

It gives me immense pleasure to know that the department of Electrical Engineering, NITTTR, Chandigarh is bringing out a departmental newsletter for the academic year 2014.

This newsletter gives us the opportunity not only to provide articles of Interest on technical topics but to help keep you informed of recent news and upcoming technologies. The department newsletter will definitely help to showcase the activities that are happening in the Electrical Engineering Department. It also helps in building teamwork which is very much needed today in the world of competition. It provides a platform for exposing the merits and academic achievements of the faculty and students. I hope that this culture of releasing newsletter continue forever and become a coated example for other colleges to follow.

I congratulate the faculty and the students for their effort to achieve excellence and wish them all the best for their future.



**Dr. M P Poonia**  
**Director,**  
**NITTTR, Chandigarh**

We are delighted to launch our first edition of the EE Students' Newsletter. This newsletter is a testament to the department's commitment in imparting quality education in academia. This encompasses a right balance between research & development and teaching & learning and very much in line with the vision and mission of NITTTR Chandigarh. This newsletter highlights many latest wonderful achievements that have brought laurels to the department both by students and staff. This newsletter will provide a glimpse of our student achievements during the period 2014-2015.

As students are the members of a progressive society, the teachers shall not fight today, battle with yesterday's weapon, but they must prepare them to face all the eventualities of life. Thus, teachers" are the architects of a country. Consequently the true education should deepen our insight, widen our horizon and create a meaningful outlook. Equally the students are fortunate enough to have born in a free nation, with all the facilities to shape their career in such a way, that they should be part of a good and healthy society with progressive attitude towards divinity.

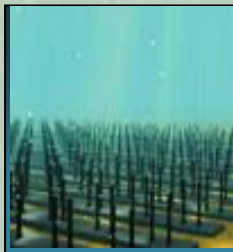


**Dr. (Mrs) Lini Mathew**  
**HOD**  
**EE Department**

# INVENTIONS

## Renewable Energy From Slow Water Currents

A University of Michigan engineer has developed a device that acts like a fish that turns the potentially destructive vibrations in water into clean, renewable energy. This machine is named as VIVACE (Vortex Induced Vibrations for Aquatic Clean Energy).



<http://www.alternative-energy-news.info/renewable-energy-from-slow-water-currents/>

## Could metal particles be the clean fuel of the future?

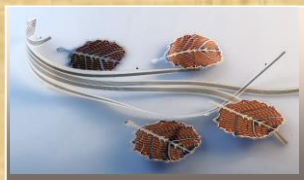
Metal powders, produced using clean primary energy sources, could provide a more viable long-term replacement for fossil fuels than other widely discussed alternatives, such as hydrogen, biofuels or batteries, according to a study in the Dec. 15 issue of the journal *Applied Energy*.

<http://www.sciencedaily.com>



## 3D Printed Solar Energy Trees

Researchers at the VTT Technical Research Centre of Finland have developed some very decorative prototypes of what they are calling “energy harvesting trees”.



The tiny leaves generate and store solar energy and can be used to power small appliances and mobile devices.

<http://www.alternative-energy-news.info/3d-printed-solar-energy-trees/>

## Floating Solar Panels: A Viable Solution?

Since 2011, French Company Ciel & Terre has been developing large-scale floating solar solutions.

Their innovative Hydrelia Floating PV system allows standard PV panels to be installed on large bodies of water.

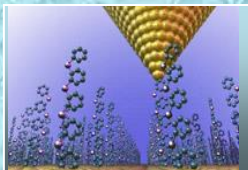
This simple and affordable alternative to ground-mounted systems is particularly suitable for water-intensive industries who cannot afford to waste either land or water.

<http://www.alternative-energy-news.info/floating-solar-panels/>



## Converting Waste Heat To Electricity

With rapid industrialization, the world has seen the development of a number of items or units, which generate heat. Until now this heat has often been treated as a waste, making people wonder if this enormous heat being generated can be transformed into a source of electric power. Now, the physicists at the University of Arizona finding new ways to harvest energy through heat, this dream is actually going to become a reality.

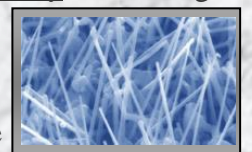


<http://www.alternative-energy-news.info/waste-heat-to-electricity/>

## More Power To Electronics Thanks To Nano-Scale Wires

Today a long-standing electronic dream has become a reality thanks to research done by a team of scientists from Bar-Ilan University, Israel, supported by U.S. Department of Energy's (DOE) at Brookhaven National Laboratory. Producing superconducting nano-scale wires to facilitate faster and more powerful electronic devices has been the long-time ambition which had eluded achievement until now.

<http://www.alternative-energy-news.info/power-electronics-nano-scale-wires/>





# TECHNICAL EVENTS

The Electrical Engineering Department organized an International Conference on Recent Advances and Trends in Electrical Engineering (RATEE-2014) during December 23-24, 2014. The aim of RATEE 2014 was to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in various fields of electrical engineering. The session started with a welcome address by Dr. M.P Poonia. He focused on the energy conservation and talked about the challenges we are facing to bridge the gap between teachers and students.

## RATEE-2014



Inaugural address was delivered by Dr. Devinder Singh Sandhu, VC, Kurukshetra University appreciating the teachers by emphasizing their duties and importance along with the balance between materialism, education, nature. In his speech he mentioned the importance of electricity and has considered it as the greatest invention for the mankind.

The valediction session was presided by Dr. R.P Dahiya, VC, Deenbandhu Chhottu Ram University of Science and Technology (DCRUST), Murthal, Haryana. He congratulated the organizers and awarded the best paper awards.

## STUDENT'S INITIATIVES



Electrical Engineering Student Chapter "ELECTRINCON" was inaugurated on 16<sup>th</sup> June, 2014, by Dr. S.Chatterji. The conveners and co-conveners of the student chapter one each from Modular and Regular batches - ELECTRINCON were elected. Events Held by ELECTRINCON.

- Development of working projects under minor project activity- on 16.06.2014.
- Experts Lecture on Intelligent Instrumentation on 04.07.2014.
- Experts Lecture on Energy Auditing on 12.08.2014.

- Industrial Visit for ME Regular 2014 Batch students to CSIO, Chandigarh in the month of September, 2014.
- Teachers' Day celebration on 05.09.2014
- The first technical event '**Projectrica**' was conducted.

*It has become appallingly obvious that our technology has exceeded our humanity. —Albert*

# TECHNICAL EVENTS



## A VISIT TO ADVANCE TECHNOLOGY



An Industrial visit was organized for Electrical Engineering students to **Advance Technology, Zirakpur** on 13 February 2015. The students were

Here students came to know that Advance Technology offer various Technical Education solutions, Products & Development tools to engineering colleges, universities, research organizations.

## A VISIT TO SHIMLA



An Industrial visit was organized for the ME students of STC participants to **Area Load Dispatch Communication Center (ALDC) Totu, Shimla, Himachal Pradesh** on 19/02/2015. The students were led by Mrs. Shimi S.L.. The visit included the knowledge of different sections of Load Dispatch unit.

# TECHNICAL EVENTS

## A VISIT TO CSIO



An Industrial visit was carried out at **Central Scientific Research** on 24<sup>th</sup> September 2014 on the occasion of Foundation Day of CSIO. Our team was carried by Mrs. Ritula Thakur. The ultimate focus of the visit was to get the knowledge of technologies in fields of agriculture, instrumentation etc. Indo Swiss training centre is also one of the important part of CSIO, where the advance technologies used in practical world were highlighted.

## EXPERT TALK



An expert lecture was organized for ME regular students of 2014 batch on 26<sup>th</sup> November 2014 on ‘**Automation in Industries – Embedded Systems in Industrial Automation**’ by **Dr. Baban Kumar Bansod**, Sr. Scientist in Agriculture Department, Central Scientific Instruments Organization (CSIO) , Chandigarh.

In this session he discussed a Project named “Automated Liquid Dispensing System” which is an automated bio-chemical dispensing system.



# TECHNICAL EVENTS

The expert lecture was organized for ME regular students of 2014 and 2015 batch on 19<sup>th</sup> January 2015 on '**Microprocessor & Microcontrollers & their Applications – Embedded System in Industrial Automation**' by **Dr. Baban Kumar Bansod**, Sr. Scientist in Agriculture Department, Central Scientific Instruments Organization (CSIO), Chandigarh.

In this session he discussed the building technologies for sustainable future food by creating presence in Food Consumption & Production domains, the Pre harvesting Technology i.e. Tractor Mount Soil Mapped and Post Harvesting technology i.e. Grain Moisture Measurement (Digital Grain Moisture Analyzer) & use of Embedded System in its designing.



The expert lecture was organized for ME regular students of 2013 and 2014 batch on 26<sup>th</sup> November 2014 on '**Automation in Industries - AC & DC Drive Control**' by Mr. Satayabrata Sahoo Sr. Application Engineer in Altair, Hyderabad.

In this session, VisSim Software and it's real time interfacing with Brushless Product Lines – MATLAB interface, 3D animation, SIMULINK Translator are discussed.

He discussed different kits such as the three phase BLDC and PMSM motor kit, Digital Power 2 phase interleaved power factor correction kit, High Voltage Power Factor Correction kit, Higher Voltage resonance LLC developer's kit. He discussed Digital Power applications and Motor applications.



# DEPARTMENTAL EVENTS

## SHORT TERM TRAINING PROGRAMMES

### FOR ENGINEERING COLLEGE

Sr. No.	Dates	Name of the Course	Beneficiary State	Team (Faculty)	No. of Participants (Attended)
01	28 Apr. to 02 May, 2014	Virtual Instrumentation * (Through ICT)	All States	LM	474
02	12 -16 May, 2014	Computer Aided Power System Analysis	All States	LM	10
03	19 -23 May, 2014	Electrical, Electronics & Computer based Projects	National Level	SC	15
04	14-18 Jul., 2014	DSP using SciLab	National Level	LM	03
05	21-25 Jul., 2014	Solid State Control of Electric Drives* (Through ICT)	National Level	SSL	370
06	11-14 Aug., 2014	Efficient Energy Management (Through ICT)	All States	SC	175
07	15-19 Sept., 2014	MATLAB and Its Applications* (Through ICT)	National Level	LM	286
08	10-14 Nov., 2014	MATLAB/Simulink with D Space Interface	National Level	SSL	07
09	19-23 Jan., 2015	Microprocessors, Microcontrollers and their Applications* (Through ICT)	National Level	RT	175
10	02-13 Feb., 2015	Microcontroller Based Embedded Systems	National Level	RT	07
11	16-20 Feb., 2015	FACTS & Smart Grid	Northern Region	LM	04
12	23-27 Feb., 2015	Power Electronics* (Through ICT)	National Level	SSL	232
13	09-13 Mar., 2015	Circuit Simulation using Multisim* (Through ICT)	Northern Region	RT	208

### FOR POLYTECHNIC COLLEGE

01	19 -23 May, 2014	Electrical, Electronics & Computer based Projects	All States	SC	07
02	04-08 Aug., 2014	Programmable Logic Controller	Northern Region	LM	18
03	26 Sept. to 01 Oct., 2014	Energy Management	All States	SC	40
04	24-28 Nov., 2014	Automation in Industries	All States	SSL	147
05	19-23 Jan., 2015	Microprocessors, Microcontrollers and their Applications	National Level	RT	175
06	19-23 Jan., 2015	Hands on Experience on MATLAB	Northern Region States	SSL	14
07	23-27 Mar., 2015	Computer Aided Circuit Simulation	Northern Region States	RT	09

*My head'll explode if I continue with this escapism.*

# DEPARTMENTAL EVENTS

## LONG TERM TRAINING PROGRAMMES

Programme	Description
M.E Electrical (Instrumentation & Control) (Regular)	Started with 5 seats in 1998, and  Intake increased to 10 in the year 2002  Intake increased to 13 in the year 2003  Intake increased to 18 in the year 2006  Intake increased to 23 in the year 2009  Intake increased to 26 in the year 2010
M.E. Electrical  (Instrumentation & Control) Modular	Started with 25 seats in 2005, and  Intake increased to 40 in the year 2010
Ph.D. Programme in Electrical Engineering	The institute/department has been recognized as a Research Centre by Punjab University, Chandigarh and Punjab Technical University, Jalandhar for Ph.D. Programs.  Up to the year ending January, 2015, 4 number of candidates have passed out with Ph.D. Degree and 3 number have submitted the thesis and 11 are still pursuing their Ph.D.

"A CD. How quaint. We have these in museums."



# DEPARTMENTAL EVENTS

## EXTENSION SERVICES

### STREET LIGHT INSTALLATION INSPECTION

Inspection of Street Light installation under Municipal Corporation, Panchkula.



*You never change things by fighting the existing reality.*

# INTERNATIONAL EXPOSURE TO FACULTY

Sr. No.	Name/Designation of Person	Nature of Work
1.	<b>Dr. Lini Mathew</b> <b>Associate Professor and Head</b>	<b>Presented a paper titled “Modeling and Simulation of Hybrid Power Flow Controller Implemented on SMIB System”, North American Power Symposium, Washington State university, Pullman, Washington, USA September 7-9, 2014</b>
2.	<b>Mrs. Ritula Thakur</b> <b>Assistant Professor</b>	<p><b>i) Worked during May- September 2014, at</b></p> <ul style="list-style-type: none"> <li><b>• National Peanuts Laboratory, Dawson, USA. On developing technologies for moisture determination of peanuts.</b></li> <li><b>• Richard Russell Research Lab, Athens, USA. Worked on NIR spectroscopy and impedance based methods for oil content determination of oil. Developed technology for moisture determination of fruits.</b></li> </ul> <p><b>(ii) A Low Cost Non-Destructive Grain Moisture Embedded System for Food Safety and Quality, 17th International Conference on Food Process Engineering, London, United Kingdom, February, 16-17, 2015.</b></p>
3.	<b>Mrs. Shimi S.L</b> <b>Assistant Professor</b>	<b>Presented a paper titled Design and Real Time Simulation of Artificial Intelligent based MPP Tracker for Photo- Voltaic System, ASME 2014 Conference on “International Mechanical Engineering Congress and Exposition” , Montreal, Canada, November 14-20 , 2014</b>

*“What the teacher is, is more important than what he teaches.”*

— Karl A. Menninger

# INTERNATIONAL EXPOSURE TO FACULTY



*"You can't stop a teacher when they want to do something. They just do it."*

— J.D. Salinger



# CULTURAL EVENTS

On the occasion of “SADBHAWANA DIWAS”, EE department has organized a function along with poem competition. Students had shared their views and poems. Winners were awarded by Dr S. Chatterji HOD, EE department.

## SADBHAWANA DIVAS CELEBRATION



## TEACHER'S DAY CELEBRATION



Students of Electrical Engineering Department organized an event to celebrate Teacher's day on the occasion of birth anniversary of our second president Dr. Sarvapalli Radhakrishnan on September 5, 2015.

The program was started with the lighting of a lamp. Teachers and students presented their views in the form of poems, songs and speech.

On the occasion of **Christmas Day on 25<sup>th</sup> Dec** celebration was organized in our college campus. All honorable teachers and students gathered for celebration. At this Christmas eve students gave performances in honour of Jesus Christ and his sacrifices for humanity. The great celebration ended with Dr. S. Chatterji's speech and he told that love and peace among mankind is the supreme message for the special day.

## CHRISTMAS DAY CELEBRATION



# CULTURAL EVENTS

With hearts filled with gratitude & love, the Students of EE department bid farewell to dear Dr. S. Chatterji, Faculty & HOD of EE Department. To mark this special occasion, the students organized a special farewell function on 11<sup>th</sup> of April, 2014.

The program began with the lighting of the lamp and presented floral bouquets to HOD. Dr S. Chatterji shared his journey of teaching and experiences with the students and staff members.

## FAREWELL TO HOD



He wished good luck to the students and staff members. Speeches were also given by the students, some student share their experiences and memories with the HOD. Some of the speeches were quite touching which was indicative of mixed emotions of the students. The emotions were joyful and little sadness due to leaving the premises, teachers and students.

## FAREWELL TO SENIORS



It was an incredible evening hosted and organized by students of ME (I&C) 2014 Batch, to bid bid farewell to the outgoing students of ME (I&C) 2013 batch with great enthusiasm and off course farewell for seniors. This was to wish them a great future.

The program was started at 6.00 am with the introduction round to share their experiences. After that some interesting tasks were given to seniors and they enjoyed a lot. The highlight was a power point presentation which threw fun and added life to the party.

# ACHIEVEMENTS

- Vimal Kumar Verma and Arindam Chowdhury Secured the 1<sup>st</sup> position in Greenwhiz Quiz organized by Civil Engineering Dept., NITTTR, Chandigarh on 26<sup>th</sup> Sept. 2014.

- Mr. Tejinder Secured the 2<sup>nd</sup> position in Project completion in TECH MAHOTSAV (College Level) PEC FEST , PEC University of Technology , 2014

- Mr. Tejinder Kumar secured 1<sup>st</sup> position in the event TECHNOWORLD organized by Baba Farid Group of Institutes, Bhatinda.

- Swati Singh and Mr. Sandeep Gupta Secured the 1<sup>st</sup> position and won a cash award of Rs. 50,000 in Project completion in “Techexpo” at TechXplore, the National Level Technical Fest of Chitkara University, Rajpura

- Mr. Tejinder Kumar secured 3<sup>rd</sup> position in event CASCADE during ROBOTIX in KSHITIJ held at IIT, Kharagpur.

- Mr. Tejinder Kumar secured 2<sup>nd</sup> position in event LINE FOLLOWER organized by BFCET, Baba Farid Group of Institutes, Bhatinda.

## STUDENT ACHIEVEMENTS



## FACULTY ACHIEVEMENTS



- Mrs. Ritula Thakur had got Best paper award for paper titled “A Novel design for Moisture Determination in Peanuts”, in International conference on Recent Advances and Trends in Electrical Engineering (RATEE), NITTTR, Chandigarh during 23-24 December, 2014



# STUDENT'S CORNER



## My Magical Place: My NITTTR Family: My College

College is the best time of everyone's life and I feel privilege to be a part of it. Apart from getting higher education we have learnt how to enhance our technical skills. Everyone here is friendly and helpful. Our teachers are very dedicated and hardworking. I don't feel lonely

**Namarta Gandhi** s I am away from my family members since I had been a part of this NITTTR family.  
**EE 2<sup>nd</sup> yr**

NITTTR has given us the opportunity to update our knowledge by conducting workshops and expert lectures. Its publications over the years have been an invaluable reference source for all journalists working in the respective fields. One of the things that have always astounded me about the Institute is that they always have a book coming out about the subject subject that you just realized was important. As we know there is no elevator to success we have to take stairs and these stairs are provided by our department teachers. They are always ready to guide us. NITTTR also provides a platform for the handicapped people to showcase their skills through a 4<sup>th</sup> National Abilympics. People with intellectual disabilities are encouraged and motivated to join this special Abilympics to increase their physical activity. Also, they gain many emotional and psychological benefits, including self-confidence, social competence, building greater athletic skills and higher self-esteem. We also celebrate here "Sadbhawana diwas" for the emotional oneness and harmony of the people here regardless of their caste, region or religion. On this day our director Mr. M.P. Poonia with his enthusiastic and inspiring words encourage us to be strong, self reliant and to be in the front ranks of the nations of the world in the service of mankind. NITTTR has also received the certificate of participation in "UNESCO-Hamdan Bin Rashid Al Maktoum Prize" for outstanding practice and performance in enhancing the education of teachers. There is no better example of contribution than my college. Eventually I want to say that "My College is a really unique platform for challenging brainstorming and intellectual exchanges".

## WAKE UP

Wake up, listen to your soul,  
Don't ignore the earnest call.  
Be an efficient engineer,  
Mighty and tall.  
Always come the hurdles,  
Big and small.  
May India shine with glory,  
And be in the famous hall.  
Almighty and self-esteem be prevail,  
And our character will not fall.  
Nurture in the garden of NITTTR,  
And be a pride of Instrumentation & Control.  
Always look the bright side of things,  
And smile for one and all...



**Niranjan Gupta**  
EE 2<sup>nd</sup> yr

## *Today*

*Today is the day something to learn,  
Today is the day, we have fun,  
Today we will grow and become kind,  
Today is important and don't leave it behind,  
Today is the day to do something new,  
That's my thinking and my view,  
Future becomes Today was the future,  
That's the working of nature.....*



Pankaj Verma  
EE 2<sup>nd</sup> year

***That's why today is important.***

*So friends don't leave anything for tomorrow do it*

*Today*

*Life has no remote, you have to wake up and change it....*

### **POSITIVE THOUGHTS ON LIFE**

- ❖ *Do what you love..in a job, a hobby,  
or giving to others...*
- ❖ *Doing what you love makes you feel alive.*
- ❖ *If you experience pain...remember the experience,  
learn the lesson and KNOW that there is new love on the way.*
- ❖ *Open your heart...a closed heart never finds success.*
- ❖ *Don't hold back....vulnerability is not weakness, it is a power.*
- ❖ *Align yourself completely with your  
uniqueness....your needs, dreams, and desires.*



Jyoti Mishra  
EE 2<sup>nd</sup> year

### **TEAM WORK**



#### **NEWS LETTER TEAM**

**Faculty Co-ordinator: Mrs Shimi S. L**

**Students Co-ordinator: Jyoti Singh, Jyoti Mishra, Vimal Verma, Shilpi Yadav, Namarta Gandhi, Niranjana Gupta, Roopkirat Kaur Sandhu (ME 2<sup>nd</sup> Year)**

*“Any sufficiently advanced technology is indistinguishable from magic.”*