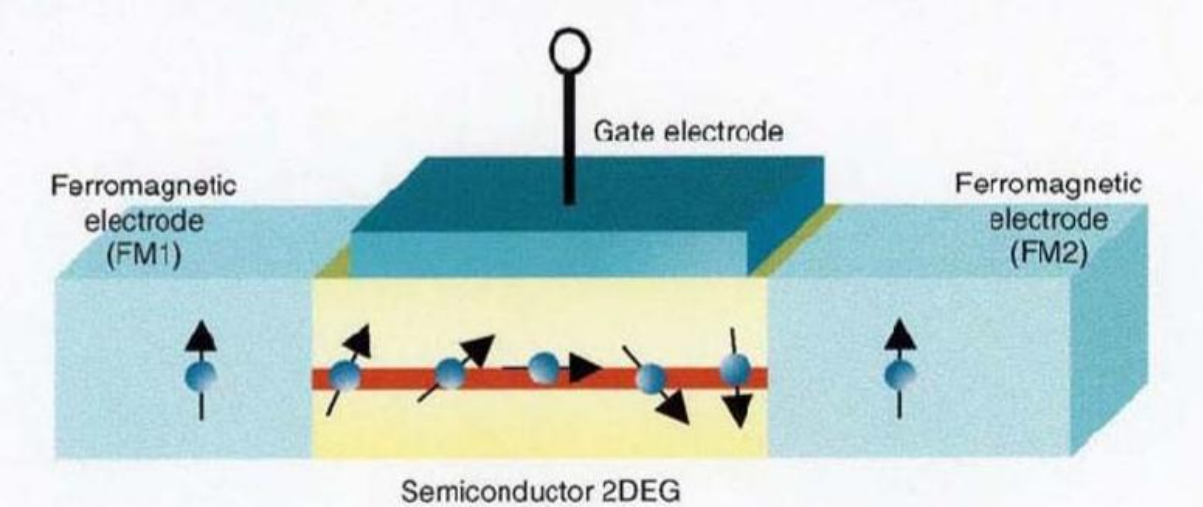
The realization of semiconductors that are ferromagnetic above room temperature will potentially lead to a new generation of Spintronic devices with - revolutionary electrical and optical properties. The giant magneto resistance (GMR) effect occurs when a magnetic field is used to align the spin of electrons in the material, inducing a large change in the resistance of a material.

In Spintronics, information is stored and transmitted using another property of electrons called spin. Spin is the intrinsic angular momentum of an electron, each electron acts like a tiny bar magnet, like a compass needle, that points either up or down to the spin of an electron.

Electrons moving through a nonmagnetic material normally have random spins, so the net effect is zero. External magnetic fields can be applied so that the spins are aligned (all up or all down), allowing a new way to store binary data in the form of one's (all spins up) and zeroes (all spins down. The device was known as "spin valve" because when a magnetic field was applied to the device, the spin of its electrons went from all up to all down, changing its resistance so that the device acted like a valve to increase or decrease the flow of electrical current called Spin Valves.

SPIN TRANSISTOR:

The basic idea of a spin transistor, as proposed by Suprio Datta and Biswajit Das (Purdue University, USA) is to control the spin orientation by applying a gate voltage. A spinFET, as depicted below, consists of ferromagnetic electrodes and a semiconductor channel that contains a layer of electrons and a gate electrode attached to the semiconductor. The source and drain electrodes are ferromagnetic (FM) metals.



The rotation can be controlled, in principle, by an applied electric field through the gate electrode. If the spin orientation of the electron channel is aligned to the FM drain electrode, electrons are able to flow into the FM drain electrode. However, if the spin orientation is flipped in the electron layer (as in the figure above), electrons cannot enter the drain electrode (FM2). In this way, with the gate electrode the rotation of the electron spin can be controlled. Therefore, in a spin FET the current flow is modified by the spin precession angle. Since the spin FET concept was published in 1990, there has been a worldwide effort to develop such a transistor. The success of such a project crucially depends on efficient injection of spin currents from a ferromagnetic metal into a semiconductor, a seemingly formidable task. Intense research is under way to circumvent problem by using (Ferro) magnetic semiconductors such as GaMnAs.

CONCLUSION:

The GMR is the background to switch from the "traditional" electronic to the spin based electronics. Spintronic has great potentiality for applications and it is the beginning of its journey. The realization of semiconductors that are ferromagnetic above room temperature will

potentially lead to a new generation of spintronic devices with revolutionary electrical and optical properties.

-Mr.U.Ajith Kumar, Final EEE

WASTE-FUELED POWER PLANTS

In India, critics assail proposal to build 100 waste-fueled power plants

An Indian government proposal to build up to 100 incineration plants to burn municipal waste and produce electricity is drawing sharp criticism from opponents- the plan flies in the face of the nation's efforts to cut air pollution and shift to cleaner energy sources.

The proposal, part of a sweeping draft 3-year action plan released this past April by an influential government think tank, is aimed at managing the some 170,000 tons of waste generated each day in some 8000 larger municipalities. Waste-to-energy plants are "the best option" for dealing with this waste, which poses a "serious public health threat," the plan states. It suggests establishing a new Waste to Energy Corporation of India "to speed up the process of cleaning up municipal solid waste" by developing public-private partnerships to build the plants. The corporation could "play a key role in fast-tracking waste to energy plants across 100 smart cities by 2019," The plan envisions the plants, which it suggests would be environmentally beneficial, generating 330 megawatts of electricity by 2018 and 511 megawatts by 2019. (The typical coal-fired power plant generates about 500 megawatts annually.)

But many Indian environmentalists and scientists say the idea is flawed. "Incineration is the worst option possible," says engineer Anent Thrived of New Delhi, a former member of the Technical Experts Evaluation Committee of India's Central Pollution Control Board. "This belief that you are creating clean energy from waste is also wrong."

He and other critics argue that the recommendation ignores the fact that India's urban waste streams often contain a mix of materials that is unsuitable for efficient incineration, and that existing plants have had difficulty meeting air quality rules or have closed as a result of poor management and misguided assumptions about fuel streams.

"Incineration is not appropriate," for managing India's household waste, which can be 80% organic materials such as damp food scraps, says waste specialist T. V. Ramachandra of the Indian Institute of Science in Bengaluru. Better options, he says, are composting or using fomenters to convert waste to biogas.

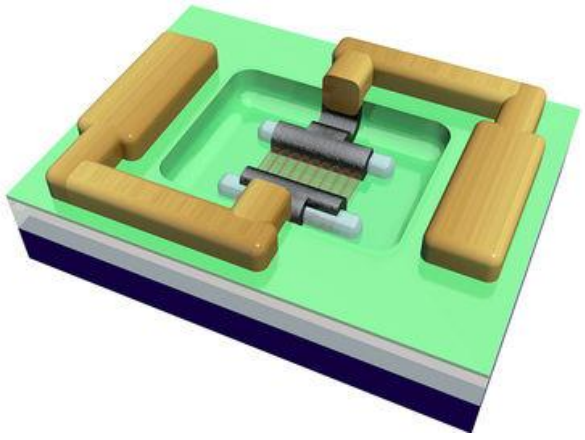
The recommendation to burn waste also seems out of step with other government policies, critics note. A recent Indian government white paper on pollution, for example, states that "thermal treatment methods such as incineration … are not feasible due to the low heat value of the municipal solid waste." The critics also argue that India currently has too much capacity for producing electricity, so has little need for waste-fueled power plants.

It's not yet clear how much of the draft plan, which is supposed to help guide the government led by Prime Minister Narendra Modi, will become reality. State and local governments are now commenting on its recommendations, which cover a wide range of issues, including economic, energy, and environmental policy.

- ***Ms.G.Ponmala, Final EEE***

CARBON NANOTUBES

Scientists use carbon nanotubes to make the world's smallest transistors



As computing has moved into the nanoscopic realm, it's getting harder and harder for engineers to follow Moore's Law, which says, essentially, that the processing speed of computer chips should double every year or two. But IBM researchers have just reported a new way to

keep Silicon Valley on the right side of at least this law, using a delicate material to make microchips' basic processing elements—transistors—smaller and faster than ever before. For decades, computing speed has increased as silicon transistors have shrunk, but they're currently near their size limits. So scientists have been experimenting with carbon nanotubes, rolled-up sheets of carbon atoms just 1 nanometer, or a billionth of a meter, in diameter. But difficulties working with the material have meant that, for optimal performance, nanotube transistors have to be even larger than current silicon transistors, which are about 100 nanometers across. To cut that number down, a team of scientists used a new technique to build the contacts that draw current into and out of the carbon nanotube transistor. They constructed the contacts out of molybdenum, which can bond directly to the ends of the nanotubes, making them smaller.

They also added cobalt so the bonding could take place at a lower temperature, allowing them to shrink the gap between the contacts. Another advance allowed for practical transistors. Carrying enough electrical current from one contact to another requires several nanotube "wires." The researchers managed to lay several parallel nanotubes close together in each transistor. The total footprint of the transistor: just 40 nanometers, they report today in *Science*. Electrical tests showed their new transistors to be faster and more efficient than ones made of silicon. Silicon Valley may soon have to make way for Carbon Valley.

- ***Ms.R.Nikkitha, Final EEE***

SOUTH KOREA'S NUCLEAR U-TURN DRAWS PRAISE AND DARTS

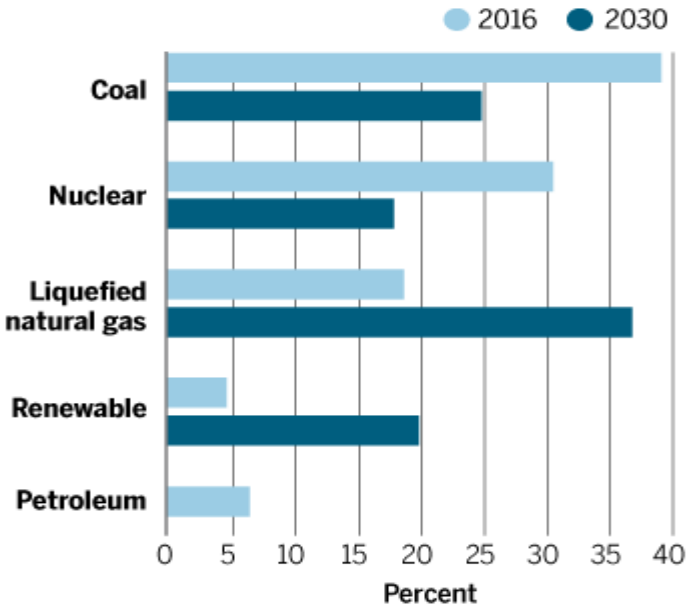
A campaign promise to scale back South Korea's reliance on coal and nuclear power helped Moon Jae-in win the nation's 10 May presidential election. In recent weeks he has fleshed out the details: He plans to phase out coal-fired power plants, block the construction of new nuclear plants, and ramp up the country's reliance on natural gas and renewable energy. It is a dramatic reversal of the country's previous nuclear-centric energy policy. And it has split energy economists, editorial pundits, and the academic community.

"It is a historical, transitional moment," says Yun Sun-Jin, who studies environmental and energy policy at Seoul National University (SNU). The shift will help the country meet its pledge to cut greenhouse emissions, reduce local air pollution, and cut the risk of nuclear accidents, she says.

But some analysts wonder whether the country will be able to scale up new power sources fast enough to avoid price hikes and power disruptions. Nuclear power advocates, for their part, are appalled. A "distortion of facts is creating and spreading an ungrounded phobia" against nuclear energy, says Joo Han Gyu, a nuclear engineer at SNU. "My students are deeply disappointed" with the new policy, Joo adds. An unnamed nuclear engineering professor told local media his once thriving department is now "like a funeral parlor."

Energy remix

South Korea aims to boost the percentage of gas and renewable energy in its power generation and cut the share of coal and nuclear.



(GRAPHIC) G. GRULLÓN/*SCIENCE*; (DATA) South Korea Electric Power Corporation

For several decades, South Korea aggressively promoted nuclear power, both to cover the resource-poor country's energy needs and as a potential export business. In 2016, the nation's 25 reactors generated nearly one-third of its electricity and made it the world's fifth largest producer of nuclear energy, according to the World Nuclear Association. At the same time, renewable energy was practically ignored. "The government thought … there was no need," Yun says. South Korea got just 4.7% of its power from renewables in 2016 and, in 2015, ranked 45th in a survey of 46 nations that looked at the share of renewables in each country's energy mix. After the public soured on nuclear power following Japan's 2011 Fukushima disaster, a previous administration even decided to build new coal-fired power plants rather than turn to renewable

energy, Yun says. That would have made it nearly impossible for the country to meet its Paris agreement pledge to cut carbon dioxide emissions 37% by 2030,

Moon is charting a new course toward "a nuclear-free nation," he proclaimed at a 19 June ceremony to mark the closure of South Korea's first nuclear power plant, the Kori 1 in Busan, which has completed 40 years of service. In public comments, Moon has suggested decommissioning other nuclear plants at the end of their initial licenses as well halting new projects in order to cut nuclear's share of South Korea's energy mix by nearly one-half. He also wants to close 10 older coal plants and ban new ones, and eliminate the use of oil. To compensate, the administration foresees doubling imports of liquefied natural gas by 2030 and boosting renewables to 20% of total energy.

Environmentalists welcome the moves. But last month 230 nuclear engineering professors at the nation's universities signed a statement urging Moon to "not hastily push for the new nuclear-free energy policy." He should first seek "a social consensus," they say, by consulting with the public, scientists, and others. SNU's Joo—the group's representative—argues that Moon has been bolstering his antinuclear case by making misleading claims about the Fukushima disaster and its consequences.

Other nuclear scientists are waiting to see how South Korea's new energy policy, due by the end of the year, might affect research, including work on fusion reactors. The new policy "likely won't have an immediate impact," predicts Kim Keeman, director general of South Korea's National Fusion Research Institute (NFRI) in Daejeon. NFRI hosts a tokamak research reactor and South Korea's effort to support ITER, the experimental fusion reactor under construction near Cadarache in France. Many experts believe fusion to be a safer alternative to fission technology. But Kim sees a more fundamental issue. "People tend to feel uncomfortable with all large generating facilities, whether they be coal or nuclear," he says. "That's where uncertainties arise about the fate of our research."

- ***Ms. K.Pandiselvi, Final EEE***

STUDENTS EXPERIENCE IN INTERNSHIP

KALASALINGAM UNIVERSITY, SIRIVILLIPUTHUR

Hi Techies,

"Take a chance because you never know how perfect something might turn on"

As the quotes say I had a wonderful opportunity of attending an one month internship programme conducted by the Kalasalingam University, Sirivilliputhur. The campus was green and fresh surrounded by mountains together with the fruits of knowledge. The International Research Centre of the college conducted the programme. The programme was from June 1 to June 30. There were students from different college and different domains. I had an opportunity of working in the field of Renewable energy in their Centre for Renewable Energy. I was guided by Dr. D. Devraj . I worked on **"Modeling and Tracking of Maximum Power point in Solar cells using P&O Algorithm"**. It gave me a wonderful experience of working in my field of interest. It has created a platform for my final year project. It has also sowed the seeds for my growth by encouraging me to publish papers and journal on further extension of this project. I had a chance of developing my knowledge in depth in MATLAB/Simulink. It was really an efficient programme and I take this juncture to thank one and all who helped me attend this internship programme. Good Bye!

By,

S.BALA ABHIRAMI
FINAL YEAR A

L&T HYDROCARBON ENGINEERING

INTERNSHIP OBJECTVIES

The Reason I choose to follow an abroad internship is because I wanted to benefit from the experience. I wanted a new challenge and to learn, improve and develop new sets of skills.

The internship opportunity I had with L&T HYDROCARBON ENGINEERING was a great chance for learning and professional development. Therefore, I consider myself as a very lucky individual as I was provided with an opportunity to be a part of it. I am also grateful for having a chance to meet so many wonderful people and professionals who led me though this internship period. For one month of period from 24th April to 23rd May, I did an internship at L&T HYDROCARBON ENGINEERING.

TASKS / DAILY ACTIVITIES:

Most of daily task to learn on various topics like,

- Installation and Testing Requirements of Substation Equipment's like, Transformers, MV/LV Switchgears, Bus bars, Lightning arresters, UPS.
- Basic principles of Power generation, Transmission and Distribution.
- Understanding of various Electrical Drawings like Equipment Lay out, SLDs etc.
- AC/DC Motors and Generators.

I perceive as this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement, in order to attain desired career objectives. Hope to continue cooperation with all of you in the future,

CONCLUSION

The internship is a key element in the technical writing student's professional preparation. And the internship report is a key element in the internship experience. It is through writing the report that the maturity and professional experience the student gained as an intern becomes fully realized.

U.AJITHKUMAR & P.JOELJOSHUVA, FINAL EEE

EPCOS INDIA PVT LIMITED, NASHIK, MAHARASTRA.

During the month of May seven students from our department including me and two staff members underwent an internship at ***TDK EPCOS INDIA PVT. LTD.,*** NASHIK, MAHARASTRA. The internship period was about 4 weeks for students.

ABOUT THE COMPANY:

The company was created in 1999 from Siemens Matsushita Components, which was a joint venture of Siemens and Matsushita in 1989. The stock opened on 15 October 1999 at the same time in Frankfurt and New York City, with Siemens and Matsushita holding interests of 12.5% each. In 2006 Siemens sold its shares of Epcos. In October 2006 Matsushita also sold its holdings. TDK Corporationagreed to acquire a controlling stake in the company on 31 July 2008. After complete acquisition of EPCOS by TDK on October 1, 2009 the TDK-EPC cooperation with about 36,000 employees (worldwide) was founded in Japan. EPCOS' portfolio includes capacitors, ceramic components, EMC filters, inductors, non-linear resistors, RF modules, surface acoustic wave components, surge arresters and ferrites.

In Germany Epcos has production location in Heidenheim (capacitors, inductors and ferrites), Berlin (sensors), and Munich (SAW components). Worldwide Epcos operates production facilities in Brazil (Gravatai), Finland(Espoo), Spain (Málaga), India (Bawal, Nashik, Kalyani), Hungary (Szombathely), Austria (Deutschlandsberg), United States (Palo Alto), Czech Republic (Sumperk), Malaysia, Singapore and China.

In the EPCOS unit of NASHIK the main products manufactured are

- APP CAPACITORS
- APFC PANELS
- ACTIVE HARMONIC FILTERS
- DC CAPACITORS

In the period of 4 weeks we worked in the PQS department (Power Quality Solutions) that manufactures APFC PANELS AND HARMONIC FILTERS and also we visited the APP CAPACITORS section.

APP CAPACITORS:

APP refers to All Poly Propylene i.e. the dielectric medium used in this capacitors is poly propylene and the conductor plates are made of Aluminum foil.

PQS DEPARTMENT:

The PQS department is the place where the APFC panels and filters are manufactured. **APFC- A**utomatic **P**ower **F**actor **C**ontroller.

In the period of four weeks the company gave us some tasks and designing works to be done using MATLAB. The tasks given to us are as follows:

1) To design a load that produces harmonics.
2) To design a tuned harmonic filter to eliminate 5^{th} order harmonics.
3) To analyze the transient response of LC circuit.
4) To design a circuit that creates a dead band between two complementary signals.
5) To design an electronic circuit that converts a (-325V to +325V) ac signal to a (0V to 5V) signal.

This internship made us to know about the real time problems that exist in designing of electronic circuits and components.

The team of students

S. Prabhu
P. R. Prakash
R. Narain Krishna
R. Sritharan
B. MathanaGopal
S. S. Siva Shankar
U. Ishwaramoorthy
Final Year EEE

INDIA METAL ONE STEEL PLATE PROCESSING PRIVATE LIMITED

Hai friends

"Tell me and I forget, teach me and I may remember, involve me and I learn."

I had a wonderful opportunity of attending a three weeks internship programme at India Metal One Steel Plate Processing Private Limited .It's a steel plate fabrication/Processing company located in Sri City Tada, Andhra Pradesh. They are into the business of processing steel plate and fabricating various steel products. It is an actively growing company here in India. IMOP is an Indo-Japanese venture established here in April 2011. It was started by partnership of two companies, Metal One Corporation and Keiyo Blanking Kogyo Corporation. The programme was from may 3 to may 19.I had an opportunity of working under the **"Electrical Maintenance**

Department". I was guided by Maintenance Manager- Mr.S.Rajesh and Assistant Manager- Mr.Balaji. In Electrical Maintenance Department ,as the quotes say they involve me in maintenance of various High value machines like Leaser cutting machine ,Plasma cutting machine,Horizontal CNC machine ,Vertical CNC machine ,Robotic welding machine .I had a chance of developing my knowledge in PLC, SCADA .This internship programme makes me professional person and I want to thank one and all who helped me to attend this internship programme. Thank you !

By ,
G .AJIT KUMAR
FINAL YEAR A

ANDREW YULE & COMPANY LIMITED - (A GOVERNMENT OF INDIA ENTERPRISE)

FROM: 15.05.2017 TO: 27.05.2017

Being a final year student and preparing for our placements, attending internship training is an added value to our resume and also to our knowledge and that too from a government organization like ANDREW YULE & COMPANY LIMITED. This is where we actually get to know about the real knowledge of our subjects.

ANDREW YULE & COMPANY LIMITED is transformer manufacturing company and their major products are,

- Power & Distribution Transformers upto 132 KV & 50 MVA.
- Dry Type Transformers both FLP & Non-FLP versions.
- Special Transformers - Furnace/ Earthing, Booster, Converter and Lighting.

Initially they get the specifications from the costumer and the DESIGN TEAM will formulate the design specifications of the transformer and these specifications are given to the EXCECUTIVE ENGINEER of the manufacturing section. The manufacturing section has four departments,

- Core Section
- Winding Section
- Assembly Section
- Testing Section

1) For the 1st two days we were put into the Core Section and we took part in the assembling process of the core of the transformer. 'Cold Rolled Grain Oriented' (CRGO) Silicon Steel sheets were used as the Core material for better performance of the transformer. "E" type STEPPED CORE were largely manufactured by them.

For the next three days we assisted in the winding section. They manually rotate the windings using a roller, as per the given specifications. They use copper windings and the windings were surrounded by paper insulator. They manufacture three different types of windings,

- Cross-over
- Helical
- Disc.

2) Then we worked in the assembly section for three days, where the winding were inserted into the core and then the connections for the winding were done and then the whole set was put into the yoke of the transformer and is completely filled with oil. Before these process the winding, the core and the yoke were subject to heating chamber to remove the moisture content.

3) For the last three days we were in the testing department. They have the following testing equipments,

- Testing Transformer two phase, 80 KVA 80/0.44kV
- Testing Transformer 300 KVA 150-300 / 0.4 kV
- Intermediate Transformer 500 KVA
- Loading Transformer 1600 KVA, 4500 / 1500V
- Yokogawa Make Power Meter
- Variable 2 PH Regulating Transformer 60 KVA 440/0-440V
- 800KVp, 40KJ Impulse Generator Test set up.

1st testing were done for resistance and insulation values and then ‘short circuit test’ and ‘open circuit test’ were carried out to find the constant loss value and they will verify that with the given specifications.



After these tests are over the customer were called and the transformer were demonstrated for them and then the IMPULSE TEST on the transformer were carried out in front of the customer. Then the transformer were dissembled and packed and then send to the customer place.

ATTENDED STUDENTS (FINAL YEAR –A)

S.ARUN JEYAKUMAR
J.R.ABISHEK JAYANTH
M.ASWANTH NAVAMANI
M.ABDUL KADER RIYAZ

TECHNICAL ARTICLE BY STAFF MEMBER

Ms.S.Muthukumari, M.E.,
Assistant Professor
Electrical and Electronics Engineering
National Engineering College

BATTERY-FREE CELL PHONE

Now-a-days smart phones, smart homes and even smart wearable's are growing in a more advanced way, they are still limited by power. The battery hasn't advanced in decades. But we are on the verge of a power revolution.

Big technology companies, and now car companies that are making electric vehicles, are all too aware of the limitations of lithium-ion batteries. While chips and operating systems are becoming more efficient to save power we're still only looking at a day or two of use on a smart phone before having to recharge. Tech companies and car manufacturers are pumping money into battery development.

But while we have been writing about these developments for years they still haven't made it to our phones. This is because everyone is waiting for the perfect replacement before making the jump.

Researchers at the University of Washington (UW) have invented a phone that harvests the few microwatts of power it requires from either ambient radio signals or light and requires no batteries. The key challenge in achieving this is that a cell phone is required to perform multiple basic operations: sensing speech at the device, transmitting it to the base station, receiving speech information from the base station and finally actuating the speaker/earphones. Designing a battery-free cell phone system required performing all these functions, in real time, using only a few micro-watts of power.

The battery-free device prototype is built using commercial-off-the-shelf components on a printed circuit board. In the prototype device, the user presses a button to switch between the "transmitting" and "listening" modes. The battery-free phone can harvest energy from either the RF signal transmitted by the base station or from ambient light. It can operate on power that is harvested from RF signals transmitted by a base station 31 feet (9.4 m) away. Further, using power harvested from ambient light with tiny photodiodes, the device can communicate with a base station that is 50 feet (15.2 m) away. Thus, the battery-free cell phone marks a major leap forward in moving beyond chargers, cords and dying phones.

The device uses a technique called backscatter. It basically uses the radio waves that already move around us to communicate. This device is still in its infant stages, but the team was able to successfully demonstrate a voice call from a battery-less phone to an Android smart

phone. The phone uses capacitive touch buttons and LED's for user interaction. The user dials the phone number and controls the phone using capacitive touch buttons. The battery-free cell phone sends digital signals when numbers are inputted in the keypad and then moves to completely analog for the voice transmission.

The team of computer scientists and electrical engineers eliminated a power-hungry step in cellular transmissions, namely converting analog signals that convey sound into digital data that a phone can understand which consumes so much energy. Thus, converting analog human speech to digital signals consumes a lot of power that is impossible in designing a phone that can rely on ambient power sources. On the other hand, communication using analog technology is more power efficient. So the team had reinvented analog backscatter technology, which was last employed in spy kits during the Cold War. The new technology takes advantage of tiny vibrations in a phone's microphone or speaker that occur when a person is talking into a phone or listening to a call.

An antenna connected to those components converts that motion into changes in standard analog radio signal emitted by a cellular base station. The process essentially encodes speech patterns in reflected radio signals in a way that uses almost no power. To transmit speech, the phone uses vibrations from the device's microphone to encode speech patterns in the reflected signals. To receive speech, it converts encoded radio signals into sound vibrations that are picked up by the phone's speaker.

The base station uses Skype API to establish and manage connection with cellular networks. The signal moves over an unlicensed frequency to a base station that connects to the digital cellular network via Skype. The base station doesn't just connect the cell phone to the network, it also delivers the necessary power to make it work. The current base station allows the phone to be at most 15 meters from it – not really portable, but things might change in the future by integrating base stations with phone towers.

Since this phone doesn't allow to simultaneously send and receive audio. Instead, the caller has to hold in a send or receive button while sending or receiving. In that sense, it is more similar to a walkie-talkie than a real cell phone.The team is now working to improve the call quality. The team is also considering an e-ink display to send texts and possibly even a camera.

- Battery-free cell phone video link: https://www.youtube.com/watch?v=5f5JJTmbO4U

STUDENT INTERNSHIP DETAILS 2016 - 2017

Sl. No	Student Name	Class	Company Name	Duration
1	U.Iswaramoorthy	III 'A'	EPCOS India Private Limited, Nashik, India	2/05/2017 to 26/05/2017
2	B.Mathana Gopal	III 'A'		
3	R.Sritharan	III 'B'		
4	R.Narain Krishna	III 'B'		
5	S.S.Siv Shankar	III 'B'		
6	S.Prabhu	III 'B'		
7	P.R.Prakash	III 'B'		
8	M.Jagadeeswaran	III 'A'	Power System Operation Corporation Limited, Bangalore, India	8/05/2017 to 19/05/2017
9	M.Hariharan	III 'A'		
10	D.Franklin	III 'A'		
11	R.Dinakar Raja	III 'A'		
12	G.Ajit Kumar	III 'A'	India Metal One Steel Plate Processing Pvt. Ltd, Andra Pradesh, India	03/05/2017 to 19/05/2017
13	M.Hariharan	III 'A'	TVM Signalling and Transportation Systems Private Limited, Bengaluru, India	24/05/2017 to 30/05/2017
14	S.ArunJeya Kumar	III 'A'	Andrew Yule & Company Limited, Chennai, India	15/05/2017 to 27/05/2017
15	J.R.AbishekJayanth	III 'A'		
16	Abdul Kadar Riyaz.M	III 'A'		
17	AswanthNavamani.M	III 'A'		
18	BalaAbhirami.S	III 'A'	Summer Internship Programme, Kalasalingam University, Virudhunagar, Tamil Nadu	1/06/2017 to 30/06/2017
19	Rajkumar.R.K	III 'B'	MAS Solar Systems Private Limited, Coimbatore, India	08/05/2017 to 03/06/2017
20	Saravana Kumar. P	III 'B'		
21	Seenivasakan.A	III 'B'		
22	Vijay.N	III 'B'		
23	Vignesh.S	III 'B'		
24	SornaKumar.B	III 'B'		
25	Vikram.K	III 'B'		
26	Raja.R.S	III 'B'		

STUDENT INPLANT TRAINING 2016 - 2017

IPT Dteails 2016- 2017				
Sl.No	**Students Name**	**Branch**	**Company Name**	**IPT Date**
1	M.Ani Nithusha	II EEE	Panasonic Appliances company Limited Chennai	10.04.2017 to 24.04.2017
2	R.Nishanthi	II EEE		
3	S.Priyadharshini	II EEE		
4	Bharathi Rajan	II EEE	Narayan Industries, Coimbatore	10.04.2017 to 25.04.2017
5	C.Gurunathan	II EEE		
6	M.Jothi Base	II EEE	Railways AC Loco Shed, Erode	10.04.2017 to 25.04.2017
7	N.Prasanna Venkateshan	II EEE		
8	R.Aravindhan	II EEE		
9	S.Ariharan	II EEE	ISRO, Mahendragiri	10.04.2017 to 24.04.2017
10	M.Balakrishnan	II EEE		
11	S.Gopala Krishnan	II EEE		
12	R.Ragu Raman	II EEE		
13	R.Aranganathan	II EEE		
14	M.Karan	II EEE		
15	S.Sivakumar	II EEE		
16	S.Kathirvelmari	II EEE	Kondaas Automation Pvt. Ltd, Coimbatore	10.04.2017 to 25.04.2017
17	A.Sundararajan	II EEE		
18	P.Kannan	II EEE		
19	P.Guru Subramanian	II EEE		
20	S.Syed Mohideen Batcha-	II EEE		
21	A.Kalirajan	II EEE		
22	P.Mahendran	III EEE	Tamilnadu Electricity Board,Madurai	17.04.2017 to 21.04.2017
23	K.Neethi Raja	III EEE		
24	N.Maha Raja	III EEE		
25	P.Pavithran	III EEE		
26	G. Muthu Pandi	III EEE		
27	S.Presmsha	II EEE	Bharatiya Nabhikiya Vidyut Nigam Limited Kalpakkam	17.04.2017 to 29.04.2017
28	P.Priyadarshini			
29	R.Ragu Raman	II EEE		
30	Sree Vidya Chidambara Vadivoo	II EEE	Ramco Cement Private Limited R.R.Nagar	02.05.2017 to 09.05.2017
31	K.Shenbaga Devi	II EEE		
32	D.Vishnu Moorthi	II EEE		
33	S.Sivakumar	III EEE	Tamilnadu Electricity Board Madurai	24.04.2017 to 28.04.2017
34	G.Muthukumar	III EEE		
35	T.Sam Christopher Ponraj	III EEE		

36	M.Sri Jawahar	III EEE		
37	R.Velmurugan	III EEE		
38	M.Saravanan	III EEE		
39	M. Saravana Kumar	III EEE		
40	P. Saravana Kumar	III EEE		
41	D. Venkatesh	III EEE		
42	A. Seenivasakan	III EEE		
43	A.Rajasekar	III EEE	Mcnold Electrical Equipments (p) Limited Madurai	02.05.2017 to 12.05.2017
44	S. Vignesh	III EEE		
45	D.Praveen Kumar	III EEE		
46	S. Thangabala Murugan	III EEE		
47	S.Rajesh	III EEE		
48	N. Arun	III EEE		
49	A.Prabhu	III EEE		
50	R.K.Rajkumar	III EEE		
51	R.Arunkumar	III EEE		
52	B.Naga Aravindh	II EEE		
53	S.Sathish Kumar	II EEE		
54	M.Ramasami	II EEE	Kondaas Automation Pvt. Ltd,Coimbatore	02.05.2017 to 18.05.2017
55	P.Subramani @ Subash	II EEE		
56	G.Rajesh	II EEE		
57	P.Vignesh	II EEE		
58	M.Ajith kumar	III EEE	The India Cements Ltd,Sankarnagar	01.05.2017 to 17.05.2017
59	S.Nambi rajan	III EEE		
60	L.Rama Narayanan@ Ramesh	III EEE		
61	A.Sankara Narayanan	III EEE	Tamilnadu Electricity Board,Madurai	24.04.2017 to 28.04.2017
62	R.S.Prem kumar	III EEE		
63	T.Sathish	III EEE		
64	L.Stuwert Williams	II EEE	Seshasayee Paper and Boards Limited Elanthaikulam,Tirunelveli.	01.05.2017 to 10.05.2017
65	S.Bala Abhirami	III EEE	M/s. Southern Petrochemical Industries Corporation Limited,Tuticorin	02.05.2017 to 12.05.2017
67	S.Govinda Prasad	II EEE	Kondaas Automation Pvt. Ltd,Coimbatore	03.05.2017 to 15.05.2017
68	A.Nagarajan	II EEE		
69	T. Rajesh Pandi	III EEE	Tamilnadu Electricity Board, Virudhunagar	16.05.2017 to 20.05.2017
70				
71	V.Deepika Rajam	II EEE		
72	J.Arul Sudhanya	II EEE	B.S.N.L. Madurai	08.05.2017 to 19.05.2017
73	K.Seetha	II EEE		
74	M.Rajashree	II EEE		

75	B.Mahalakshmi	II EEE		
76	S.Thangaadhilakshmi	II EEE		
77	C.Shibana	II EEE		
78	E.Kalaiarasi	II EEE	Tuticorin Thermal Power Station, Tuticorin	08.05.2017 to 12.05.2017
79	V.Ramya	II EEE		
80	P.Maha Swetha	II EEE		
81	S.Suriya Kala	II EEE		
82	M.Jeffin Anisha	II EEE		
83	M.Nandhini	II EEE		
84	P.T.Soumiya	II EEE	Truck Jee.com,Chennai	09.05.2017 to 13.05.2017
85	K.Vishun Priya	II EEE		
86	K.Shenbaga Devi	II EEE	B.S.N.L. Tirunelveli	15.05.2017 to 20.05.2017
87	Kasirani.P	II EEE		
88	Jamunadevi.S	II EEE		
89	M.Muthuvarathalakshmi	II EEE		
90	S.Lakshmi Brindha	II EEE		
91	P.Priya Darshini	II EEE		
92	K.Santhiya Lakshmi	II EEE		
93	V.Padmavathi	II EEE		
94	J.Sankari	II EEE		
95	T.Sree Vidya Chidambara Vadevoo	II EEE		
96	P.T.Soumiya	II EEE		
97	P.Kavitha	II EEE		
98	S.Reshma Priyadarshini	II EEE		
99	Srijawahar.M	III EEE		
100	Sam Christopher Ponraj	III EEE		
101	S.Muthu Kumar	III EEE		
102	Sathish.T	III EEE	ABB India Private Limited,Bangaloru	15.05.2017 to 19.05.2017
103	Mokkaiya Madhavan	III EEE		
104	Sanjeevi Mariappan	III EEE		
105	T.Kayalvizhi	II EEE		
106	K.R.Jeniba	II EEE		
107	A.Mahibala	II EEE	The India Cements Ltd,Sankarnagar	15.05.2017 to 28.05.2017
108	A.Nithiyasree	II EEE		
109	B.Radha	II EEE		
110	N.Sugasini	II EEE		
111	K.N.Sakthi	II EEE		
112	S.Chokkalingam	II EEE		
113	K.Chellakili Manoharan	II EEE	M/s. Southern Petrochemical Industries Corporation Limited,Tuticorin	15.05.2017 to 29.05.2017
114	J.Jesu Raja	II EEE		

115	K.Karthik	II EEE		
116	S.Mahalakshmi	III EEE		
117	V.Krishnaveni	III EEE		
118	U.Manikkavasuki	III EEE	Nuclear Power Corporation of India Limited Kudankulam	15.05.2017 to 20.05.2017
119	M.Maragathavalli	III EEE		
120	O.Chitra	III EEE		
121	K.Kowsalya	III EEE		
122	S.Siva Shankar	III EEE	Nuclear Power Corporation of India Limited Kudankulam	10.04.2017 to 21.04.2017
123	J.Sankari	II EEE		
124	K.Santhiya Lakshmi	II EEE	The India Cements Ltd,Sankarnagar	18.05.2017 to 25.05.2017
125	N. Deepa	III EEE		
126	A.U.Najeeba	III EEE		
127	A.Sangeetha	III EEE	Tuticorin Thermal Power Station, Tuticorin	02.05.2017 to 05.05.2017
128	S.Rohini	III EEE		
128	R.Nikkitha	III EEE		
129	K.Pandi Selvi	III EEE		
130	A.Rajasekar	III EEE		
131	A.Karthick	III EEE		
132	R.Mathupandi	III EEE		
133	S.Thangabala Murugan	III EEE	Tamilnadu Electricity Board Virudhunagar	22.05.2017 to 02.06.2017
134	S.Rajesh	III EEE		
135	A.Prabhu	III EEE		
136	K.Kaliraj	III EEE		
137	S.Vignesh	III EEE		
138	A.Asha	III EEE		
139	A.Jothi Meena	III EEE		
140	R.Anandhi	III EEE		
141	S.M.Mohideen Shajith	III EEE		
142	D.R.Divya	III EEE	B.S.N.L.Tirunelveli	17.04.2017 to 22.04.2017
143	M.Mohammed Amjath Kani	III EEE		
144	S.Sindhu Muhila	III EEE		
145	B.Nithyanandhan	III EEE		
146	B.Surendaran	III EEE		
147	K.Bowsiya	III EEE		
149	S.Jerin Lincy	III EEE	Southern Railway	05.06.2017 to 10.06.2017
150	S.Harini	III EEE		
151	K.Karunya Prabha	III EEE		
152	S.Abishek	II EEE		
153	G.Viswanath	II EEE	B.S.N.L,Tuticorin	01.05.2017 to 05.05.2017
154	S.Arunkumar	II EEE		

155	R.Sathya	II EEE		
156	K.Seenivasa Ragul	II EEE		
157	B.Nithyanandhan	II EEE		
158	B.Naga Aravind	II EEE		
159	R.Ayya Durai	II EEE	The India Cements Ltd,Sankarnagar	Semeser Holidays
160	G.Ajay Krishnan	II EEE		
161	M.Arunkumar	II EEE		
162	Sathishkumar	II EEE		
163	T.Manikanda Prabhu	II EEE		
164	Mari raj	II EEE		
165	R.Aswin	III EEE	Power Grid Corporation of India(PGCIL Ettayapuram.	15.05.2017 to 20.05.2017
166	M.Dhanu Makeswara	III EEE		
167	C.Aravind Kumar	III EEE		
168	Tamilarasi.P	III EEE		
169	Vinsly.R	III EEE	The India Cements Ltd,Sankarnagar	29.05.2017 to 02.06.2017
170	S.P.Sunanthaa	III EEE		
171	Meenakshi Meyyammai.S	III EEE		
172	Krishna Kumari M.G.	III EEE		
173	Iswariya.M	III EEE	The India Cements Ltd,Sankarnagar	22.05.2017 to 26.05.2017
174	Dhanushya.A	III EEE		
175	P.Rajasree	III EEE		
176	M.Nalini	III EEE		
177	S.Ramya	III EEE	The India Cements Ltd,Sankarnagar	05.06.2017 to 09.06.2018
178	P.Rama Chandra Bharathi	III EEE		
179	J.Senthiladevi	III EEE		
180	G.Ponmala	III EEE		
181	Kumari.S	III EEE		
182	S.Muniraj	II EEE		
183	G.P.Shiva	II EEE		
184	M.Ganesh	II EEE		
185	K.Yogesh	II EEE	Tuticorin Thermal Power Station,Tuticorin	17.04.2017 to 21.04.2017
186	C.K.Muthu ram	II EEE		
187	V.T.Vasanthakumar	II EEE		
188	G.R.Shankar Ganesh	II EEE		
189	S.Saravana Kumar	II EEE		
190	M.Kartheeswaran	II EEE		
191	M.Srinivasan	II EEE		
192	M.Velmurugesan	II EEE		
193	M.Mohamed Farook	II EEE		
194	D.Sudharsan	II EEE		
195	P.Mohamed Safeek	II EEE		

196	J.Saravanan	II EEE	Tuticorin Thermal Power Station, Tuticorin	24.04.2017 to 28.04.2017
197	S.Krishnan	II EEE		
198	D.Murugan	II EEE		
199	S.Murugan	II EEE		
200	K.Rajkamal	II EEE		
201	S.Gopinath	II EEE		
202	S.Murugan	II EEE		
203	T.Manikanda Prabhu	II EEE		
204	S.Ganjendra Saravanan	II EEE		
205	G.Ajay Krishnan	II EEE		
206	K.Seenivasa Ragul	II EEE		
207	S.Nambi Rajan	II EEE	Tuticorin Thermal Power Station, Tuticorin	Semester Holidays
208	R.Ayyadurai	II EEE		
209	M.Arunkumar	II EEE		
210	K.Mariraj	II EEE		
211	R.Sathya	II EEE		
212	K.Bowsiya	III EEE		
213	M.Kandha Lakshmi	III EEE		
214	S.Jerin Lincy	III EEE	Tuticorin Thermal Power Station, Tuticorin	24.04.2017 to 28.04.2017
215	S.Harini	III EEE		
216	K.Karunya Prabha	III EEE		
217	S.Mahalakshmi	III EEE		
218	V.Krishnaveni	III EEE	Tamilnadu Electricity Board,Palayamkottai	08.05.2017 to 12.05.2017
219	V.Maragatha Valli	III EEE		
220	U.Manikkavasuki	III EEE		
221	S.Meena Sanjeevini	III EEE		
222	K.Kowsalya	III EEE		
223	S.Muniraj	II EEE		
224	G.P.Shiva	II EEE	Ind Bharath Thermal Power Limited Tuticorin	26.04.2017 to 05.05.2017
225	M.Ganesh	II EEE		
226	K.Yogesh	II EEE		
227	C.K.Muthu ram	II EEE		
228	V.T.Vasanthakumar	II EEE		
229	G.R.Shankar Ganesh	II EEE		
230	S.Saravana Kumar	II EEE		
231	M.Kartheeswaran	II EEE		
232	E.Veeraputhiran	II EEE		
233	T.Sourabi Krishna	II EEE		
234	T.Selva Kumar	II EEE	Prem Engineering,Madurai	07.04.2017 to 21.04.2017
235	M.Sathish Kumar	II EEE		
236	A.Ashik	III EEE	The India Cements Ltd,Sankarnagar	01.05.2017 To

237	C.Barath Mari	III EEE		15.05.2017
238	J.Jesina	III EEE		
239	S.Maheswari	III EEE	M/s. Southern Petrochemical Industries Corporation Limited ,Tuticorin	02.05.2017 To 12.05.2017
240	T.Manonmani	III EEE		
241	M.Maragathalakshmi	III EEE		
242	I.Anjana	III EEE		
243	M.Krishnashini	III EEE		
244	S.Bala Abhirami	III EEE	The India Cements Ltd,Sankarnagar	29.05.2017 To 03.06.2017
245	G.Gowsalya Devi	III EEE		
246	Divya Prithi	III EEE		
247	K.Koodammal	III EEE		
248	R.Muruga Perumal @ Subash	III EEE		
249	K.P.Shanmuga sundar	III EEE		
250	S.Mohamed Sarjun	III EEE	ATS Technologies,Chennai	15.05.2107 to 26.05.2018
251	L.Raechel Annisha Angel	III EEE		
252	S.Vinoka Sanjeevini	III EEE		
253	S.Meena Sanjeevini	III EEE		
254	P.Pon Sharmila	III EEE		
255	S.Suriya	III EEE	Sun Electricals,Tanjore	15.05.2017 To 27.05.2017
256	N.Shameema Farhana	III EEE		
257	S.Sathiya Bamaa	III EEE		
258	R.Vinsly	III EEE		
259	S.P.Sunanthaa	III EEE		
260	P.Ramachandra Bharathi	III EEE		
261	P.Rajasree	III EEE		
262	M.Iswariya	III EEE		
263	S.Meenakshi Meyyammai	III EEE	Tamilnadu Electricity Board,Chennai	Semester Holidays
264	M.Krishnakumari	III EEE		
265	A.Dhanushya	III EEE		
266	K.Kowsalya	III EEE		
267	M.Nalini	III EEE		
268	P.Tamilarasi	III EEE		
269	S.Ramya	III EEE		

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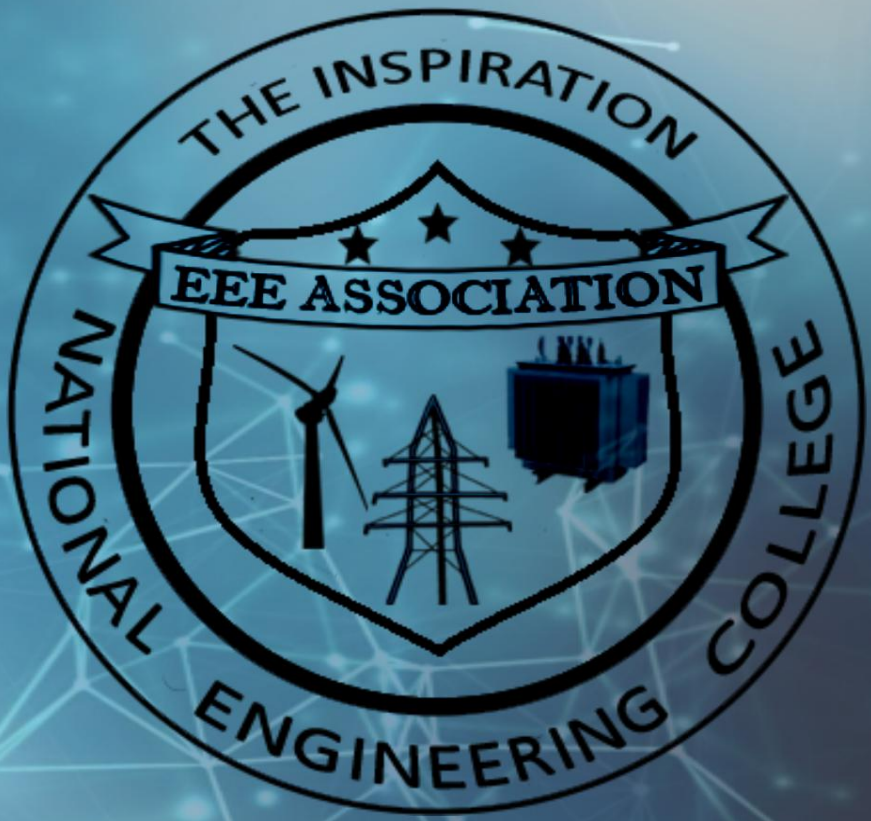

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