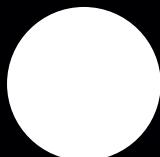


ELECTRICAL ENGINEERING DEPARTMENT NEWSLETTER  
**ISSUE 4**



# IONIC WINDS

TECH EYE —  
ZEALICON '17 —  
OORJA EVENTS —  
FUTURE PROSPECTS —



JSS ACADEMY OF TECHNICAL EDUCATION, NOIDA

# From **Principal's DESK**

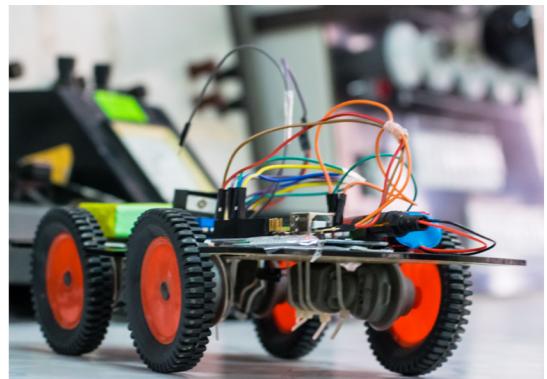


## **INDUSTRIAL VISIT TO NARORA ATOMIC POWER STATION**

On 24-10-2016, a group of 35 students of 3rd Semester EE went to the Narora Atomic Power Station and were accompanied by the four faculties of Electrical Department Mr. Nirmal Kr. Agarwal (Industrial Visit Coordinator), Ms. Sangeeta Singh, Mr. Satyajeet and Mr. Subhash Yadav



## **INSPIRE SCIENCE CAMP HELD FROM 26TH DEC TO 30TH DEC 2016**



JSSATEN organised an INSPIRE-Science Camp from 26th to 30th December, 2016, which is sponsored by DST-INSPIRE (Innovation in Science Pursuit for Inspired Research) Programme under the guidance of our Principal Sir. Nearly 200 students from nearby school will participate in this camp. Ideas may be like skit with scientific thoughts, scientific Quiz, Cultural programme with some scientific message, essay writing, Video lectures, science based movie etc were conducted.

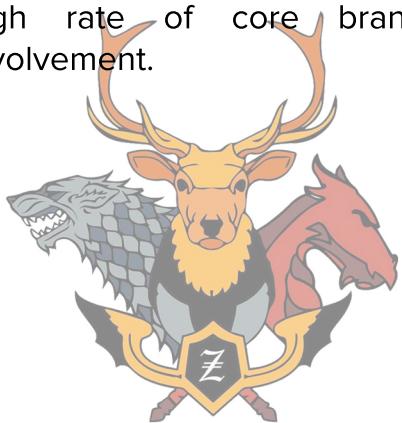
DST scientist Dr Umesh Kumar Sharma addressed the faculty members. Please find enclosed the list of organizing committee members of INSPIRE 2016

30-12-2016, there is a Valedictory programme at 1:30 pm onwards. Dr. Anil D Shahsrabudhe Chairman AICTE as its Chief Guest and Joseph Emmanuel, Secretary, CBSE as Guest of Honor, consented to be with us prior to Lunch timing for the same.



# OORJA

Wirology is a technical workshop conducted every year in the college and grabs the interest of a lot of students, increasing participation and competition. It is also the detailed explanation and knowledge given to the freshers which increases the strength and especially finds a high rate of core branch involvement.



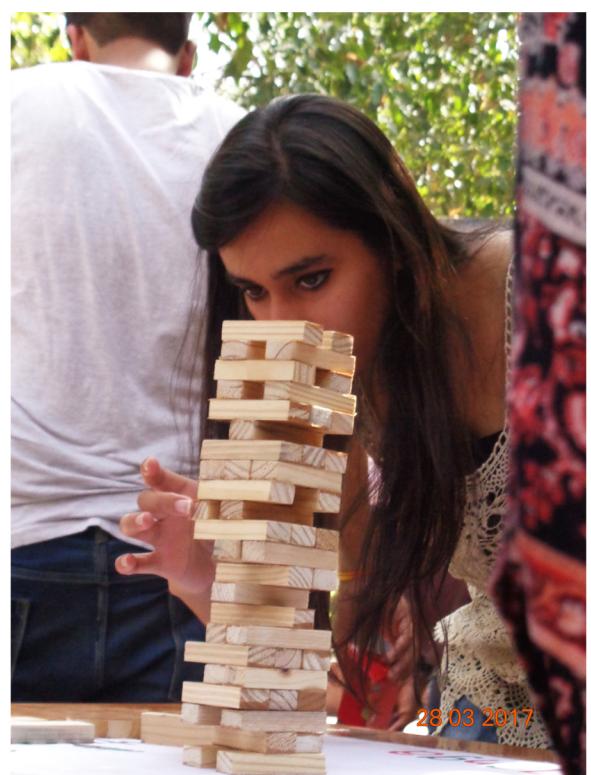
Oorja conducts six main events in Zealicon, the Techno-cultural fest which include Wirology, Sunlight Rover, Junk Engineering, Matrix/Matlab, Tram and Laser Strike.





Electrique conducts three events in Zealicon, the Techno - cultural fest which include Photobooth, Jenga and Survival of the fittest.

THE SONG OF ICE AND FIRE  
**ZEALICON**  
 THE ANNUAL TECHNO-CULTURAL FEST  
 28<sup>TH</sup> - 30<sup>TH</sup> MARCH 2017



# TECH-EYE



Electrical power converter allows grid to easily accept power from renewable energy

Engineering researchers at the University of Arkansas have invented a novel electrical power converter system that simultaneously accepts power from a variety of energy sources and converts it for use in the electrical grid system. The researchers' high-frequency matrix converter addresses these shortcomings. Its simplified control system uses power converters to allow connection of a variety of power sources to a small, high-frequency transformer. Then, using a high-frequency matrix converter, it produces stable electricity ready to be supplied to the electrical grid system.

'Smart' transformers could make reliable smart grid a reality



Smart solid-state transformers could be used to make a stable, reliable 'smart grid' -- allowing the power distribution system to route renewable energy from homes and businesses into the power grid -- a new study using complex computational models finds. It can scale down voltage for use in homes and businesses, but it can also scale up voltage from solar panels or other residential-scale renewable sources in order to feed that power back into the grid. Essentially, system designers and operators would need to ensure that the system -- at every level -- is taking into account customer power demand, power generation from renewable sources and energy storage capacity, in order to avoid providing too much or too little power.

## OLEDs with adjustable colors— new design options for lighting designers

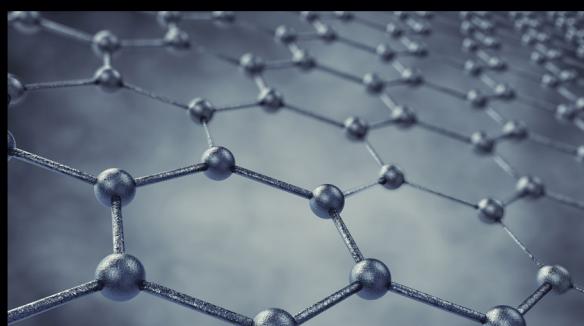


The Fraunhofer FEP specializes in the development and fabrication of OLED modules with unconventional properties for specific client designs. The Institute will debut flexible adjustable-color organic light-emitting diodes (OLEDs) at ISAL 2017 in Darmstadt, Germany from September 25-27, 2017. These types of OLED modules are able to switch the emitted color between two different color temperatures. In this way, a yellow-blue bi-color emission system can not only be switched between the pure emission colors of yellow and blue, but white light can also be generated through simultaneous activation of both colors. Flexible OLEDs can be fabricated on metal and plastic films just as they can be on ultra-thin glass.

## Gazing into the flames of ionic winds

The ability to precisely control flames could lead to greater energy efficiency and fewer harmful emissions from transport and industry. Flames contain charged ions and electrons, which can be manipulated using electricity. KAUST researchers have now produced the first detailed 3D visualizations of ionic winds flowing from a flame in response to both direct (DC) and alternating (AC) electric fields. The researchers acquired images that reveal unprecedented details of how flame dynamics respond to electricity. The beauty of this method is that it can be retrofitted—it can be added in as an active control method for any pre-existing combustion system.

## Graphene



As electrical engineers reach the performance constraints caused by the fundamental properties of matter, advances in materials science become essential. Graphene is perhaps the most important recent innovation. Graphene consists of a single layer of carbon atoms one million times thinner than paper. It's so thin that it is actually considered two-dimensional. Graphene's unique characteristics make it the strongest known material on Earth. It can stretch by 20%, making it as pliable as rubber. It will provide immense gains in battery life for portable devices and is uniquely well-suited for wearable technology that collects biometric information from the user.

## FUTURE PROSPECTS

According to the HRD minister Prakash Javadekar, every student in technical institute should undergo three internships each spanning four to eight weeks before completion of his/her under-graduation course.

As per the data collected by AICTE from 10,328 technical institutes, of the 15.87 lakh students only 6.96 lakh got jobs through campus placements in 2015-16 . However, the minister claimed that the number could have been higher had the students not opted for higher studies and start-ups.



### TYPES OF INTERNSHIPS

#### 1. Sales & Marketing:

If the student have good communication skills and like to meet and interact with new people, a sales/marketing internship is the ticket to get a first-hand experience of the business world. In addition, this is also the best way of honing soft skills and preparing for MBA.

#### 2. Content Writing:

A content writing internship provides the chance to hone writing skills along with getting paid for it.

#### 3. Graphic Designing:

If doodling or sketching is one's hobby and the student have a good design sense then there are a plethora of opportunities available to explore a dormant passion!

#### 4. Programming:

If the student have a knack for coding then there are a number of stream independent internships in Web and Mobile App development where the student can learn and master a major skill while working in the real world environment.

## CONCEPT OF RESEARCH PAPERS



What is the one thing that comes to your mind when you hear the word research paper? Maybe you'll think that a research paper is a document with analysis on a particular topic made by a scientist, but certainly it is something more than that. A research paper is a journal in which a scientist concludes his perspectives of the research he was doing. A research paper includes an argument with its supportive evidence, where the argument is the stand that the author takes on the issue and supports his claim with solid evidence.

When we read a research paper, our goal is to understand the scientific contributions the authors are making. It may require going over the paper several times. First, read it carefully and question the assumptions made by the author, and the logics & reasons given by him. Second, find out the good ideas in the paper, the limitations of the paper and what else can be added in the paper. Third, jot down the questions, ideas and criticism so that you can re-read the paper in smaller fragments. Fourth, logically map the author's initial question to the conclusion and then deepen your knowledge by reading it again. And finally compare your paper to the other works to determine to which scientific contribution your paper belongs to.



**Advantages of reading research paper:** The quality of generating ideas, testing them, making decisions based on evidences and evaluating claims and counterclaims can be embedded in mind through research paper. Such essential qualities of complex scientific inquiry skill and understanding that can be difficult to teach and often nearly absent in scientific textbooks. Where to find the research paper? Our college JSSATE has provided us with the facility of retrieving the research paper. It has subscribed to IEEE, a standard organisation which avails journals, magazines, reviews the conference happening around the world and a lot more. You can approach the library and access its website from where you can read the desired research paper.