



# IEEE India Info



IEEE India Council Newsletter
Vol. 4 Number 9
September 2009
Single Copy: Rs. 4/-

IEEE THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC

## Chairman's Message



Dear Members,

The Global event of IEEE 125th Anniversary was celebrated at The Lalit Ashok on 29th August in a grand manner. The event was hosted by Dr. John Vig, the President of IEEE and organized by the IEEE HQ and IEEE Bangalore Section. The President invited more than 700 guests from IEEE volunteers, members, students from all over India; CEOs from industries, Heads of R&D and Government Institutions and distinguished people from academic community and Heads of premier academic Institutions in India. The IEEE was represented by a host of dignitaries. Apart

from the host Dr. John Vig, the past president Dr. Terman, Dr. Pedro Ray, president elect E. James (Jim), the executive director Prendergast, Region 10 Director Dr. Y J Park, and past R10 Director Dr. Janina represented IEEE at the celebration. Prof. H P Khincha, Vice Chancellor VTU, welcomed the guests.

The 11th President of India, Dr. AP J Abdul Kalam addressed the distinguished gathering unfolding challenges before us in the technological advances in Nanotechnology, energy independence, post genomic healthcare and virtual technology; and development of sustainable Information technology and effective utilization of energy in the fast growing IT world. "If the last 50 years was all about information technology, the next 50 years will belong to Biotechnology combined with IT and Nanotechnology," he added.

The Chairman and Managing Director of Power Grid Corporation of India S K Chaturvedi, CEO and Managing Director of Infosys Technologies Kris Gopalakrishnan, and former scientific advisor to Ministry of Defense and Secretary to the Government of India V K Atre addressed the distinguished gathering. Dr. Atre highlighted the need for new paradigms in education system.

It is a great honor for the IEEE student community in India that the top 10 short listed entries to the IEEE Presidents' Change the World Competition contained **4 entries from India**. The second prize of \$ 5000 was bagged by students at **B.V. Bhoomaraddi College of Engineering and Technology, Hubli, Karnataka, India** [Kartik Kulkarni, Laxman B. Nimbargi, Suyash Ugare, Sagar Medikeri, Ajay Bhat, Sagar Karur, Kiran V. Soppimath, Radhakrishna M. Gotur, Pradeep B. Hanji, Ganesh M. Vallamadas, Ramachandra D. Patil, K. Vidyasagar, Gnanesh Upadhyay, Prakash S., Basavaraj Sankeshwar, Khuram Syed, Reshma Desai, Om Gargatte and Shreya Raravi] for their work on Electronic Aids for Physically/Mentally Handicapped Children.

'AGROBOT - Robots in Agriculture' by Nagendran Rajendran, Udumalpet, India, 'Information System on Human and Health Services (ISHHS)' by Sampathkumar Veeraraghavan, Medford, USA, 'NIDAAN - An e-Healthcare Solution for the Under Privileged' by Sumit Pandey, Gandhinagar, India each won \$ 1000 in the competition.

The IEEE conference on Technologies for Humanitarian Challenges organized by the India Ad Hoc Committee on 28th August at the Lalit Ashok was well attended. Interesting work by IEEE, government institutions, NGOs, Corporates in IT industry and Academic institutions from India and abroad and students were presented in three sessions.

A MOU was signed by the IEEE, IEEE Computer Society and the Computer Society of India for cooperation and collaboration between the two professional bodies on 29th August at Lalit Ashok.

During 28-30 August, IEEE India Council, IEEE Bangalore Section volunteers, members and the students had ample opportunity to network with leadership at the IEEE HQ. We had some fruitful discussions to impress on them the needs and aspirations of members in India.

With warm regards

**Kasi Rajgopal**  
Chairman, IEEE India Council  
kasi.rajgopal@ieee.org

Bangalore  
01 September '09

## IEEE Annual Voting

If you have not voted already in IEEE Annual Elections 2009, kindly do so at the earliest using the ballot or electronically using the URL link.

*\*<https://www.directvote.net/ieee/>\**

## MGA Innovation Award to S Gopakumar

The Award plaque was presented to veteran IEEE activist S. Gopakumar of Kerala Section on 29th August 2009 in Bangalore at the Special function. Congratulations!



## Congrats Culcutta Photonics Soc Chapter!

The Photonics Society (Calcutta) Chapter of IEEE India has again won the 2009 MOST IMPROVEMENT CHAPTER AWARD.

Last year, the Chairman was Prof. S. N. Sarkar (snsarkar\_50@yahoo.com) and the Secretary was Prof. J. B. Roy (jnanbroy@rediffmail.com). Reported by:

**P K Basu**, Coordinator, NDLP Calcutta Section

## IEEE Code of Ethics

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

..... 9. To avoid injuring others, their property, reputation, or employment by false or malicious action;

## Editorial Board

Prof. V K Damodaran	- Editor
N T Nair	- Member; Publisher
K Ramakrishna	- Member
S L N Murthy	- Member

visit: [http://www.ewh.ieee.org/r10/india\\_council](http://www.ewh.ieee.org/r10/india_council)

**Our sweetest songs are those that tell of saddest thoughts – Percy Bysshe Shelley**

## From India Council Secretary



Dear All,

Many dignitaries, staff and volunteers from IEEE Headquarters/Region 10/Indian Sections and invited guests from Industry, Government & Academic Institutions participated actively in the 125th Anniversary celebration organized from 27th August to 1st September, 2009 at various IEEE cities in India. The definite highlight is the Global Event

Series organized by IEEE at Bangalore during which the 11th President of India Dr. AP J Abdul Kalam delivered an excellent presidential speech. I am happy to inform you that more than 700 Registrants/ attendees had taken part in this mega event on the evening of 29th August 2009. The more details of the program along with presentation, videos and photographs are available in the Bangalore Section web site [www.ieeebangalore.org](http://www.ieeebangalore.org).

All of us are aware that the election ballot has already been received and the last date for casting our valuable vote to IEEE is 30th September 2009. Friends, let me tell you that this is a golden opportunity to every one of us to exercise the right to vote and elect the right candidate for the IEEE who can take forward the IEEE India Initiatives with a Global focus. I request you all to cast your vote on-line today itself at the site <https://www.directvote.net/ieee/loginOptions.aspx> or [www.ieee.org](http://www.ieee.org). So keep your IEEE web user name and password ready for not only electing the right candidate who can protect IEEE and India's interest but also by polling maximum votes, get an award for your Section in Region10.

I understand that some more events are planned by the India Sections in the coming months with respect to the 125th Anniversary celebrations. I request all the readers may please visit the web site of the respective Indian Sections of IEEE to know more details on pending activities for participation.

Seeing the tremendous activities of IEEE, I once again request one and all to continue to be a valid/valuable member of the prestigious IEEE India to serve the humanitarian challenges. I also request you all and your friends to join IEEE to make India stronger and remain connected with the excellent technical network of the World.

With all Best Wishes,

Yours sincerely

**K Ramakrishna**  
Secretary

Email: [kramakrishna@ieee.org](mailto:kramakrishna@ieee.org)

**Wisdom is knowing  
what to do next  
Skill is knowing how to do it  
And Virtue is doing it!  
- David Starr Jordan**

## FORTHCOMING EVENTS

### INDICON 2009

Prestigious Annual Conference of IEEE India! This year, INDICON 2009 is being organized by IEEE Gujarat Section in Ahmedabad during 18-20 December 2009.

**Theme:** INNOVATIONS, EMERGING TECHNOLOGIES, ENGINEERING WITH EXCELLENCE - for the Humanity.

**Venue:** DA-IICT (Dhirubhai Ambani Institute of Information and Communication Technology), Gandhinagar. For more detail, do visit the conference website: <http://ewh.ieee.org/r10/gujarat/indicon2009/>

### ISSNIP 2009

The Fifth International Conference on Intelligent Sensors, Sensor Networks and Information Processing - ISSNIP 2009 (<http://www.issnip.org/2009>) held under the umbrella of the ARC Research Network on ISSNIP is an annual forum for sensor network research. More details at: (<http://www.issnip.org/2009/phdecforum.html>)

Co-Sponsored by:

IEEE Sensors Council (<http://www.ewh.ieee.org/tc/sensors/>)

IEEE Victorian section (<http://www.ieeevic.org/>)

### IACC 2010

**19-20 Feb 2010**

Thapar University in Punjab, IEEE Delhi Section and IEEE Computer Society Chapter (Delhi Section) are organizing IEEE 2nd International Advance Computing Conference (IACC 2010). For details: <http://www.iacc.co.in>

For any queries please mail at [deepakgarg@ieee.org](mailto:deepakgarg@ieee.org)

**Dr. Deepak Garg**

Conference Chair

<http://www.dgarg.com>

## Attention Student Branches

This year I am chairing the IEEE-USA Pre-College Education Committee and we are slated for a track at our annual meeting next spring. We know there are so many wonderful, dedicated volunteers across the country, but it is a challenge to gather the info. Abby Vogel, who is doing articles for Today's Engineer suggested I try this email list.

We are trying to compile a matrix of K-12 events in the USA that involve our IEEE members. We've been thinking about running an "ad" in all the newsletters, including Spectrum to reach readers and request their input about STEM events in their Region.

If this is something you can contact me and it would be so appreciated. This might just help.

**Dusty Fisher**

Student Activities Chair - Denver

Pre College Education Committee Chair - IEEE USA

Educational Activities Board - IEEE

[dlfisher@ieee.org](mailto:dlfisher@ieee.org)

## Technology Notes

### Russia Aims At Mars Straight!

A new design for a crew vehicle, launcher, and spacecraft

Russia unveiled an ambitious three-decade plan for a manned space program at the International Aviation and Space Salon, MAKS-2009, which opened in the town of Zhukovsky, near Moscow. The Russian Federal Space Agency's hope is that its plan will become the basis for a broad international effort to send humans to Mars and build a permanent base on the surface of the moon.

In contrast to NASA efforts, which would use the Moon as a stepping-stone on the way to Mars, the latest Russian space doctrine aims for Mars first. To reach a Mars landing, RKK Energia, Russia's premier developer of manned spacecraft, displayed a multitude of planned space vehicles, including a transport ship, a nuclear-powered space tug, and a planetary lander system. Together they would make up what the agency is calling the Interplanetary Expeditionary Complex.

"I believe that we should move [straight] to Mars...as the moon cannot be a goal by itself," says Vitaly Lopota, the head of RKK Energia. "Nevertheless, all the infrastructure that we are proposing for the Interplanetary Expeditionary Complex could be used for operations in Earth orbit, but also for the lunar exploration, if such goals emerge," Lopota told IEEE Spectrum (Report from Anatoli Zak).

### The Intelligent Grid and Renewable Integration

'Business Insights' examines the development prospects and future potential of an intelligent grid with integrated renewable forms of electricity production. This report identifies the key components and structural concepts that comprise the grid and analyzes the platforms that will form the basis of the intelligent distribution network. It also explores how market trends and infrastructure are influencing the development of renewable energy technologies, and identifies how renewable energy sources will be integrated into the intelligent grid. Further, some insight is also provided on cost estimates for intelligent grid infrastructure development and compares how manufacturers are positioning new technologies in response to recent trends. The merit of this report is that it can be used to:

1. Assess the potential of the intelligent grid and analyze its key concepts and components
2. Evaluate the opportunities and challenges associated with intelligent grid distribution systems
3. Identify the renewable technologies that will contribute generating capacity to the new grid
4. Quantify the cost and volume growth potential of infrastructure development and renewable energy generation/ distribution and examine the main drivers and resistors of the intelligent grid and renewable integration.

In India, in spite of our national resolve to have a 10% RE mix, our efforts have not been that successful or at enough speed. May be we should now examine what the deterrents are for RE, even if we don't aim at Intelligent Grids. The modernization of electricity supply networks is overdue, with present systems that are overloaded and having their limitations exposed. The best of upgrading is by introducing modern computer and communications technology to create an 'intelligent grid' of increased flexibility

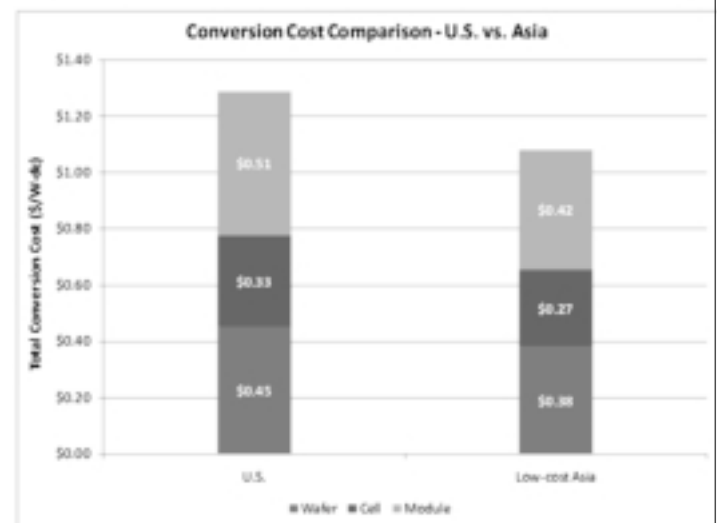
and resilience. The integration of renewable energy technologies into the intelligent grid will probably define the electricity supply systems of the future.

### New PV Plants: Will they be in Asia, EU or US?

From early 2009, with Obama in power and announcing positive policy measures, new PV manufacturing facilities are springing up in the U.S. Two giant plants are (Solar World and Schott Solar) have commenced operation. At least 10 more major facilities are expected to begin production by the end of 2010. "On the manufacturing plants, a 30 percent tax credit for capital costs is now available to producers, the federal loan guarantee program is finally being mobilized, and state governments have only been too happy to provide generous incentives to manufacturers in exchange for job creation. On the installations side, the Emergency Economic Stabilization Act of 2008 extended the 30 percent investment tax credit on systems to 2016 and allowed investor-owned utilities to take advantage of it, boosting utility interest in deploying large-scale solar. Adding to this, the American Reinvestment and Recovery Act (ARRA) passed in February 2009 has led to the creation of state energy programs (SEP) that would eventually provide hundreds of millions of dollars in grants and loans towards deploying renewable, solar in particular" says Shyam Mehta, a senior Analyst in Energy Pulse. In the meanwhile, there is also a tendency to have major production units in China, Taiwan Malaysia etc.

The factor prompting a shift to Asian production is lowering of production costs. See figure below.

Figure 2: Comparison of Conversion Costs, U.S. vs. Asian Manufacturing Facility



The U.S. vs. Asia issue is not going to be a one-sided choice, and investments will move from East to West and vice versa, because for the low cost Asia, market closeness is required and for the west, competitiveness will be better with plants in Asia.

**It is unwise to be too sure of one's own wisdom. It is healthy to be reminded that The strongest might weaken And the wisest might err.**

**- Mahatma Gandhi**

## Editorial



Let me express some scrambled thoughts this month on IEEE India.

**What we are:** We are probably one of the brilliant groups of EE professionals in the Asia Pacific region, if the number of Awards and Recognitions that our volunteers in IEEE India are bagging every year from the Global and Regional evaluations is any indication. The number of technical programmes and meetings that get conducted under the purview of our 10 Sections are staggeringly high. Yet, many of our officer volunteers

do not feel like reporting many of such events for inspiring the rest of the lot through the Bulletin. Of course, it will be impossible to report all such events, but some where new roads have been cut, should certainly be reported for the benefit of fellow professionals in the country. I invite the indulgence of our IEEE officer volunteers to this aspect.

**NDLP:** An imaginative program initiated last year to facilitate interaction between the Section surroundings and the rest of the professional concentrations as well as the student community is continuing this year also. However, the Info is not fortunate enough to receive any report from the Sections or the beneficiary units on the progress of this activity. Can we use this opportunity more vigorously to extend the range and nature of service to the professionals who are not in the immediate vicinity of the Section headquarters? The project is demand driven and therefore, awareness on what is possible under this project (funded by HQ) is more crucial for the success of this activity.

**Humanitarian Edge:** All technologies, including those covered under EE, have an edge negative as well as positive to the welfare of the disadvantaged and the ordinary. These are days with increasing occurrences of natural calamities and accidents, partly due to the nature of technologies being applied for development as well as due to Climate Change that has set in already. The Special technical session organized as an adjunct of the 125 yr celebrations of IEEE, in Bangalore is also a case in focus on how and why Professional Societies like IEEE should indulge in such activities. We cannot just sit and wait for what CSR (Corporate Social Responsibility) of multinationals and large engineering firms are doing voluntarily. Essential resources globally are going to be short of needs in the coming years and decades, and it is the duty of professionals to educate and assist the lay public on how to cope with emerging 'extra ordinary' situations as a result of the changing ways of the world including calamities. I wish our Chapters, Branches and Sections take up this challenge in parts and as a whole.

Regards

Trivandrum  
11 September 2009

V K Damodaran  
Editor, vkdam@ieee.org

## Steganography

According to a rumor in computer security circles, earlier this year, someone at the United States Department of Justice smuggled sensitive financial data out of the agency by embedding the data in several image files. Defeating this exfiltration method, called steganography, has proved particularly tricky, but one engineering student has come up with a way to make espionage work against itself.

Keith Bertolino, founder of digital forensics start-up E. R. Forensics, based in West Nyack, N.Y., developed a new way of disrupting steganography last year while finishing his electrical engineering degree at Northeastern University, in Boston.

Steganography uses innocuous documents, usually an image file, as carriers for secret messages. Unlike encryption, steganography encodes the message while at the same time concealing the fact that a message is being sent at all. The Greek-derived name means "covered writing". The earliest steganographers were said to be Greek generals who tattooed sensitive information onto the shaved heads of messengers. Once the hair grew back, the messenger could travel without suspicion to the intended recipient, who "decrypted" the secret message by shaving the messenger's head again. In its current incarnation, steganography often makes use of e-mail, an ideal carrier for any corporate spy, disgruntled employee, or terrorist.

Bertolino's method turns this technology on itself. The key to jamming steganography, he says, is using steganography-what he calls "double-stegging". Double-stegging adds some noise, scrambling some of the image's least-significant bits. As long as you're damaging at least some part of the file, the hidden file becomes garbled and cannot be deciphered.

## Meaningful!

**Choose your friends carefully; your enemies will choose you.**

- *Yasser Arafat*

**We can not do great things; we can only do little things with great love.**

- *Mother Teresa*

**Many attempts to communicate are nullified by saying too much.**

- *Robert Greeleaf*

**Unhappiness is best defined as the difference between our talents and our expectations.** - *Edward De Bono*

To

**IEEE India Info**  
**SEPTEMBER 2009**

**Rs.4/-**

RNI No. KERENG/2006/17872  
Regd. No. KL/TV(S)/319/2009-11  
Licenced to post without prepayment  
At TVM RMS on 15<sup>th</sup> and 16<sup>th</sup> of  
every month for the years 2009-11  
KL/TVM (S) /WPP/71-2009-11

If undelivered, please return to:

N.T. Nair, 186, PTP Nagar, Trivandrum 695 038, India.