IEEE India Info

IEEE India Council Newsletter
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IEEE THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC

Chairman's Message

Dear Members,

IEEE R10 Sections and Councils' annual meeting was attended by representatives of all Sections, Chair or Vice-Chair/Secretary held at Hanoi in Vietnam on 28 February and 1st March. Apart from the regular business of report presentations by the R10 EXECOM members, the meeting was addressed by John Vig, President IEEE, Lewis Terman, Past President, and Jozef Modelski, R8 Director. Jozef Modelski presented a picture of R8 vis a vis R10 and interestingly proposed joint initiatives to hold the SibirCon 2010 organized by Siberia neighboring Sections and EnergyCon organized by Gulf Sections. The idea was to promote joint participations from neighboring sections of R10 like China, Korea, and Sections from Indian Subcontinent. Joseph Lillie (VP Member and Geographical Activity), Moshe Kam (VP Educational Activity Board) and Roberto de Marca (VP Technical Activity Board) also addressed the meet as respective VPs and more interestingly, they are the three candidates nominated for the IEEE President-Elect 2010 in the coming elections. It was interesting to see each candidate presenting his candidature and the members grilling them on the promises. It is very clear from this exercise how important are Region 10 and Region 8, the two largest regions in that order in terms of membership strength, not only for Presidential-Elect Candidates but also for IEEE as a largest professional organization in the world.

In a similar fashion, shall we expect to see an election for the Council, Sections, Society chapters and Student branch officers in India in the near future? Why is this essential? In the R10 meeting, it was highlighted that representation from Region 10 on the governing boards and other administrative bodies of IEEE at Head Quarters is the poorest among all regions. Efforts are being made to increase the representation from R10 by nominating volunteers of standing and proven track record. This is essential for volunteers to compete and develop good track records so as to get ourselves in a position to represent R10 at IEEE HQ.

I mentioned in the January newsletter about the significant drop in the higher grade membership to 7,100 in 2006 after achieving a peak of 13,479 in 2004. As per the membership statistics given elsewhere in the newsletter, the higher grade membership is stable around 7,506 at the end of December 2008 but it is nowhere near the 2004 mark. I appeal to all the membership development officers of Sections to concentrate on the higher grade members during this year.

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

Bangalore
01 Mar. '09

IEEE Code of Ethics

We, the members of the IEEE, do hereby commit ourselves to the highest ethical and professional conduct and agree:

3. To be honest and realistic in stating claims or estimates based on available data.

Forthcoming Events

First INUP Training Workshop on Nanofabrication Technologies

23 - 24 April 2009

At Centres of Excellence in Nanoelectronics of IISc, Bangalore and IIT, Bombay [Funded by MCIT, Govt. of India]

Sponsored by: **Indian Nanoelectronics Users Program**
Coordinator : **Prof. K J Vinoy,** ECE Dept., IISc, Bangalore
For more details: http://www.nano.iisc.ernet.in/inup/home.html

Web Information Systems and Mining (WISM '09)

7- 8 November 2009 # Shanghai, China

The 2009 International Conference on Artificial Intelligence and Computational Intelligence (AICI'09) and the International Conference on Web Information Systems and Mining (WISM '09) will be jointly held at Shanghai, China. *For more details:* wism-aici2009@shiep.edu.cn

Ocean Mining Symposium

20-24 September 2009 # NIOT, Chennai

The Ocean Mining Symposium, organized by the International Society of Polar Engineers (ISOPE), and conducted once in two years will be held at the National Institute of Ocean Technology, Chennai, India from 20 to 24 September 2009.

Contact: **Dr. M A Atmanand**, Project Director, Deep Sea Technologies and Ocean Mining, NIOT, Chennai 600 100. E-mail: Atma <atma@niot.res.in>

IMETI 2009

10 – 13 July 2009 # Orlando, Florida, USA

The 2nd International Multi-Conference on Engineering and Technological Innovation is held from 10 to July '09. *For further details:* http://www.ICTconfer.org/imeti

ICoMMS 2009

11 – 13 October 2009 # Malaysia

The ICoMMS 2009 (International Conference on Man Machine Systems) is to be held from 11-13 Oct '09, organized by the School of Mechatronic Engineering, Universiti Malaysia Perlis.*More details at:* http://www.unimap.edu.my/icomms

Other Events

- **STH 2009**. The 2009 IEEE Toronto International Conference on Science and Technology for Humanity. Toronto. 27-29 September 2009. *Visit:* http://toronto.ieee.ca/tic-sth2009/
- **IECON 2009**. IEEE Industrial Electronics Society holds 35th Annual Conference. Alfandega Congress Center, Porto, Portugal. 3-5 November 2009. *Visit:* http://www.fe.up.pt/iecon2009
- **ICIP-09**. The International Conference on Image Processing sponsored by IEEE Signal Processing Society. Cairo, Egypt. 7 – 11 November 2009. conference-services@ieee.org

To succeed, we must first believe that we can - *Michael Korda*

From India Council Secretary

Fellow Engineers,

With most of the Indian Section Chairs present for the R10 meeting at Hanoi, the Executive Committee of India Council could meet on 27.02.2009 during the occasion which yielded some fruitful results.

I am happy to inform that the Committee decided to continue the issue of hard copy version of India Info monthly news letter till the sponsorship through advertisement like M/s Think Lab continues. I take this opportunity to request all the Section Chairs along with other Executive Committee members of India Council to kindly recommend a sponsor from each Section for advertising in our newsletter to make it sustainable and reach the aspiring IEEE members with a variety of News. The Sections can also take the advantage of giving publicity to their upcoming events through India Info.

You are all aware that Dr. G. Sai Narayanan has been appointed as NDLP National Co-ordinator for IEEE India Council. As he belongs to Bangalore Section, it would be of great advantage to work with him to reach the higher goals of NDLP set by our predecessors. Executive Committee of India Council extended for entire 2009 year, it's 100 % financial support for this NDLP program (only towards the expenses of the listed/panel Speakers). I request one and all of India Council to avail this good opportunity by widely publicizing the availability of NDLP speakers for the growth of Technology and IEEE in India. For any details in this regard, India Council web site may be referred to.

Region 10 has been asked to recommend a list of potential young volunteers from R10 Sections who can be called upon to serve in MGA committees at HQ in 2010, example SAC, GOLD, N&A, Strategic Planning, etc. If you have some energetic young volunteers (less than 35 years old preferably) who have demonstrated their ability in organizing local IEEE activities, you may forward the particulars to me or Region10 Director at yjp@ieee.org.

Looking forward for your continued co-operation,

With Best Regards,

K RAMAKRISHNA

Secretary

Email: kramakrishna@ieee.org

New NDLP Coordinator

Dr G. Sainarayanan, Head, Department of Electrical and Electronics, New Horizon College of Engineering, Panathur Post, Outer Ring Road, Bangalore 560087, Karnataka, **[sai.jgk@gmail.com]** has been nominated as the NDLP All India Coordinator for the National Distinguished Lecturer Programme (NDLP) – a project funded by the IEEE HQ from last year and continued for the current year. Sai takes over from S. Gopakumar of VSSC, Trivandrum.

SLN Murthy joins Editorial team

Er. SLN Murthy, CTO (Package & Design) of Tessolve Services Pvt. Ltd., Electronics City, Bangalore 560 100 **[murthy.sln@tessolve.com]** has been nominated forthwith to the Editorial Board of IEEE India Info.

Form IV

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I, N T Nair, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/=

Dated: 01 March 2009 — Signature of Publisher

125th Anniversary SAC Congress

As the Region10 Student Activities Committee has decided to celebrate the 125th anniversary of IEEE with the remarkable event, "IEEE 125th Anniversary Region10 Student Congress, 2009." For further details: visit http://ieee125sc.org

Raja and VKD in IEEE President's Sustainability Team

Amarnath Raja, the immediately past Chair of Kerala Section and Prof.V K Damodaran, IC Newsletter Editor are in the IEEE President's Sustainability Initiative (PSI) team. These members from IC have initiated a dialogue with other members to make the PSI beneficial to the Profession and to the world community.

Solar Cells to have 40.8% efficiency

Scientists at the US DoE's National Renewable Energy Laboratory have set a world record of 40.8% (present one ~14%) efficiency of Solar PV cells. That means two–fifth of the light falling on the new gallium arsenide wafers will be converted to electricity. Better than IC engine's top performance! What are you waiting for then?

Rapid Recharge Battery

MIT Scientists (USA) have invented a new kind of Lithium-iron battery that can fully charge or discharge in seconds (instead of minutes!). This could make electric cars viable on the roads, with a faster "refueling" than at the petrol station of today, mobiles and cameras made long lasting and "instant ready" on charging – among other several benefits!!

Quotes

Character is like a tree and reputation like a shadow. The shadow is what we think of it; the tree is the real thing. ***- Abraham Lincoln***

There is no use worrying about things, over which you have no control; And if you have control, you can do something about them instead of worrying. ***- Stanley C Allyn***

The eye sees only what the mind is prepared to comprehend - *Henri Bergson*

(Contd. to page 3....)

Switch Over to Renewables by 2050?

By 2050, 80% of the world's electricity could be coming from renewable energy (RE) sources provided efforts are made in parallel, to improve energy efficiency - according to a study by the German Aerospace Center (DLR). That means, the children of today might well grow up to experience a world where the energy they use comes almost entirely from the sun, wind, sea and biomass.

By 2090, the shift to renewable energy around the world could be almost 99 percent completed reducing pressure on the environment and laying the foundations for a new era of prosperity based on green energy. The study estimates that 56% of primary energy demand will be covered by renewable energy sources by 2050, while energy efficiency potentials will have been largely exploited. As a result, primary energy demand will stabilize at 2060 levels.

It's profits all the way!

Also, the short-term financial costs of switching over to renewable energy will be outweighed by the long-term financial benefits, according to the study. In fact, the projected savings to be made by not using the amount of coal we do today, could amount to US $15.9 trillion by 2030 alone — a sum that would pay the whole US $15 trillion needed to switch over the entire world to renewable energy power sources - once and for all*!* The accumulated savings of a switch-over to renewable energy by 2030 could be as high as US $18.7 trillion or $750 billion a year, according to one DLR scenario.

The study also estimates that the world today spends approximately US $2 trillion annually on its electricity supply, which comes primarily from fossil fuels. However, it calculates that this cost could rise to almost US $9 trillion by 2050 on current trends of soaring oil and coal prices as well as the rising cost of dealing with the environmental impact of carbon emissions. However, if the world largely completes its switch over to renewable energy by 2050 and introduces energy saving measures in parallel, the bill for the annual electricity supply will only be about US $4 trillion a year — a savings of $5 trillion.

The numbers speak

Consumers could also enjoy more affordable or even no energy bills, once installation costs for renewable energy micro-generators and weatherization have been met, ushering in a new era of energy self sufficiency for householders.

The DLR study has also put forward an action plan that would see 32.5% of the world's electricity supply coming from renewable energy by as early as 2020. The DLR study says that there has to be a drastic reduction in primary energy demand for the world to switch to largely renewables by 2050. The introduction of a portfolio of energy saving measures will ensure that there is only a slight increase in the total primary energy demand from the 474,900 petajoules [roughly 30 million kilowatt-hours], in 2005 to 480,860 petajoules in 2050, compared to 867,700 petajoules In 2050 without such energy efficiency measures.

By 2080, about 90% of primary energy demand will be covered by renewable energy sources and by 2090 the renewable share will reach 98.2%. By 2100, a capacity of 23,100 GW will produce 56,800 TWh of renewable electricity or 17 times more than today.

Actions Needed

- "Smart power" will improve the efficiency of buildings and transport, and the DLR study predicts that the city centers of the future, for example, could be producing power and heat as well as consuming it.
- Huge amounts of energy currently wasted from cooling towers could be harnessed for co-generation.
- Make the transport sector more efficient by switching over to electric vehicles powered by RE sources and also by building up public transport system.
- Government legislation will have a vital role to play in facilitating the energy revolution.
- Phase out subsidies for fossil fuels and nuclear energy and put a cost on carbon emissions to take into account the damage to the environment.
- Also, governments should introduce strict energy efficiency standards and legally binding targets for renewable energy
- Finally, increase the budgets for research into renewable energy and energy saving measures.

The greatest relief is that, the goal of obtaining 80% of our electricity from renewables is achievable, even if the world including China and India, continues to see high economic growth. [Adapted from RenewableEnergyWorld.com] *-vkd*

Milk Chilling sans Electricity

An engineer from East Africa, William Kisaalita, has developed a unique system, using renewable energy that allows the farmers to keep their milk cold. "Then they can transport it to sell it in distant markets — and boost their profits." According to this Professor at University of Georgia, "The idea is that you...expose water adjacent to the container containing milk to [a] low vacuum, through a valve, and because of that, the water vaporizes. When the water vaporizes it [removes] the heat from the milk."

The Ugandan government estimates that there are 2.5 million small holder dairy farms in the country, providing three-quarters of the local milk market. These farmers can't refrigerate their milk because they don't have electricity, and they're too poor to afford kerosene based fridges. *- RE World*

We make a living by what we get, but we make a life by what we give - *Winston Churchill*

Editorial

Financial Crisis and the Profession

A Financial crisis of global proportion has ushered in uninvited. Viewing at the surface of it, it broke out from USA housing sector starting from July 2007. But, if we scratch the surface further, the whole crisis can be traced back to the year 2000, some say, with the dot.com bubble getting ruptured. The stock markets, which placed undue trust in the powers of the internet crashed subsequently, as the expectations of the guess masters had no limits. People started investing in housing, as the property market has always been going up only. The Banks started lending based on the hyped value, rather than the ability to repay. Large sized defaults spelt death knells even for the prestigious Banks. With Globalization, this kind of situation became contagious. The final result is that, the cancer has spread to all the global organs, barring a few.

Rest is for all of us to see from 2008 October onwards with our naked eyes. Many professionals under the EE banner too lost jobs or their leveraging power. The disease in the system needs apparently, a vigorous treatment, simultaneously by several countries. In this process, the professions under the EE banner too will be seriously affected, and investments of many in the profession will be dwarfed too. May be for a year or two, we in the EE professions will have to streamline the technology flows in such a way that the impacts for the whole world will be a smothered one.

Regards,

Trivandrum
10 Mar 2009

V K Damodaran
vkd@ieee.org

To

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