



Chairman's Message



Dear Fellow Members,

Region 10 Committee Meeting was held at Chiang Mai, Thailand on 26th & 27th March 2006. 9 Sections and Council represented India at the meeting besides a few other delegates from India. The Meeting was also attended by MD / RAB, Cecelia Jankowski, 2006 Candidates for IEEE President-Elect, Dr. Lewis Terman and Dr. John R. Vig, 2006 IEEE President Prof. Michael Lightner and 2006 IEEE Past President W. Cleon

Anderson. The agenda included presentation of program for 2006 by Committee Chairs, Training / Workshop Sessions, announcement of Nominations for 2007 R 10 director Elect candidates, R 10 student & Gold Congress, presentation of TENCONS 2005 to 2009 etc.

Various Awards were presented to winners during formal Banquet dinner on 26th March 2006 at the Hotel. I am pleased to inform all Members that the 4 RAB & 6 Region 10 awards were announced at the function and this was fully dominated by Indian Members & Sections who got all the 4 RAB Awards and 5 out of 6 Region 10 awards. The remaining 1 R10 award went to Islamabad Section, Pakistan. The list of Awards and winners is given else where in the Newsletter. In addition, Lary K. Wilson student Award 2005 was also announced and that too went to Ms. Megha Joshi, a student from Delhi Section. As winner she is invited to attend R 10 Student Congress. Heartiest Congratulations to each and every Award winner. This is not the end. After the R 10 Meeting IEEE announced some more Awards. For this years IEEE PES Website contest, Kolkata Chapter has got 3rd place and Hyderabad 4th place among first 10 winners after Singapore being placed at No. 1 & Pittsburg at No. 2. Further newly formed IEEE WIE Delhi Affinity group has been selected to win first place as the 2005 WIE Affinity Group of the year during its very first year of inception. Heartiest Congratulations to all the winners.

I hope India has proved IEEE presence in India and IEEE has also started recognizing the same. I am pleased to inform you that 2006 IEEE President Prof. Michael Lightner is planning to visit India during 26th to 30th April 2006 and will be visiting Bombay, Bangalore & Delhi Sections.

As stated above, Nomination Committee during R 10 Meeting announced slate for 2007 Director Elect and Mr. R. Muralidharan, Past Chair India Council is one of the three candidates. At this juncture, I wish to inform you that last R 10 Director from India was Mr. Harbans L. Bajaj during 1997 & 1998 and it is high time that we elect next R 10 Director form India. For this may I rely on your support.

With warm regards,

Delhi
01 April '06

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Chairman - IEEE India Council
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'It is better to have enough ideas for some of them to be wrong than to be always right by having no ideas at all'

-Albert Einstein

Editor Writes....

Friends,

'Most of the tissues of human body are under constant renewal and the average age of all the cells in an adult's body may be as young as 7-10 years'

These are the findings of Dr Jonas Frisen, a stem cell biologist from Stockholm, who has also found out why people still behave their birth age, and not the physical age of their cells as above. The reason is that some important cells like that of the cerebral cortex, endure from birth to death without renewal.

Let us now look at another scenario in which we engineers are involved. The problem of e-waste is reaching alarming proportions. e-waste is hazardous, with lead, cadmium, mercury etc making them highly toxic too. Some states in US and European Commission are insisting that manufacturers of e-goods should also take responsibility for safe disposal of used goods as well.

Now the linkage between the body's cell renewal system and e-waste generation. For any meaningful solution to the e-waste problem, the design engineers should bring about a paradigm shift in the development philosophy. Today's commercial approach of 'design-for-short-use' requires to be totally changed as 'design-for-long-use', as in the case of human body. We keep it for 70+ years and then only finally throw our body away. In between, the cells are replaced at various intervals, say, 120 days in the case of red blood cells, 300-500 days in liver, 10 years replacement period for our skeleton etc.

The question is how such a philosophy could be applied to the world of electronic products to check waste creation. This requires to be deeply probed by the engineering community. Can we think of a core system to provide service for 10 or more years, and capable of accepting new modules with enhanced capabilities from time to time?

Perhaps, better ideas could emerge, taking cue from the human system, to save the earth from the impending e-disaster. Let the ideas bloom!



Trivandrum
01 April '06

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Editor

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IEEE NEWS & EVENTS

Details of Awards won by India Council Members

1. RAB - AWARDS

2004 Section Membership Growth Award - Hyderabad Section
2004 Section Sustained Membership Growth Award - Bombay Section

2004 Student Branch Membership Growth Award - Crescent Engg. College (Madras Section)

Award Plaque – Mr. Venu Chettupalli, Hyderabad Section – Supporting friend of IEEE

2. REGION 10 AWARDS

2004 Region 10 Distinguished Large Section Award – Kerala Section.

2004 Region 10 Distinguished Small Section Award – Gujarat Section

OUTSTANDING VOLUNTEER AWARD

Satheesh Kumar, Kerala Section

Anthony Lobo – Bombay Section

Raj Kumar Vir – Delhi Section

3. 2005 - LARY K. WILSON AWARD

Megha Joshi, Jamia Millia Islamia University, Delhi.

4. IEEE-PES WEBSITE CONTEST

Kolkata Chapter – 3rd Position

Hyderabad Chapter – 4th Position

5. IEEE WIE AFFINITY GROUP

WIE Delhi – 1st Place.

*Compiled by Rajendra K. Asthana
Chair, IEEE India Council.*



'Delegates at IEEE R10 meeting held in Thailand during 26 & 27 March 2006'

PES Chapters Web Site Contest Results

Message from Mr. Enrique Tejera,

Vice-President, IEEE Power Engineering Society

Dear PES Volunteers,

Finally, we have the results for the PES Chapters Web Site Contest.

First, I would like to congratulate all chapters participating. This year the participation has been better than previous year and most important, we have seen how Chapters have been improving their web sites, updating information such as logos, links, etc, and also providing useful information about their activities that can serve as example for other chapters around the world.

We are glad to announce that the winning chapters for the 2006 PES Chapter Web Site contest are:

First Place Singapore Chapter

Second Place Pittsburgh Chapter

Third Place Kolkata (Calcutta) Chapter

Congratulations to the winners and to all participants!!!!.

Best regards,

Enrique Tejera,

PES Vice President

Membership & Chapters Activities

[Reported by: Sivaji Chakravorti, Chair, IEEE PE Kolkata Chapter]

Report on the IEEE-IAS Distinguished Lecture by Prof Ajit K Chattopadhyay under Regional Speaker Program in 2006

This is to report that Prof Ajit K Chattopadhyay (Fellow , IEEE and Professor Emeritus, Bengal Engineering & Science University, Shibpur, Howrah, India) delivered an invited Lecture as an IEEE-IAS Distinguished Lecturer under Regional Speaker Program on 26 February, 2006 on " Power Electronics—Past, Present and Future" at the "Student Paper Contest and Technical Symposium" (SPCTS-2006) organized by the IEEE Gujarat Section at the A. D. Patel Institute of Technology, at New Vallabh Vidyanagar (Anand), Gujarat, India . The Lecture was delivered to an audience of about 200 participants which included students of a number of engineering colleges, teachers and engineers from industry.

(Contd. on pg. 4)

' I must say that I find television very educational. The minute somebody turns it on, I go to the library and read a book.'
- Groucho Marx

'The art of medicine consists in amusing the patient while nature cures the disease.'
- Voltaire

Technology Snippets

Power from Tides & Waves

Efforts to obtain power from the action of waves and tides have been there for long, but not in a fervent pace so far.

The Gristedes supermarket on Roosevelt Island, in the East River between Manhattan and Queens, is now installing a new supplementary power system in the river just off the shore. Six underwater turbines will spin at 35 RPM — slow enough to allow fish to stay out of harm's way — as the tides flow back and forth, providing a peak power of 200 kilowatts, about half the demand of the supermarket.

This is clearly a form of hydropower, though it's much more a Zen approach than dams and hasn't been getting a lot of attention. Advocates say that the lack of attention needs to change, since the power is there, the technology is available, and the approach is environmentally very benign. An official of the US Electric Power Research Institute (EPRI), says: "Offshore wave and tidal power are where wind was 20 years ago, but they'll come of age faster."

EPRI believes that 120 megawatts of power could be obtained from such sources by 2010. That's not a big amount relative to the energy requirements of the United States, but it's considerable in itself, enough to power a small city.

About two dozen firms worldwide are pursuing tidal and wave power. One of the pioneers is Ocean Power Delivery (OPD) LTD of Edinburgh, Scotland, which builds the "Pelamis" wave power system. Each Pelamis unit consists of a 105 metre long, jointed tube that builds up pneumatic pressure to drive onboard turbines as it rocks in the waves. It is not only a clean source of power, it is visually unobtrusive and not likely to create the same sort of "not in my backyard" resistance as offshore wind farms.

Three Pelamis units are to be set up offshore of Portugal to provide 2.5 MW of electricity.

EPRI estimates that the total potential of tidal and wave power along the shores of the US is about 2,300 terawatt-hours, eight times the capacity of US hydropower systems — which currently supply about 7% of US demand, making them the most important renewable energy sources at present. Tidal and wave power systems are cheaper than dams, though they are prone to "biofouling" by sea organisms such as barnacles and have to be kept clean. One nice feature of such systems is that they are a very predictable source of energy. Says an academic researcher working in the field: "You can't know if the wind will be up in an hour, but you can predict the tide a thousand years from now."

Official US government interest is starting to increase, but some of the startup companies working on the technology are moving ahead right now. Verdant Power of Arlington, Virginia, which installed the tidal turbine system in the East River, plans to set up a total of 300 turbines if the pilot project works out.

[Source: BUSINESS WEEK, 6 March 2006]

TV Signals for Location Sensing - TV-GPS

A company named Rosum is promoting a radio navigation system based on TV broadcast signals.

The Global Positioning System (GPS) constellation of navigation satellites provides an excellent location service for users anywhere on the globe, even though it has certain limitations like weak satellite signals, especially when indoors. Urban TV broadcast systems operate at high powers at much shorter ranges, meaning that such signals can be picked up indoors. A company named Rosum is promoting a radio navigation system using TV broadcast towers as location references in urban environments.

In Rosum's "TV-GPS" system, the idea would be to obtain the directions to multiple TV broadcast towers, but that would imply a directional antenna system, which would be tricky to implement in a handheld device. A GPS receiver doesn't normally have a directional antenna, instead being able to determine the time it takes for signals loaded with synchronization patterns to arrive from the satellites, a scheme known as "time delay of arrival (TDOA)". GPS-TV takes a similar approach, using synchronization signals provided normally in digital TV (DTV signals).

The problem is that the DTV synchronization signals were never designed for navigation purposes and are, in themselves, not up to the job of providing precise positions; although one TV station's signals may be repeated on strict intervals, there is no need for synchronization between stations. TV-GPS gets around this limitation by siting three or four "monitor units" around an urban area that pick up both GPS and TV signals and characterize the errors in the TV signals. This data is sent to a "location server", which communicates with the handheld location units and provides the appropriate corrections to give a precise position.

One of the advantages of TV-GPS is that it requires a fairly modest infrastructure — one set of monitor units and location servers per urban area. If the system catches on, there may come a time when the correction information will be sent as part of the DTV signal itself — meaning the handhelds wouldn't need to communicate with the location server — or, preferably, all the TV stations operate in synchronization and no corrections will be necessary.

[Source: POPULAR SCIENCE, August 2005]

*(Contd.)***IEEE NEWS & EVENTS****Access to Copyright Form Just Got Easier**

Attention, journal editors and conference organizers: it just got easier to have your authors assign their copyright to the IEEE. Now you can give them access to the IEEE copyright form via the Web—and you don't even have to be using an IEEE submission system for your manuscripts.

All you need to do is register your manuscript system's Web site with the IEEE Intellectual Property Rights office at <http://ecopyright.ieee.org/registration/registration.html>. Then you'll be able to link to the electronic copyright form (eCF) from your site. This will enable your authors to sign and submit the copyright form to the IEEE at the same time they upload their manuscript files to your system.

Until last December the eCF was available only to those using either the IEEE Manuscript Central or IEEE Conference eXpress manuscript submission systems. Those with other systems—and there are many of them—had to print out and fax or mail a paper version of the form, which made for a storm of extra paperwork. Accordingly, the IEEE Publication Technology group got busy with the IEEE Intellectual Property Rights Office and developed a way to make the form available to those "foreign" systems as well.

"It's already been successful with the more than 30 conference organizers who have registered their sites since December," says Bill Hagen, manager of the Intellectual Property Rights office, in Piscataway, N.J. "The process saves everyone lots of time."

One of those organizers is Lee Myers, who handles conference paper submissions for the IEEE Instrumentation and Measurement Society. "I have signed up to use the online copyright form for all 10 I&M conferences. It is so much easier for the authors than the old-fashioned way of downloading the form, filling it out and faxing it to me," says Myers. "This is a terrific, easy-to-use system—just one more way IEEE is helping its members."

Registering your site is easy: submit your contact information, the publication or conference title, and the URL of your submission site. The IPR Office will then contact you with instructions for linking to the eCF.

For more information, contact Bill Hagen by e-mail at w.hagen@ieee.org

NEWS SNIPPETS**Car Paint Self-repairs Scratches**

Nissan, the Japanese auto major, has introduced the first of its kind in the world, car paint that repairs its own scratches and scrapes. This clear paint contains elastic resin, similar to a rubbery surface and can bounce back to repair itself of slight scratches caused when washing the car, driving off-road or by finger nails.

The coat lasts about three years and is a solution to scratches caused by car washing machines.

Automotive Electronics

Automotive electronics sector is on overdrive, with more and more vehicles going the electronic way. It is estimated that electronics and software account for 40% of a modern automobile's cost. Automotive IC market is surging ahead, with US\$13 billion in 2005, accounting for 6.8% of the US\$192.4 billion worldwide IC market.

Five major factors are expected to contribute to the increased use of ICs on-board the automobiles:

- Technology upgradation of automobiles
- Competition
- Optimized performance
- Environmental/legislative mandates
- Ergonomics/safety

BABY, the Computer

The first ever stored programme computer, BABY, was completed in 1948, and ran its first programme in June of that year. This machine had a limited memory of 128 bytes, weighed one ton, and was over 16 feet long, and required over 3500 Watts of electricity to power it.

Editorial Board

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