# ENERGIZE

VOLUME 4 ISSUE 2

JAN-JUNE 2016


KCG
COLLEGE OF TECHNOLOGY

DEPARTMENT OF
ELECTRICAL AND ELECTRONICS ENGINEERING

# EnErgizE




Volume 4, Issue 2

Electrical and Electronics Engineering Department

## Vision of the Department

*The Departmetnt of Electrical and Electronics Enginering aims to be a Centre of Excellence , recognized for high quality teaching, learning and research producing competent professionals to serve the nation.*

## Mission of the Department

- *Impart quality technical education in Electrical and Electronics Engineering domain*
- *Nurture industrial collaboration in research and development activities*
- *Maintain state-of-the-art facilities to provide opportunities for knowledge upgradation*
- *Invoke the desire and ability of life-long learning in the students for a successful career.*

## Principal's Desk

Dr. G.PRABHAKARAN
PRINCIPAL

*The global technological scenario is changing faster than ever and there is a great demand for technical professionals who can keep pace with this change. The prime concern of us is to empower young boys and girls joining our institution, to creatively meet the challenges that the world of technology would bring forth. Over the years, our institution has achieved excellence in providing state of the art infrastructure, equipment and experienced faculty from commendable backgrounds. We facilitate innovative thinking methodologies with an exclusive learning ambience to fuel their growth as future technologists.*

*We are proud that our institution enables our students to stand taller in knowledge and sound in character in today's challenging world. This can be possible by channelizing one's energy in the right direction, imbibing core knowledge and advanced skill sets, and executing innovative projects, and interaction with leading experts.Each Department issue is a milestone that marks our growth, unfolds our imaginations, and gives life to our thoughts and aspirations.I congratulate the entire editorial team for their hard work and dedication.*

## HOD's Desk

Dr. P. DEIVA SUNDARI
HEAD OF THE DEPARTMENT

*We are happy to inform that our pride 'Energize' highlights the academic and non-academic activities of both faculty members and students of our Department. I constantly appreciate the working hands behind each successful issue of our newsletter and I congratulate them for their wonderful work they have put forth.*

# Alumni View

*We had a well-equipped library which helped us to understand the concepts with ease and to upgrade our knowledge. The professors motivated us in gaining practical knowledge and also trained the students to think creatively. It has been a wonderful journey which shaped my future.*

Venkatraghavan S (2004-2008)
Business Analyst (Hexaware)

*I am blessed to be a part of KCG college of Technology. I completed my B.E (EEE) in 2014. The department of Electrical and Electronics Engineering is one of the best Departments in our college. The faculty members and the management were very much helpful in building up my career. I am happy and blessed to have such wonderful people as my mentors.*

Naveen Kumar A N (2010-2014)
Software Engineer
(HCL Technologies)

*The faculties in our department are highly talented. They encouraged us to gain practical knowledge and motivated us to do projects. They trained the students to think different and helped them in times of trouble. The research projects were very good and innovative. The faculty members were very efficient in explaining the concepts to the students and they ensure that no student leaves the campus with doubts. The aptitude, residential training and basic computer programming sessions and soft skills training helped us to attend the interview with confidence.*

Manjula T (2012-2016)
Systems Engineer Trainee
(Infosys)

*KCG is not just a word it is an EMOTION. I must definitely start by saying "THANK YOU" for what I'm, four years of engineering course would not have been possible without our faculty members. They made engineering very easy for all of us. They mentored all of us in the best way possible by providing us an ocean of opportunities to indulge ourselves in other areas like sports, entrepreneurship, internship, paper presentation, mini project presentation etc. And I personally believe that the training (Self-Motivation Training and Placement Training) provided by our college are really worth attending and very helpful. I'm proud that our beloved K.C.G. Verghese's motto ' To make every man a success and no man a failure' came true for our batch. And I pray to the Almighty that it continues!*

Shwetha Ponnusamy
(2008-2013)
Software Engineer Analyst
( Accenture)

## Letter from the Editorial

*It is with great pleasure that we bring forth the fourth issue of our newsletter 'EnErgisE'. We thank you for all your support in our previous issues. The current newsletter highlights the activities of our students and faculty members during the period (Jan – June 2016). This is an amalgamation of all the events held and provides exposure on the achievements accomplished by our department. This newsletter also throws light on the placement of our Department students. The intent of 'EnErgisE' is to disseminate information about our department and hope the readers find it informative and useful. We welcome suggestions and feedback to newslettereee@gmail.com.*

## Department Highlights

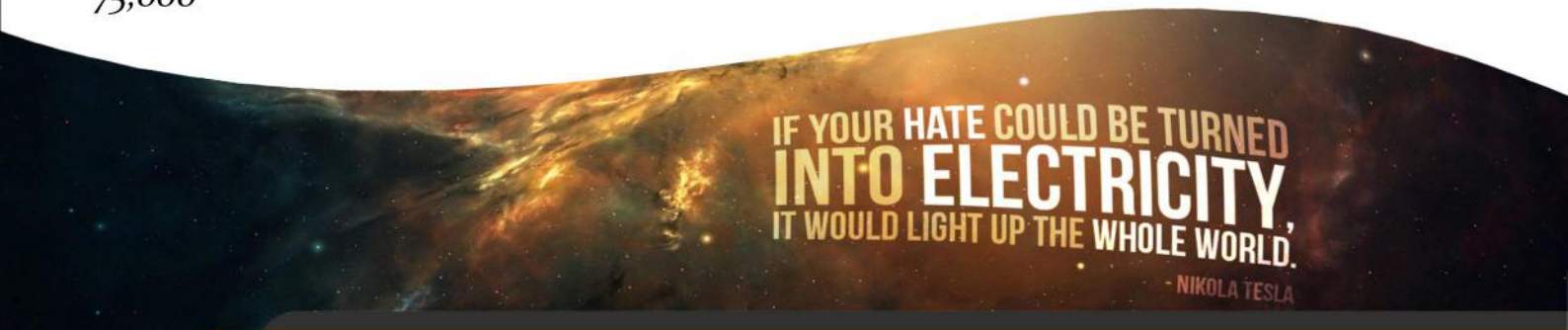
- ***Our Department** won the **'Best Department Award'** for the academic year 2015-2016*
- *Mr. S. Balaji, Assistant Professor won the **'Best Teacher Award'** for the academic year 2015-2016.*
- *Dr. P.S. Mayurappriyan, Professor was elevated as a **'Senior Member of IEEE'** by the Institute of Electrical and Electronics Engineers, New York in April 2016.*

*Best Department Award*

## Faculty Achievements

### CONSULTANCY PROJECTS

- *Ms. Agnus Jenith and Mr. S. Balaji completed their project on **'Uninterrupted Power Supply (20 KVA)'** for KCG college of technology on March, 2016 for Rs. 1,10,000*
- *Dr. G. Sambandan and Ms. R. Gayathri completed their project on **'Preparation of Earthing calculation for 400/230/110kV'** for Thennampatti substation on March, 2016 for Rs. 75,000*



## TRAINING PROGRAMMES ATTENDED BY FACULTY

Next generation Communication System Design Challenges and Solution using NI program

• Mr. Rubin Bose attended a training programme on **'Annual Seminar of special interest group on Micro-Air Vehicles'** at Establishment center, Aeronautical Development, Bangalore from 02-02-2016 to 03-02-2016.

• Mr. N. Loganathan attended a training programme on **'Engineering Education and Research Seminar'** conducted by National Instruments at Radisson Blu hotel on 23-03-2016.

• Ms. M. Ammal Dhanalakshmi and Ms. Keerthana Paul attended an International Seminar on **'Renewable Energy Systems'** at Hindustan Institute of Technology and Science from 26-07-2016 to 27-07-2016.

• Ms. Agnus Jenith attended a training programme on **'FDP on Power System Transients'** at St. Joseph's College of Engineering from 19-01-2016 to 23-01-2016.

• Ms. Agnus Jenith and Mr. S. Balaji attended a training programme on **'Basic Electronics (Servicing & Maintenance of Inverter / Stabilizer / UPS)'** at NSIC from 18-01-2016 to 01-02-2016.

• Ms. V. Ramya attended a training programme on **'FDP on Creative Thinking'** held at B.S. Abdur Rahman University from 22-03-2016 to 23-03-2016.

• Ms. M. Ammal Dhanalakshmi, Ms. J. Annes and Ms. Keerthana Paul completed a Short-term course on **'Photovoltaic interconnection schemes and MPPT implementation'** at NIT, Trichy from 27-05-2016 to 28-05-2016.

• Mr. M. Preshnave, Ms. R. Gayathri and Mr. S. Balaji attended a training programme on **'STC on Online Bended Teaching Learning Program'** at IIT, Bombay from 27-05-2016 to 04-07-2016

• Mr. J. Arun Venkatesh and Mr. M. Loganathan attended a training programme on **'FDTP on Control Systems'** at M. Kumarasamy College of Engineering, Karur, from 13-06-2016 to 19-06-2016.

• Mr. J. ArunVenkatesh and Mr. M. Loganathan attended a training programme on **'STC on Protection and Monitoring of Power System Network in Smart Grid / Microgrid environment'** at IIT Roorkee from 27-06-2016 to 01-07-2016.

## WORKSHOPS ATTENDED

• Ms. J. Annes and Ms. M. Ammal Dhanalakshmi attended a workshop on **'Solar Thermal Energy'** at SSN Engineering College on 17-03-2016.

• Ms. R. Gayathri and Mr. M. Preshnave attended a workshop on **'Operation and Control of Wind-driven Generators'** at NIT, Trichy from 15-04-2016 and 16-04-2016.

# Papers presented in Conferences

## National

• *Mr. S. Subash Chandra Barathi and Ms. J. Agnus Jenith presented their paper on* ***'Implementation of novel piezoelectric transformer based DC-DC converter for high power applications'*** *at National conference on Renewable Power Generation at Sree Sastha Engineering College from 04-03-2016 to 05-03-2016.*

• *Ms. M. Ammal Dhanalakshmi presented her paper on* ***'A multistage isolated DC-DC Converter for street lighting'*** *at National Conference on Recent Trends in Engineering at PB Engineering College on 12-03-2016.*

• *Mr. S. Rajesh presented his paper on* ***'An inductor-less NX DC chopper based speed control of DC drives'*** *at the National Conference on Recent Trends in Engineering at PB Engineering College on 12-03-2016.*

• *Ms. V. Ramya presented her paper on* ***'Design of low complexity adjustable filter bank for personalized hearing aid solutions'*** *at NCAEEE 2016 at Sri Venkateswara College of Engineering, Chennai on 21-03-2016.*

• *Mr. S. Subash Chandra Barathi and Ms. J. AgnusJenith presented their paper on 'Implementation of novel piezoelectric transformer based DC-DC Converter for high power applications' at NCAEEE at Sri Venkateswara College of Engineering, Chennai on 21/03/2016.*

• *Ms. J. Annes presented her paper on* ***'Implementation of novel piezo electric transformer based DC-DC Converter for high power applications'*** *at NCAEEE 2016 at Sri Venkateswara College of Engineering, Chennai on 21-03-2016.*

## InterNational

• *Dr. P. Deiva Sundari presented her paper on* ***'Analysis and Implementation of MPPT Algorithm for a PV System with High Efficiency Interleaved Isolated Converter'*** *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Dr. P.S. Mayurappriyan presented his paper on* ***'Dynamic Scheduling of Machines Towards the Vision of Industry 4.0 Studio – A Case Study'*** *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Dr. P.S. Mayurappriyan presented his paper on* ***'Distinct Exploration on Two-Level and Hybrid Multilevel Converter for Stand-alone Solar PV Systems'*** *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Mr. S. Pradeep and Mr. M. Preshnav presented their paper on* ***'Adaptive Control Technique for Generator Side Power System Voltage Stability at Wind Power Station'*** *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Mr. N. Loganathan and Mr. J. Arun Venkatesh presented their paper on* ***'A Robust Energy Management System for Smart Grid'*** *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Dr. P. Deiva Sundari presented her paper on* '**A Comparison of Existing MPPT Techniques for a PV system with Interleaved Converter**' *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Mr. K. Vinoth presented his paper on* '***FPGA Based Digital Multicarrier Offset PWM Method for Asymmetrical Thirteen Level Inverter for Solar PV***' *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Dr. P.S. Mayurappriyan and Ms. R. Gayathri presented their paper on* '**Distributed Generator Placement and Sizing Based on Genetic Algorithm**' *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Dr. P. Deiva Sundari presented her paper on* '***Bisection Method Based Modified Perturb and Observe MPPT Algorithm for a PV Generation System with an Interleaved, Isolated DC-DC Converter***' *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Ms. D. Saravanakamalam presented her paper on* '***Study on LLC Resonant Converter for EMI Reduction***' *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

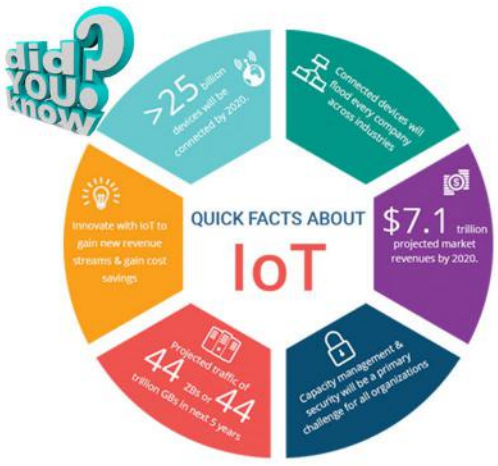
• *Ms. M. Ammal Dhanalakshmi, Ms. M. Parani Ganesh and Ms. Keerthana Paul presented their paper on* '***Analysis of Optimum THD in Asymmetrical H Bridge Multi level Inverter using HPSO Algorithm***' *in ICICA'15 at KCG College of Technology from 05-02-2016 to 06-02-2016.*

• *Mr. J. Arun Venkatesh, Mr. S. Rajesh and Mr. S. Balaji presented their paper on* '***An Inductor less DC-DC Voltage Magnifier for Solar Photovoltaic system***' *in ICEEOT 2016 at DMI College of Engineering on 04-03-2016.*

• *Ms. J. Agnus Jenith presented her paper on* '***Implementation of Multiple Input Multiple Output Switched Capacitor Voltage Copier Circuit for Automotive Applications***' *in ICEEOT 2016 at DMI college of Engineering on 04-03-2016.*

• *Mr. M. Preshnav and Ms. R. Gayathri presented their paper on* '***A Novel Technique for Adaptive Filtering and Compression of Fetal Cardiotocography using system generator***' *in ICEEOT 2016 at DMI college of Engineering on 04-03-2016.*

• *Mr. M. Preshnave and Ms. R. Gayathri presented their paper on* '***Dynamic Analysis of Wind Turbine Driven DFIG – a Literature Review***' *in ICAIECES 2016 at SRM University from 19-05-2016 to 21-05-2016.*



KCG COLLEGE OF TECHNOLOGY

# INTERNATIONAL CONFERENCE ON INTELLIGENT COMPUTING AND APPLICATIONS

Springer

*Around 250 experts from India and abroad participated in the two-day international conference on Intelligent Computing and Applications technically sponsored by Springer at KCG College of Technology that commenced on 05/02/2016 to 06/02/2016.*

*The Inauguration session of the conference was honored by the presence of Mr. Pashupathy Gopalan, Asia Pacific President, Sun Edison. He stressed on the benefits of solar energy and its potential in solving the energy problems of humanity in the near future. He also emphasized on the government's efforts in establishing solar energy in the country and the India's leadership role in the global market.*


*In addition, the conference had special sessions from scholars such as Dr. B K Panigrahi, IIT Delhi; Dr, Vitawat Sittakul, King Mongkut's University of Technology, Thailand; Dr. Sarathi, IIT Madras; Dr. V Swaminathan, Neyveli Lignite Corporation; Dr. Sivakumar, Niteo (NEC of America) Technologies; Mr. Martin Fiddler and Mr. Nico Decourt of Staffordshire University, UK and Mr. Swagatam Das, Indian Statistical Institute, Kolkata.*

*The annual conference provided a platform for engineers, scientists, industrialists, scholars and students to share their research findings, exchange ideas, share experiences, establish research relations and to find global partners for future collaboration. The conference served as a platform to promote result orient interaction between the industry and academicians he selected papers from the conference were published in Springer series of Advances in Intelligent Systems and Computing and other referred journals.*


# Student Achievements

## TECHNICAL EVENTS

• *Ms.S.Jayapriya, Mr.A.Aravindan and Mr.R.Ashwin of III year won III prize in project presepresentation titled* ***"GSM based security alert system"*** *at Minkalam on 31.03.2016.*

• *Ms.Abinaya Christy and Ms.E.Elamathy of IV year won the Best paper award in the paper presentation titled* ***"Wireless cardiac monitoring system"*** *in NCITET 2K16 Conference on 02.04.2016.*

• *Mr.G.Yadavprasath , Mr.S.Prathap and Mr.Sunil Kumar of IV year secured I prize in project presentation titled* ***"Solar powered gas leakage detection and control system using servo valve and automated gas booking system"*** *at Minkalam on 31.03.2016.*

Students design device to warn of gas leak

TIMES NEWS NETWORK

Chennai: Water purification using a banana peel, running a bike engine on hydrogen fuel, heavy metal extraction using prawn skin and a solar powered machine for farming – those were among the environment-friendly innovations by engineering students at the 'Inno-NAH' challenge of pan-IIT Alumni leadership series (PALS) that kicked off on Friday.

Students from various engineering colleges displayed as many as 13 projects as part of the 'alternative energy and swachh (clean tech) Bharath' theme of the fourth edition of PALS organised by the IIT Alumni Industry Interaction Centre at the IIT-Madras Research Park. The projects were based on five focus areas of renewable energy, solar power, public hygiene, waste recycling and water purification.

One such innovative project was the solar powered LPG gas leakage detection and control system which can ring an alarm to alert gas leakage, send a message to users, prevent leakage due to a valve fixed between the stove and cylinder, and send a message to the fire department in case of excessive leakage. The device also has a mechanism to detect low levels of gas remaining in the cylinder following which a message will be sent to the gas agency.

This project bagged its makers – students of KCG College of Technology, Chennai – the first prize in the competition. Team members Sunil Kumar, Saravanan R and S Prathap, final year students of electrical and electronic engineering, said that it took them a month to build the first prototype at a cost of ₹5,000. They now plan to set up a company to build such devices.

PALS coordinator Krishnamurthi Rao said the competition in the previous years did not have any particular theme due to which there were too many projects with no focus. "This time we wanted the projects to be designed with a certain vision. The parameters on which the projects were judged were innovative quality, practicality, and potential for financial support," he said.

Another interesting project was the solar-powered agro rover designed and built by Hindustan University students who said their aim was to reduce the dependency of farmers on labour. The agro rover built in six months utilises energy through solar panels, and can run up to four hours continuously. With a solar panel of 100 watt, about 40 ampere hour (Ah) power is generated in good sunlight.

The rover with a mechanical arm is equipped to help in harvesting, seeding and measuring soil moisture content, said team members Sashank Yadav, Sashi Prakash and Nishant Kumar Shah, all final year students of electronics and instrumentation.

A design to purify water using banana peel (shown above) was among the 13 projects on display at IIT-Madras Research Park

*Our Students displayed their projects in IIT-Madras*

• *Mr.G.Yadavprasath, Mr.S.Prathap and Mr.Sunil Kumar of IV year won II prize in paper presentation titled* ***"Solar powered gas leakage detection and control system using servo valve"*** *in ICREST 2016 on 08.04.2016.*

• *Mr.L.S.Sooraj, Mr.S.Thanigaivel and Mr.Vibin Varghese of IV year won the Best paper award in the paper presentation titled* ***"Integration of DC-DC CUK Converter for Efficient Regenerative Braking in Hybrid Electric Vehicles"*** *in ICREST 2016 on 08.04.2016.*

• *Mr.D.S.Vijayaraghavan and Mr.N.Vijay Kumar of IV year won the Best paper award in the paper presentation titled* ***"Real time energy management system using wireless technology"*** *in ICOET2016 on 08.04.2016.*

• *Mr.G.Yadavprasath, Mr.S.Prathap and Mr.Sunil Kumar of IV year won the Best paper award in the paper presentation titled* ***"Vehicular accident detection and positioning system powered by silencer turbine coupled with dynamo"*** *in ICOET2016 on 08.04.2016.*

• *Mr.L.S.Sooraj, Mr.S.Thanigaivel and Mr.Vibin Varghese of IV year, won the Best paper award in the paper presentation titled* ***"Intergration of DC-DC CUK Converter for Efficient Regenerative Braking in Hybrid Electric Vehicles"*** *in International Conference on Science and Innovative Engineering on 03.04.2016.*

• *Mr.N.Vijayakumar won the* ***ISTE Best Student Award*** *in TamilNadu and Pondicherry selection in the event ISTE 2016 held at Anand Institute of Higher Technology on 13.02.2016.*

• *Mr.Balamurugan secured* ***5th place*** *in* ***City rank*** *and* ***145th position*** *in* ***All India*** *in the Indian Engineering Olympiad on 21.02.2016.*

• *Mr.N.Vijay Kumar received the* ***Best Outgoing Student*** *award for the year 2015-2016 in the College Day held at KCG College of Technology on 02.04.2016.*

• *Mr.V.Vignesh won the* ***Best Mini Project Award*** *for the year 2015-2016 in the Mini Project*

*Competition held at KCG College of Technology on 02.04.2016.*

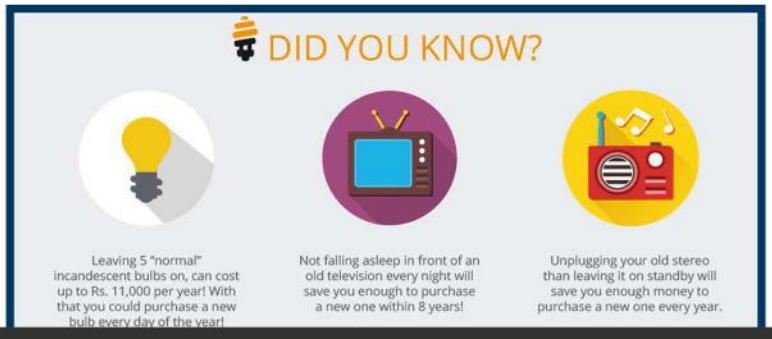
- *Mr.S.Aravinth Raj and Mr.N.Nandakumar received the **Best Concept Award** in Innovation of Engineering and Technology(IET)2016 held at Research Associate Council in March 2016.*
- *Mr.M.Sairam, Mr.V.Navin, Mr.M.Tirumalai, Mr.V.Manoj,Mr.M.G.Rahul, Mr.V.VigneshBalaji, Mr.T.Santhosh and Mr.A.Avinash won **I prize** in **Mime** in College Day held in KCG College of Technology on 02.04.2016.*

## INDUSTRIAL PROJECTS

- *Mr.V.Manoj, G.Revathi andM.N.Jayakrithika did their project on **'A Novel technology of low voltage DC ceiling grid with improved efficiency'** with IE(India).*
- *Mr.Biju Merlin, Ms.Priyadharshini and Ms.GoldPriya did their research project on **'Control strategies to overcome low voltage ride through problems in three categories of grid connected wind turbine generators'** with National Institute of wind energy(NIWE).*
- *Mr.M.Nijandhan did his project on **'Automization of green corridor – Emergion'** with Emergency Management and Research Institute.*
- *Mr.Jyendran and Mr.Dwarakesh did their project on **'Dust detection system in solar panel'** with SUNEDISON Energy Limited.*
- *Mr.Aravinth Raj and Mr. Nanda Kumar did their project on **'A novel FPGA controlled thirteen level inverter for solar PV systems'** with STEINBEIS Solar Research Centre.*
- *Mr.G.Vignesh and Mr.H.Raghavan completed their project titled **'IoT monitoring and automation of classrooms'** with IET & i-CELL for Young Mind Challenge 2015.*

## GUEST LECTURES ORGANIZED

- *A guest lecture was arranged on **'The Overview on 230 kV substation'** for 83 students on 07-03-2016. The key speaker was Mr. A. Palani, Assistant Engineer of Veearpuram substation*
- *A guest lecture was arranged on **'Microgrid Technologies and Current trends in industries'** for 41 students on 10-03-2016. The key speaker was Mr. Balasubramani Dhandapani a Technical Consultant - Controls and Automation in Hubbell, India.*
- *A guest lecture was arranged on **'Internet of Things'** for 97 students on 15-03-2016. The key speaker was Thiru. Dharani Kumar Srinivasan, Engineer, Renault Nissan Technology Business Center India Pvt. Ltd.*




• ***Rendezvous with Alumni:***

*An Alumini interactive session was arranged for the III year students on 05-03-2016 which gave awareness to the students in regard to placement opportunities in the core companies. The session was handled by seven graduated students of EEE who were presently working in various MNC's like Infosys, HCL, Cognizant, Hexaware, CTS Sub Station, Jugheinrich, ABB etc.,*

## WORKSHOPS ORGANIZED

• *The students participated in Two Day Hands-on Workshop on* ***'Solar Powered - ON Grid and OFF Grid System'*** *in KCG College of Technology from 04-03-2016 to 05-03-2016.*

• *The students participated in Two Day Workshop On* ***'PLC programming'*** *in KCG College of Technology from 11-03-2016 to 12-03-2016.*

• *The students participated in Two Day Workshop cum hands on training on* ***'Building of UPS'*** *in KCG College of Technology from 31-03-2016 to 01-04-2016.*

## NON-TECHNICAL EVENTS

• *Mr.P.John Nehemiah secured* ***III prize*** *in the inter-college competition,* ***Aachi Sing the Season – Vijay TV choir (Group).***
• *Mr.P.John Nehemiah won the* ***Best English Choir Award*** *in the inter-college competition,* ***Aachi Sing the Season – Vijay TV choir (Group).***
• *Mr.AshutoshYadav secured* ***II prize*** *in a national level competition -* ***Clean and Clear Fresh Face.***
• *Students of EEE emerged as* ***Runners*** *for the National Level Competition and recieved Bangalore-NEN Award held at Mount Carmel College, Bangalore.*
• *Students of EEE secured* ***II prize*** *in the inter-college competition,* ***Colours of Youth*** *held at Hindustan University, Chennai.*

## SPORTS

• *Ms.R.Subamangala, Ms.M.K.Ashwini, Ms.P.Rajeshwari won the* ***SAIRAM Trophy*** *2016 for throwball conducted at Sairam Engineering College from 04.03.2016 to 05.03.2016.*
• *Mr.K.Sadagopan emerged as winners in* ***Mani Memorial Trophy*** *for cricket held at Agni Engineering College on 13.03.2016.*
• *Mr.R.Praveen secured* ***III prize*** *in* ***Saveetha Trophy*** *for football tournament held at Saveetha Engineering College from 26.02.2016 to 27.02.2016.*
• *Mr.P.Gokul and Mr.S.Manoj Karthick emerged as* ***runners*** *in* ***Anna Fest*** *for volleyball held at Anna University from 12.02.2016 to 14.02.2016.*
• *Mr.P.Gokul, Mr.S.Manoj Karthick emerged as* ***runners*** *in* ***SAIRAM Trophy*** *2016 for throwball held at Sairam Engineering College from 04.03.2016 to 05.03.2016.*
• *Mr.P.Gokul, Mr.S.Manoj Karthick emerged as winners in* ***DCE-HDFC Trophy*** *for volleyball held at Dhanalaksmi College of Engineering from 09.03.2016 to 12.03.2016.*
• *Ms.P.Rajeswari secured* ***gold*** *in* ***SAIRAM Trophy*** *2016 for Karate at Sairam engineering college from 04.03.2016 to 05.03.2016.*
• *Mr.A.Elavarasan secured* ***III prize*** *in* ***Anna Fest*** *for handball held at Anna University from 12.02.2016 to 14.02.2016.*
• *Mr.K.Sadagopan, Mr.Naveen Kumar emerged as* ***runners, "Best All-rounder of the tournament", "MOTM for 5 consecutive matches"*** *in Inter-college Cricket tournament held at Agni College of Technology on 03.04.2016.*
• *Ms.P.Rajeswari secured* ***III prize*** *in* ***Tamilnadu Sports Karate-DO*** *Association held at Kumaraguru College of Technology from 22.04.2016 to 24.04.2016.*
• *Mr.M.Saieesh secured* ***III prize*** *in* ***PRATIYOG*** *2K16 for football held at Jeppiar Engineering College from 30.03.2016 to 31.03.2016.*
• *Mr.M.Saieesh secured* ***III prize*** *in* ***State level Collegiate Tournament for men*** *in football held at Saveetha Engineering College from 26.02.16 to 27.02.16.*

## NCC

- *Mr.M.Sairam, Mr.M.Thirumalai, Mr.V.Navin won **Gold Medal** for MIME in **VIT CAMP (TSC/RDC & CATC)** held at Vellore Institute of Technology from 8/06/2016 to 18/06/2016.*
- *Mr.N.Devputra secured **I prize** for debate in **CADO FIESTA** 2016 held at Dr.Ambedkar Law University from 12/02/2016 to 13/02/2016*
- *Mr.M.Sairam, Mr.M.Thirumalai, Mr.V.Navin, Mr.Loganand K won **Gold Medal** for MIME in **CADO FIESTA** 2016 held at Dr.Ambedkar Law University from 12/02/2016 to 13/02/2016.*

## FAILURE REJECTION SUCCESS
## THE J.K.ROWLING STORY

*By every usual standard, I was the biggest failure I knew."*

*Those are the words of J.K. Rowling – the author whose book series has been translated into 73 languages, sold millions of copies and accrued over $20 billion through movie adaptations and sponsorships. Creating her book series wasn't as easy as scribbling down notes.*

*Soon after conceiving the idea for Harry Potter, Rowling began writing, but was immediately pulled away from her work by the devastating death of her mother. Rowling ceased working on the book and sank into a deep, grieving depression, getting little to nothing accomplished in that time .In the hopes of digging herself out of grievance, she took a job teaching English in Portugal for a year. Her goal in venturing abroad was to get away from her troubles and more importantly, use her time off to continue working on her book. She set the goal of having the first Harry Potter book done by the time she returned from Portugal.*

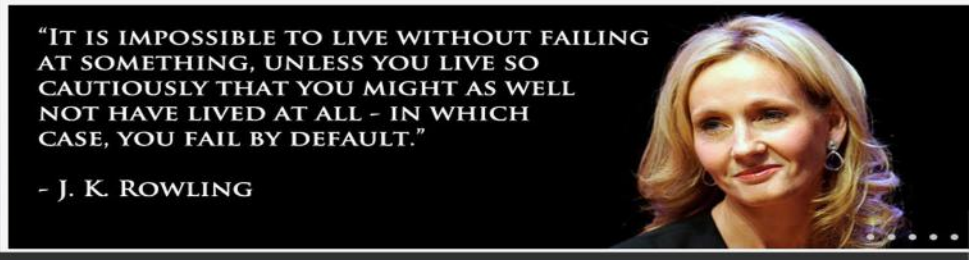
*Not only did she fail to make progress on her first book, but after falling in, and then out of, love, she ended up with a failed marriage and a baby daughter she now had to raise alone. She came back to nothing. She had no job, no finished product and two mouths to feed. She had hit rock bottom. As she struggled with depression, raising a child on her own, she resumed work on her book in cafes while her daughter was asleep .*

*Despite numerous setbacks, she found solace in doing what she loved – writing. In fact, she found that the little she had was enough to be moderately happy. She had ended up in exactly the position she had feared most and found that it wasn't that bad.When Rowling finally finished the first three chapters, she sent the manuscript off to a publisher – They quickly passed on the project. She sent it to another publisher. Again, the answer was no. Her mailbox filled up with rejection letters, but she didn't let it stop her.*

*After sending her manuscript to 12 different publishers and getting rejected by every single one, Rowling began losing confidence in her book. Finally, the editor at Bloomsbury Publishing sat down to read the manuscript.The publisher agreed to publish Rowling's novel. But Rowling was left with a warning that she should get a day job, because she wouldn't make any money writing children's books. Once Harry Potter and the Sorcerer's Stone was published, though, she proved everyone wrong.*

*J.K. Rowling went from being a jobless single mother living off unemployment benefits to one of the best selling authors of all time. But it didn't happen over night. She faced rejection and constantly strived for success. She worked hard at her craft before anyone noticed her. That practice, along with strengthening herself against rejection, was what made her work unforgettable. Looking back, the Harry Potter series has earned $400 million in book sales. She was the first female to become a billionaire author, not that many authors make it that far in the first place.*

*If you have a dream or a passion and you keep getting rejected or running into failure, don't let that stop you. If you're going through a tough time in your life, but working on something you really believe in, don't give up. If you do, you'll never know what could have been. Who knows, you might end up breaking records.*



## Student Articles

# Smart Textile' Turns Body Movements Into Power Source

*A fabric designed to power wearable devices by harvesting energy from both sunlight and body movements can be produced on a standard industrial wearing machine, according to the new study. Scientists in China and USA have demonstrated how a glove piece of "Smart Textile" could continuously power an electronic watch or charge a mobile phone using ambient sunlight and gentle body movements.*

*This fabric is based on the low-cost light weaving polymer fibers coated with metals and semiconductors that allow the material to harvest energy. These fibers are then woven together along with wool to create a textile just 0.01 inches (0.32 mm) thick.*

*It is highly deformable, breathable and adaptive to human surface curves and biomechanical movements. Using this method, they coated polymers with various materials to create cable-like solar cells that generates electricity from sunlight and also called as Tribo Electric Nano Generator (TENG).*

*The TENGs rely on the Tribo electric effect, by which certain materials become electrically charged when rubbed against another type of material.*

*When the materials are in contact, electrons flow from one to the other, but when the materials are repeated, the one receiving electron will hold a charge.*

*If two materials are then connected by a circuit, a small current will flow to equalize the charges. By continuously repeating the process, an alternating electrical current can be produced to generate power.*

*In addition to wearable devices, the material could also be used to create larger energy generating structures like curtains, tents etc.*

Prasanalakshmi.V
BE.EEE IIIyear - 'B'

# Miracles do happen!

*Albert Einstein once said, "There are two ways to live: you can live as if nothing is a miracle; or you can live as if everything is a miracle." I really believe in this quote, and I try to live like everything is a miracle. Miracles happen all the time all around you, even though it's hard to notice sometimes.*

*Miracles happen every day. They are always happening all around you. You may not notice it, but life's smallest miracles are always happening. Our perfect universe is a miracle. It is in perfect balance so that Earth can sustain life. In addition, each new day is a miracle. Every sunrise and sunset, every time it rains or snows is a miracle that people don't think of.*

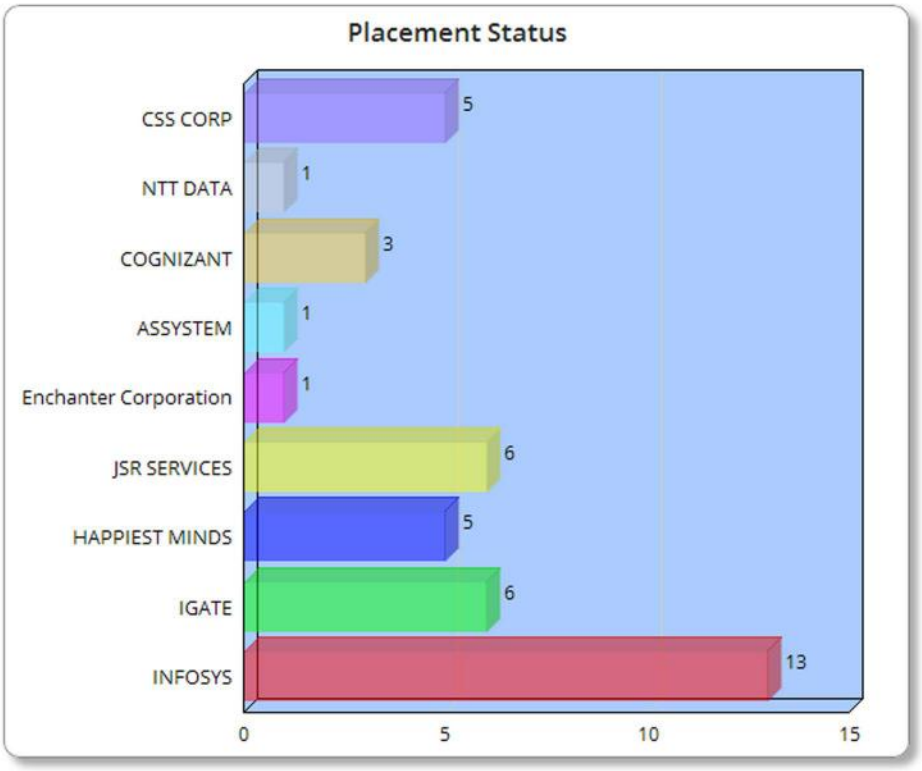
*All miracles are not always small, everyday things, though. Great things happen to people, and their lives can be changed. Lance Armstrong is a famous cyclist who discovered he had cancer several years ago. Anyone who has cancer is deeply affected by it; it is a horrible disease to have. Armstrong went to see a doctor in hopes of curing the cancer, but the doctor was almost sure he would not live through it. But he did not give up. He fought it and fought it, and eventually he recovered from the dangerous disease. He continued with his cyclist career and won the Tour de France several times. Miracles don't always have to be small.*

*People all over the world are constantly walking right past or ignoring life's miracles. They don't even know what they are missing. Everyone is so focused on their own lives and getting things done quickly that they totally miss life's little, and even big, miracles. People hardly stop and think or look at what's truly beautiful in life. Next time you are hurrying to get off to some place in record time, think about taking the long route so you can really enjoy what the world provides for you. Don't take anything for granted. Enjoy life and what it has to offer.*

*I believe miracles happen because anything in life that is absolutely beautiful or unbelievable is part of something bigger than we think. If you look closely at the beauty in the world then you will see that it is more beautiful than you thought. So always keep your eye out, slow down a bit and pay attention to life's miracles. They are all around you and you don't want to miss out.*

Naresh Kumar
BE.EEE III year 'B'

# Placement Records




# New Joiners to EEE Family

Ms. Thanu James
Assistant Professor

Mr. A. Arvin Tony
Assistant Professor

Ms. Serene C Kurian
Assistant Professor

Ms. A.V. Suganya
Assistant Professor

Ms. Jitha Varghese
Assistant Professor

Ms. P. Swethamarai
Assistant Professor

# Upcoming Events of June- November 2016

## GUEST LECTURES

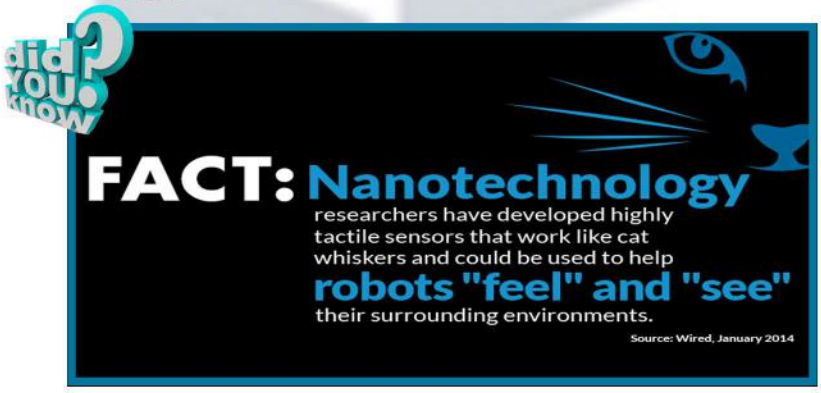
- Over Current Protection in Numerical Relay
- Scope of Services through Engineering Projects
- Nuclear Reactor-Types and Need,
- Embedded Software Systems and Device Drives
- BMI and Robot Surgery
- How to Face an Interview
- Opprtunities opening in the field of Core Electrical

## WORKSHOPS

- You have the Power to Conserve-Energy Efficiency
- Quadcopter Development
- Internet of Things

## INDUSTRIAL VISITS

- Andrew Yule & Company Ltd
- Apollo Hospital
- Ashok Leyland
- EVR Power Engineering Systems
- Leit Wind SriramManufacturing Ltd




## The ULT M TE CR SSWORD

### Across

2. What current is measured in.
5. A device for disconnecting a circuit.
9. Lots of sockets connected together
12. One of the towers that carries electricity around the country.

### Down

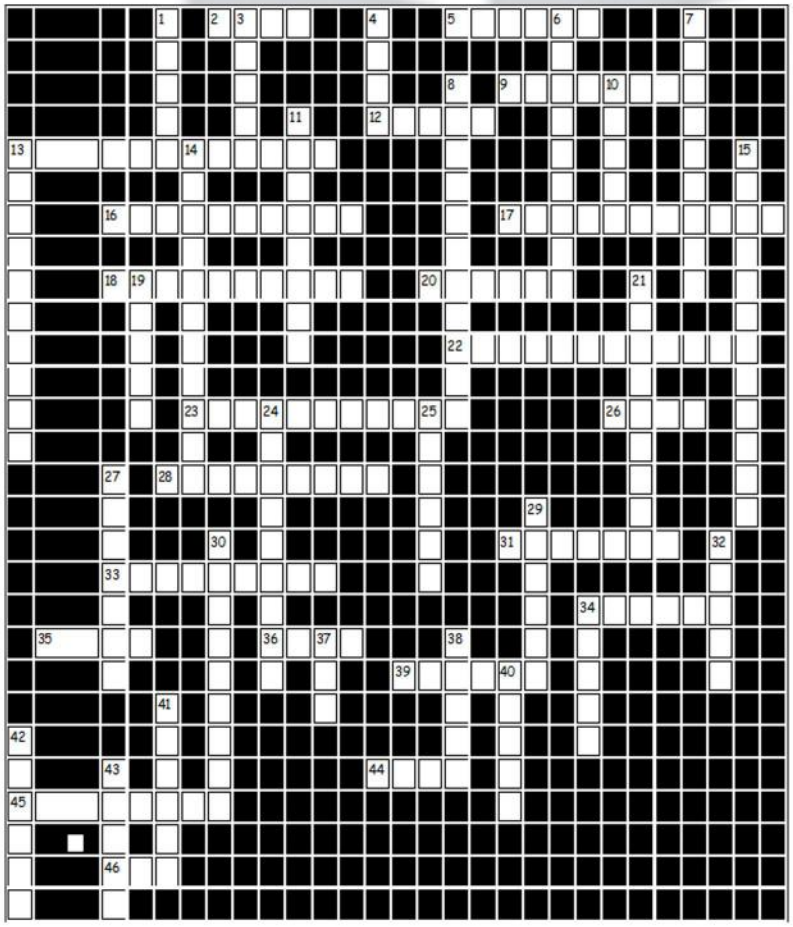
1. Electromotive force and potential difference is measured in this.
3. What gives us turning power from electricity.
4. A unit that gives off light from an element.
6. Something that is good at passing a current.

## Across

13. Device for stepping voltages up or down.
16. What the coloured plastic coating on wire is called.
17. The way the current in a domestic supply constantly changes.
18. A resistor that reacts to heat.
20. The bit that remains stationary in a motor.
22. Measures waveforms.
23. The study and use of semi-conductors.
26. Make connection by pushing it in.
28. The action of removing the insulation from wire.
31. A device that gives DC electrical energy from chemicals.
33. An attractive force that makes motors and other stuff work.
34. Melt it to fix components to the board.
35. Light emitter - one way too!
36. Unit of resistance.
39. Tool that grips and cuts sometimes.
44. The wire melts to protect you.
45. Something that replenishes a battery's energy.
46. An abbreviation for a light sensitive device.

## Down

7. A device that produces electricity.
8. The points where we attach wires or components together.
10. What we use to measure electrical energy.
11. A component that limits the flow of current.
13. Semi-conductor with 3 connections to it.
14. A type of lighting tube.
15. The box with all the fuses or circuit breakers in. (8,4) (2 words)
19. The unit of inductance.
21. Something that is bad at passing a current.
24. A device that stores electrical charge.
25. What most cables are made from.
27. A tool that squashes a connection onto a wire.
29. The unit of capacitance.
30. Full wave or half wave device to change AC to DC.
32. A portable supply of light.
34. Something you get when touching high voltage.
37. Abbreviation for a protective device.
38. Current only flows one way through this component
40. The bit that turns in a motor.
41. Popular brand of insulation tester.
42. Take the plug
43. Another name for wire

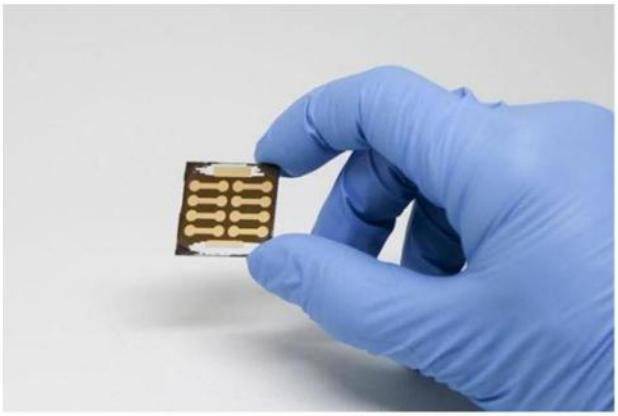


* for answers check Pg no 22.

## Latest News

# Printable solar cells just got a little closer

*University of Toronto Engineering innovation could make printing solar cells as easy and inexpensive as printing a newspaper. Dr. Hairen Tan and his team have cleared a critical manufacturing hurdle in the development of a relatively new class of solar devices called perovskite solar cells. This alternative solar technology could lead to low-cost, printable solar panels capable of turning nearly any surface into a power generator.*



The new perovskite solar cells have achieved an efficiency of 20.1 per cent and can be manufactured at low temperatures, which reduces the cost and expands the number of possible applications.

*"Economies of scale have greatly reduced the cost of silicon manufacturing," said Professor Ted Sargent, an expert in emerging solar technologies and the Canada Research Chair in Nanotechnology. "Perovskite solar cells can enable us to use techniques already established in the printing industry to produce solar cells at very low cost. Potentially, perovskites and silicon cells can be married to improve efficiency further, but only with advances in low-temperature processes."*

*Today, virtually all commercial solar cells are made from thin slices of crystalline silicon which must be processed to a very high purity. It's an energy-intensive process, requiring temperatures higher than 1,000 degrees Celsius and large amounts of hazardous solvents.*

*In contrast, perovskite solar cells depend on a layer of tiny crystals -- each about 1,000 times smaller than the width of a human hair -- made of low-cost, light-sensitive materials. Because the perovskite raw materials can be mixed into a liquid to form a kind of 'solar ink', they could be printed onto glass, plastic or other materials using a simple inkjet printing process.*

*But, until now, there's been a catch: in order to generate electricity, electrons excited by solar energy must be extracted from the crystals so they can flow through a circuit. That extraction happens in a special layer called the electron selective layer, or ESL. The difficulty of manufacturing a good ESL has been one of the key challenges holding back the development of perovskite solar cell devices.*

*"The most effective materials for making ESLs start as a powder and have to be baked at high temperatures, above 500 degrees Celsius," said Tan. "You can't put that on top of a sheet of flexible plastic or on a fully fabricated silicon cell -- it will just melt."*

*Tan and his colleagues developed a new chemical reaction than enables them to grow an ESL*

made of nanoparticles in solution, directly on top of the electrode. While heat is still required, the process always stays below 150 degrees C, much lower than the melting point of many plastics.

The new nanoparticles are coated with a layer of chlorine atoms, which helps them bind to the perovskite layer on top -- this strong binding allows for efficient extraction of electrons. In a paper recently published in Science, Tan and his colleagues report the efficiency of solar cells made using the new method at 20.1 per cent.

"This is the best ever reported for low-temperature processing techniques," said Tan. He adds that perovskite solar cells using the older, high-temperature method are only marginally better at 22.1 per cent, and even the best silicon solar cells can only reach 26.3 per cent.

Another advantage is stability. Many perovskite solar cells experience a severe drop in performance after only a few hours, but Tan's cells retained more than 90 per cent of their efficiency even after 500 hours of use. "I think our new technique paves the way toward solving this problem," said Tan, who undertook this work as part of a Rubicon Fellowship.

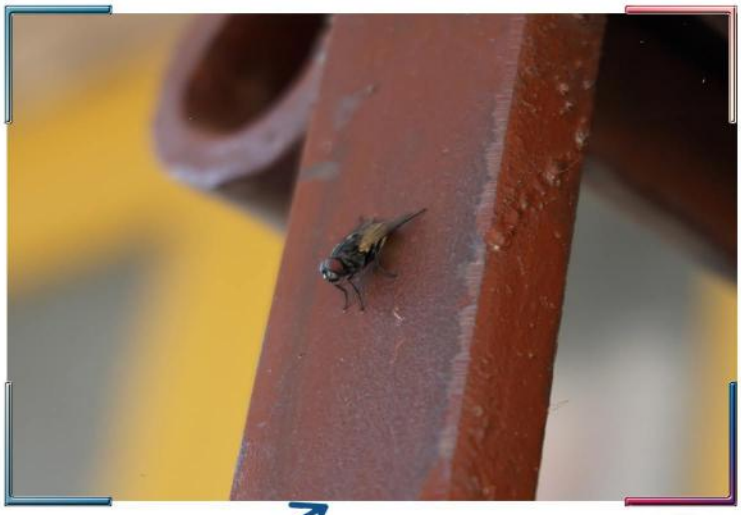
"The Toronto team's computational studies beautifully explain the role of the newly developed electron-selective layer. The work illustrates the rapidly-advancing contribution that computational materials science is making towards rational, next-generation energy devices," said Professor Alan Aspuru-Guzik, an expert on computational materials science in the Department of Chemistry and Chemical Biology at Harvard University, who was not involved in the work.

"To augment the best silicon solar cells, next-generation thin-film technologies need to be process-compatible with a finished cell. This entails modest processing temperatures such as those in the Toronto group's advance reported in Science," said Professor Luping Yu of the University of Chicago's Department of Chemistry. Yu is an expert on solution-processed solar cells and was not involved in the work.

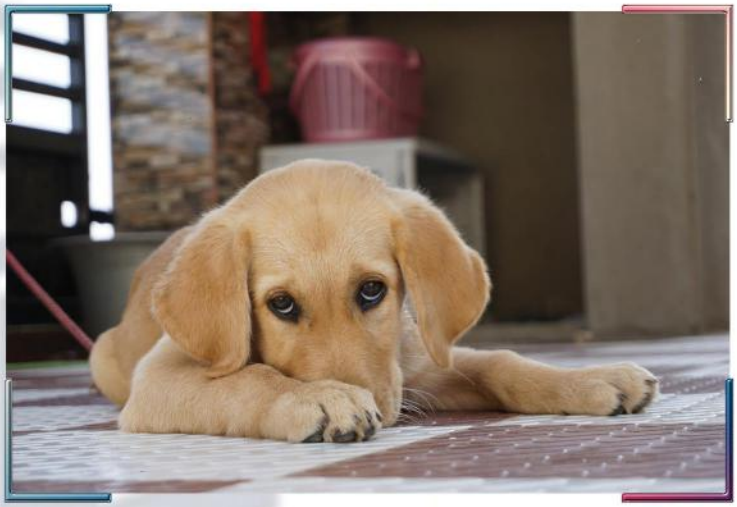
Keeping cool during the manufacturing process opens up a world of possibilities for applications of perovskite solar cells, from smartphone covers that provide charging capabilities to solar-active tinted windows that offset building energy use. In the nearer term, Tan's technology could be used in tandem with conventional solar cells.

"With our low-temperature process, we could coat our perovskite cells directly on top of silicon without damaging the underlying material," said Tan. "If a hybrid perovskite-silicon cell can push the efficiency up to 30 per cent or higher, it makes solar power a much better economic proposition."

# Photography

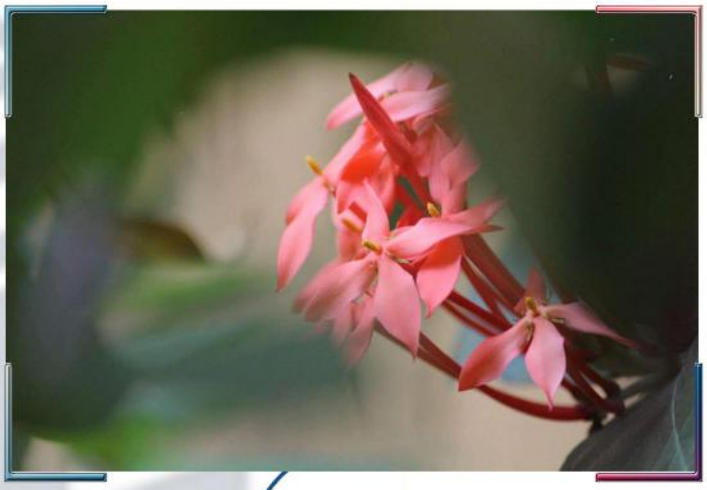


Clicks by
Elanchezian/II year



Clicks by
S. Jagadees/II year

Clicks by
S. Jagadees/II year



Clicks by
Jasper/II year

## Editorial Team

**Chief Editor:**
Dr. P. Deiva Sundari/ HOD

**Editor:**
Dr. P.S. Mayurappriyan/ Professor

**Faculty Coordinators:**
1. Ms. Thanu James/ Assistant Professor
2. Ms. Jitha Varghese/ Assistant Professor

**Student Coordinators:**
1. Ms. Christeena Kunjummen/ IV year
2. Ms. S. Janani / IV year
3. Mr. R. Kumaran/ IV year
4. Mr. C. Swaroop / IV year
5. Mr. V. Vignesh / IV year
6. Mr. Arun Kumar / III year
7. Ms. Kensha Hanna Jacob / III year
8. Ms. S. Subadeve / III year
9. Ms. V. Prasanalakshmi / III year
10. Mr. J.A. Abiraj / II year
11. Ms. E. Darini / II year
12 Mr. R. Shinto / II year
13. Mr. B. Prassanna Kumar / II year

***Answers for CrossWord***

*Across*

*2. AMPS*
*5.SWITCH*
*9.RINGMAIN*
*12.PYLON*
*13.TRANSFORMER*
*16.INSULATION*
*17.ALTERNATING*
*18.THERMISTOR*
*20.STATOR*
*22.OSCILLOSCOPE*
*23.ELECTRONICS*
*26.PLUG*
*28.STRIPPING*
*31.BATTERY*
*33.MAGNETISM*
*34.SOLDER*
*35.LED*
*36.OHMS*
*39.PLIERS*
*44.FUSE*
*45.CHARGER*
*46.LDR*

*Down*

*1.VOLT*
*3.MOTOR*
*4.LAMP*
*6.CONDUCTOR*
*7.GENERATOR*
*8.CONNECTIONS*
*10.METER*
*11.RESISTOR*
*13.TRANSISTOR*
*14.FLUORESENT*
*15.CONSUMERUNIT*
*19.HENRY*
*21.INSULATOR*
*24.CAPACITOR*
*25.COPPER*
*27.CRIMPER*
*29.FARADS*
*30.RECTIFIER*
*32.TORCH*
*34.SHOCK*
*37.MCB*
*38.DIODE*
*40.ROTOR*
*41.MEGGER*
*42.SOCKET*
*43.CABLE*

Designed by
R. Kumaran