



# VELAMMAL INSTITUTE OF TECHNOLOGY

Approved by AICTE - New Delhi, Affiliated to Anna University - Chennai

# SPARK

Department of Electrical &  
Electronics Engineering



NEWSLETTER | JAN' 2017

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### PRINCIPAL'S DESK

The Department of Electrical and Electronics Engineering was formed with the primary objective of providing world class education in the field of electrical engineering, while addressing the problems of today and tomorrow. The strength of the department lies in the highly motivated students who understand the dynamics of the industry and hone their skills accordingly. I would like to appreciate the faculty members of EEE department who are highly supportive to students in this regard.

The newsletter is presenting a glimpse of the growth of the department on many fronts.

I wish the staff and students of the Electrical and Electronics Engineering Department to success in their future endeavors.

**Dr. T. Chandrashekar**  
Principal



### HOD's DESK

It gives me immense pleasure in bringing this news letter Electrical and Electronics Engineering Department.

The main emphasis of this newsletter is to appreciate and highlight the activities and achievements of the staff and students of the department. This would encourage them to enhance their contribution to the progress of the department.

This newsletter would definitely create an impact in the minds of readers, by way of providing larger visibility and dimension to the department.

We look forward to have new innovative ideas and articles for the upcoming issues from the students and staff members.

With Best wishes  
**K. Kaliagurumoorthi**  
HOD - EEE

## STUDENTS PARTICIPATION/PRESENTATION/PUBLICATION

S.No	Name of the Student with Class/ Year	Participation/ Presentation	Title of the Paper/Program	Organized by/Name of the Journalm	Date/Prizes won
1.	R Indhumathi (III Year)	Workshop	World's Biggest International Hands on Ethical Hacking	Wikitechy and Microsoft Research Community Group,Chennai	18-09-16
2.	TamilSelvan N Santhosh AS (II Year)	Workshop	Internet of Things	SSN College of Engg	10-09-16
3.	Priyadharsini T Indhumathi R Hannah Santhosha F Lathasri L (III Year)	Project Expo	Efficiency and Enhancement of Solar Panel	SSN College of Engg	09-09-16 & 10-09-16
4.	Ranjith Kumar.M Mohammed Ismail.S.N Muthumani.S Gokul.E Tamizhselvan.S	Workshop	MATLAB	SSN College of Engg	09-09-16
5.	Ranjith Kumar TamilSelvan N Santhosh AS (II Year)	Paper Presentation	Hybrid Approach Towards Charging Mobile Phones using Sound	Loyola College of Engg & Tech	27-08-16
6.	Vignesh .V(IV)	Conference Publication	A Novel Approach On Power Quality Improvement By Multi-Carrier Multilevel Inverter Topology	14.07. 2016	IEEE Explore Digital Library Digital Object Identifier:10.1109/I-CEES.2016.7510587

## STAFF PARTICIPATION/PRESENTATION/PUBLICATION

S.No	Name of the Staff	Nature of participation / International / National Conference / Journal / Publication / Workshop / Others	Title of the Program / Presentation / Publication	Date	Organized by / Name of the Journal
1.	P Vivek	Conference Publication	A Novel Approach on MPPT Algorithm for Solar Panel Using Buck Boost Converter	6.10.2016	IEEE Explore Digital Library Digital Object Identifier:10.1109/I-CEETS.2016.7583787
2.	P Vivek J.NandaGopal	Conference Publication	A Novel Approach On Power Quality Improvement By Multi-Carrier Multilevel Inverter Topology	14.07.2016	IEEE Explore Digital Library Digital Object Identifier:10.1109/I-CEES.2016.7510587
3.	K.NareshKumar	Faculty Development Programme	Expectations and Future of IT Industry	22.10.2016	Cognizant MEPZ Office, Tambaram



## XEMPLAR2K16



From left :  
**Mr.K.Kaliagurumoorthi,**  
Head of the Department- EEE,  
**Mr.Paneerselvam**  
srinivasan- Associate Director (retails)  
CTS,  
**Dr.T.Chandrashekar,**  
Principal Velammal I.Tech)

### GUEST LECTURES

A GUEST LECTURE ON "SPECIAL ICS" WAS GIVEN BY **DR. J.S. LEENA JASMINE**, ASSOC. PROFESSOR ECE, VELAMMAL ENGINEERING COLLEGE, ON 12/08/2016 FOR II YEAR EEE STUDENTS.

A GUEST LECTURE ON "SENSORS AND ACTUATORS" WAS GIVEN BY **DR. KALAIARASI**, ASSOC PROFESSOR EIE, FROM SAVEETHA ENGINEERING COLLEGE" ON 08/08/2016 FOR IV YEAR EEE STUDENTS.

### DEPARTMENT WORKSHOPS

A WORKSHOP ON "PRODUCT DEVELOPING USING ARDUINO" WAS CONDUCTED FOR II YR EEE STUDENTS AT OUR CAMPUS BY EXPERTS FROM THICK INDIA, COIMBATORE 27<sup>TH</sup> AND 28<sup>TH</sup> JULY 2016.

THE WORKSHOP INCLUDES

- ARDUINO PROGRAMMING
- OUTPUT CONTROL
- RELAY CONCEPT
- SERVO MOTOR POSITION CONTROL
- BLUETOOTH CONTROL ROBOT

A WORKSHOP ON "MAKE OBJECTS, GADGETS & ROBOTS USING EMBEDDED SYSTEM" WAS CONDUCTED BY EPR LABS AT OUR CAMPUS FOR III<sup>YR</sup> EEE STUDENTS ON 25<sup>TH</sup> JULY 2016

### INDUSTRIAL VISITS

OUR III<sup>YR</sup> EEE STUDENTS VISITED 400KV SRIPERUMBUDUR SUBSTATION ON 11<sup>TH</sup> AUG 2016.

OUR II<sup>YR</sup> EEE STUDENTS VISITED ANDREW YULE AND COMPANY LTD., SITUATED AT PERUNGUDI, CHENNAI ON 24<sup>TH</sup> SEPTEMBER 2016.

On 30<sup>TH</sup> July, 2016 A 5th National level technical symposium called XEMPLAR-2K16 was organized by Department of Electrical and Electronics Engineering, Velammal Institute of Technology, Chennai. The event started with a welcome note of Mr.K.Kaliagurumoorthi, Head of the Department- EEE with thoughts on motto of the event and its deliverables by welcoming the gathering.

Mr.Paneerselvam Srinivasan, Associate director (retails), CTS, was the chief guest for the event.

The presidential address was delivered by Dr.T. Chandrashekar, Principal, Velammal I Tech with emphasize on the need for acquiring latest technology skill set to match the needs of the industry.

The chief guest Mr.Paneerselvam Srinivasan shared his thoughts on evolvement of technologies over time and how technology drives the current business processes. The chief guest also spoke about the trending technologies and their essentiality to acquire those skills which has its diverse career opportunities in coming days.

The annual souvenir which comprised the achievements, thinking's and artistic capabilities was released by the dignitaries, followed by the screening of the event video which contained various technology achievements of the world and a description of events which are part of the symposium.

The inauguration ceremony ended with vote of thanks by K.Swathi- Vice secretary, XEMPLAR-2K16 with notes on thankfulness to management, department of EEE and all kind hearts who worked hard for the event to come in reality.

Various events like Paper presentation, Project expo, Junk Electro, Circuit debugging, technical Quiz etc.were conducted.





## PHOTO GALLERY - XEMPLAR 16



## PHOTO GALLERY – XEMPLAR 16



### SPARK16



**FROM LEFT: MR.K.KALIAGURUMOORTHY H.O.D, EEE, MR.S. SATHYANARAYANAN CONSULTANT-HCL TECHNOLOGIES, DR.T.CHANDRASHEKAR, PRINCIPAL VELAMMAL I.TECH)**

On 21st October, 2016 a technical event SPARK 16 - A HANDS ON TRAINING IN ELECTRICAL, ELECTRONICS AND ROBOTICS was organized by Department of Electrical and Electronics Engineering, Velammal Institute of Technology, Chennai for students from 9<sup>th</sup> to 12<sup>th</sup> std.

Mr.K.Kaliagurumoorthi, Head of the department -EEE welcomed the gathering.

Mr.S.Sathyanarayanan, Consultant HCL Technologies, was the chief guest for the event.

The presidential address was delivered by Dr T Chandrashekar, Principal, and Velammal I Tech with highlight on the need for the school students to decide on their area of interest.

The chief guest was felicitated as a token of gratitude by the principal. The chief guest shared his thoughts on Digitalization and automation in industries.

The Programme ended with a vote of thanks by the event coordinator Mr. P. Vivek, AP / EEE





## PHOTO GALLERY - XEMPLAR 16







## PHOTO GALLERY - XEMPLAR 16







## PHOTO GALLERY - XEMPLAR 16





## NSS PROGRAMME ON “PLANTING TREES AND CLEANING” ON 28<sup>TH</sup> JULY, 2016



Students of EEE department along with Mr. V. Mohan, NSS Coordinator went to the Government Hospital, Ponneri on 28<sup>th</sup> July, 2016 and they planted tree saplings and helped in the cleaning process with the hospital staffs. This programme was inaugurated by Dr. Anu Rathinam and Dr. Stanley Rajkumar of Government Hospital, Ponneri



## PLACEMENT AND TRAINING

S.NO	NAME	OFFERS with Package
1.	Anuja K	ZOHO 4.6 Lacs p.a INFOSYS 3.2 Lacs p.a
2.	Feba Samuel	THINK AND LEARN 6.5 Lacs p.a WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
3.	Sasitha P	THINK AND LEARN 6.5 Lacs p.a WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
4.	Esther Catherine E	WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
5.	Kalai Selvi V	WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a
6.	Kaviya K	WIPRO 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
7.	Konar S Suresh	WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
8.	Maria Bertilla A F	WIPRO 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
9.	Palanivelu P T	WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a

S.NO	NAME	OFFERS with Package
10.	Rajbansi Devmani Kamal Bahadur	WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
11.	Sahana V	WIPRO 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
12.	Vignesh V	WIPRO 3.2 Lacs p.a CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
13.	Murali Krishnan M	CTS 3.2 Lacs p.a
14.	Ramya R	CTS 3.2 Lacs p.a
15.	Shalini P	CTS 3.2 Lacs p.a INFOSYS 3.2 Lacs p.a
16.	SivaPrasanth S	CTS 3.2 Lacs p.a
17.	Sooraj S	HTC GLOBAL 3.2 Lacs p.a
18.	Divya	TechMahindra 3.0 Lacs p.a
19.	Madhumathi	TechMahindra 3.0 Lacs p.a



## STUDENT'S CORNER

### TRANSPARENT SMARTPHONES

EstherCatherine IV<sub>yr</sub>,EEE



Inventors, Jung Won Seo, Jae-Woo Park, Keong Su Lim, Ji-Hwan Yang and Sang Jung Kang, who are scientists at the Korean Advanced Institute of Science and Technology, have created the world's first transparent computer chip.

The chip, known as (TRRAM) or transparent resistive random access memory, is similar to existing chips known as (CMOS) or metal-oxide semiconductor memory, which we use in new electronics.

The difference is that TRRAM is completely clear and transparent. What is the benefit of having transparency?

"It is a new milestone of transparent electronic systems," says Jung Won Seo. "By integrating TRRAM with other transparent electronic components, we can create a total see-through embedded electronic systems."

The technology could enable the windows or mirrors in your home to be used as computer monitors and television screens.

This technology is expected to be available within 3 to 4 years.

### HOLLOW FLASHLIGHT

SunilKumar III<sub>yr</sub>,EEE

Ann Makosinski is a 16-year-old student who competed against thousands of other young inventors from around the world to win first prize and a \$25,000 scholarship at Google's International Science Fair.



She invented a battery-free flashlight. A free energy device that is powered by the heat in your hand.

While visiting the Philippines, Ann found that many students couldn't study at home because they didn't have electricity for lighting.

Unfortunately, this is a common problem for developing regions where people don't have access to power grids or can't afford the cost of electricity.

Ann recalled reading how the human body had enough energy to power a 100-watt light bulb.

This inspired her to think of how she could convert body heat directly into electricity to power a

flashlight. She knew that heated conductive material causes electrons to spread outwards and that cold conductive material causes electrons to condense inwards.



So, if a ceramic tile is heated, and it's pressed against a ceramic tile that is cool, then electrons will move from the hot tile towards the cool tile producing a current.

This phenomena is known as the thermoelectric effect.

Ann started using ceramic tiles placed on top of each other with a conductive circuit between them (known as Peltier tiles) to create the amount of electricity she needed for her flashlight.

Her idea was to design her flashlight so that when it was gripped in your hand, your palm would come in contact with the topside of the tiles and start heating them.

To ensure the underside of the tiles would be cooler, she had the tiles mounted into a cut-out area of a hollow aluminium tube.

This meant that air in the tube would keep the underside of her tiles cooler than the heated topside of the tiles. This would then generate a current from the hot side to the cold side so that light emitting diodes (LEDs) connected to the tiles would light-up. But although the tiles generated the necessary wattage (5.7 mill watts), Ann discovered that the voltage wasn't enough. So she added a transformer to boost the voltage to 5V, which was more than enough to make her flashlight work.

Ann successfully created the first flashlight that didn't use batteries, toxic chemicals, kinetic or solar energy, and that always works when you picked it up.

She credits her family for encouraging her interest in electronics and derives her inspiration from reading about inventors such as Nikola Tesla and Marie Curie. She told judges at the Google competition that her first toy was a box of transistors.

Time Magazine listed Ann as one of the 30 people under 30 who are changing the world.

She is working on bringing her flashlight to market and is also developing a headlamp based on the same technology.

### AIR INTO WATER

Divya. L II<sub>yr</sub>,EEE

Johathan Ritchey has invented the Watermill, which is an atmospheric water generator. It converts air into fresh water. This latest technology invention produces fresh water at a cost of about 3 cents a liter (1 quart). Originally designed for areas that do not have clean drinking water, the Watermill is for households that prefer an eco-friendly, cost effective alternative to bottled water.

Atmospheric water generators convert air into water when the temperature of the air becomes saturated with enough water vapor that it begins to condense (dew point). "What is unique about the Watermill is



that it has intelligence," says Ritche. This makes the appliance more efficient. It samples the air every 3 minutes to determine the most efficient time to convert the air into water.

It will also tell you when to change the carbon filter and will shut itself off if it cannot make pure clean water.

## BLADELESS WINDMILL

WIND POWER WITHOUT SPINNING BLADES

A.S.SANTHOSH II<sub>YR</sub>, EEE



A Dutch architecture firm Mecanoo installed this powerful, curious-looking contraption at the Delft University of Technology in March. Instead of translating the mechanical energy derived from the movement of large blades rotated by the wind, the bladeless turbine lets wind move electrically charged water droplets against the direction of an electric field, increasing the potential energy of the particle. A collecting system then harvests that excess energy. The lack of large moving parts means the turbine is quieter and creates much less vibration, making it much better-suited to urban environments. Its called "**The Ewicon**", which stands for "**Electrostatic Wind energy Converter**".

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