



IEEE THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC

IEEE India Council wishes all members, the best of everything in the new year 2008 – commendable professional achievements, enjoyable life at home and workplace, and good health!

Chairman's Message



Friends,

We are into the year 2008, with high hopes, aspirations and of course, with major plans to make it a remarkable year. It gives us another chance to put our engineering ideas into action for the benefit of the society, taking lessons from yesteryear's successes and follies alike. As a community, empowered with technical skills, we can convert this mother earth into a better place to live in, for us

and also for our children. What I mean here is not the conventional way of applying engineering methods as in the past, which unfortunately, has landed us in a mess today, with e-wastes and other forms of environmental pollution staring at us from all corners. We have to own the responsibility for this and take a vow in 2008 to restrain from applying engineering methods without concern for the environment. In other words, the New Year Resolution for IEEE Community should be to spend a few minutes before every engineering implementation, to see how it will affect the environment around us in the short term and long term as well. This would help arrest degradation of the planet from now onwards, which is our responsibility in IEEE, where we speak of strict adherence to our 'Code of Ethics' in which, care of environment is a major point.

As already made known to our members, 2008 will witness a number of major IEEE activities in India, starting with R10 student Congress at Chennai during 28-30 Jan. '08, followed by R10 Committee meet hosted by Gujarat Section on 2 & 3 Feb. '08, and TENCON in the latter half of the year. Also, Sections and Student Branches are working on major projects for the year to make IEEE presence strongly felt among members and society.

In a path-breaking development, Dr. Rangachar Kasturi, Professor of Computer Science and Engineering at the Univ. of South Florida, has been elected as the 2008 President of the IEEE Computer Society with some 90,000 members in a world-wide election in 140 countries. Dr. Kasturi is the first person of Indian origin to serve as the president of this prestigious society under IEEE.

It is our wish that 2008 will come out as a stellar year of IEEE movement in India. India Council, Sections and Student Branches will have to re-double their efforts to make this a reality and I am sure we can do it.

Once again with best wishes for the New Year to all our members,

N.T.Nair

Trivandrum
01 Jan '08

Chairman, IEEE India Council
ntnair@ieee.org

INDIA COUNCIL - 2008 OFFICE BEARERS

The following volunteers have been declared elected as Office bearers of IEEE India Council for the year 2008, as the panel presented by the Nominations Committee consisting of M/s. R. K. Asthana, H. L. Bajaj and R. Muraleedharan, remained unopposed through petition candidates. The election is for a period of one year from 1. 1. 2008.

Sl. No	NAME	SECTION	POST
1	Mr. N. T. Nair	Kerala	Chairman
2	Prof. Kasi Rajagopal	Bangalore	Executive Vice Chairman
3	Mr. K. G. Satheesh Kumar	Kerala	Secretary / Treasurer
4	Mr. R. K. Asthana	Delhi	Immediate Past Chair
5	Mr. R. Kannan	Hyderabad	VC - Professional Activities
6	Dr. Suresh C. Pal	Madras	VC - Student Activities
7	Dr. S. C. Srivastava	U. P.	VC - Technical Activities
8	Mr. K. K. Mallik	Calcutta	VC - Educational Activities
9	Dr. A. R. Dasgupta	Gujarat	VC- Membership Dev.
10	Prof. V. K. Damodaran	Kerala	News Letter Editor
11	Prof. M. M. Shah	Bombay	Ombudsman
12	Mr. Quraish Bakir	Bombay	Member at Large

IEEE Chair has nominated the following as permanent special invitees to the IEEE IC Execom.

13	Mr. H. Kalyanasundaram	Bombay	Special Invitee
14	Mr. R. Muraleedharan	Bombay	Special Invitee

Also, all the Section Chairs of the 10 Sections will be Ex-officio members of the IC Execom.

- **R. K. Asthana**, Chairman, Nominations Committee

Editorial Board

Prof. V. K. Damodaran	Editor
Er. J. Muraleemohan Lal	Member
Er. K. G. Satheesh Kumar	Member

Visit
[http:// www.ewh.ieee.org/r10/india_council](http://www.ewh.ieee.org/r10/india_council)

The secret of joy in work is contained in one word - excellence. To know how to do something well, is to enjoy it.

From India Council Secretary



Let me first wish all IEEE members a very exciting and rewarding 2008. I also thank each of you and the members of the nomination committee, for nominating me as the India Council Secretary for another year.

The New Year is going to be hectic for IEEE in India, starting with the region 10 student congress in Chennai, during 28-30 Jan, closely followed by the R 10 conference in Gujarat. Later

this year, we also have the TENCON in Hyderabad. Perhaps it is also the right time to emphasise the increasing role of IEEE in this country in carrying forward technical and professional activities. India Council will stand aligned with the Sections in championing this.

Student members have been the major source of activity at our Sections in recent years. As per statistics highlighted for all of us by Shri H Kalyanasundaram (fondly called HK), India has some of the best IEEE student branches. Unfortunately we have some of the worst too, which is an issue we need to address separately.

Despite our constant efforts, we have so far met with only limited success in converting student memberships into associate or regular memberships. The activities of the GOLD and the increasing representation that GOLD gets in IEEE activities have all been focused on this objective. We need to think of more pro-active ways of converting student memberships more efficiently. Inadequate growth in new membership is already taking a toll on volunteerism.

There is no reason why IEEE in India cannot rise to global leadership, given the strength of its resources. The India Council could also develop an appropriate strategy to work towards such an intent. But a strategy can be put into action, only if there are resources to enact it. That is precisely, what the India Council is lacking, with little support from the headquarters and the Sections.

This year, we need to think through these issues.

Cheers!

K G Satheesh Kumar

Secretary, India Council, IEEE

k.g.kumar@ieee.org

Congratulations!

The following IEEE volunteers have been nominated to the following Committees of IEEE. Congratulations and we hope your presence in these prestigious committees will bring glory to the Indian professionals – IC

Members	Section	IEEE Committee
Mr. R. K. Asthana	Delhi	A&A
Mr. R. Muralidharan	Bombay	Membership Model
Dr. V. P. Kodali	Hyderabad	Fellow
Mr. S. V. Sankaran	Bangalore	Individual Benefits & Services

Rangachar Kasturi elected 2008 President of the IEEE Computer Society



RANGACHAR KASTURI,

Professor of Computer Science and Engineering at the University of South Florida, USA has been elected as the 2008 President of the IEEE (Institute of Electrical and Electronics Engineers) Computer Society by its members in a world-wide election. Kasturi is the first

person of Indian origin to serve as the president of this prestigious organization with some 90,000 members in 140 countries. [B.E. (Electrical) from Bangalore University (1968); M.S.E.E. & Ph. D. from Texas Tech University (1980 and 1982)]. He was the first to develop a Personal Computer based Kannada word processing software in 1985. He was a Fulbright Scholar in 1999 at the Indian Institute of Science, Bangalore and also had worked in India in different capacities. Kasturi was President of the International Association for Pattern Recognition (IAPR) during 2002-04. He is a Fellow of both the IEEE and the IAPR. Kasturi's research specialization is in the areas of computer vision and pattern recognition. He is an author of the text book 'Machine Vision' [McGraw-Hill, 1995].

2008 IEEE PES

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Congratulations! Prof. (Ms.) Ramalatha Marimuthu

Ms. Ramalatha Marimuthu, Chair, Women In Engineering, Madras IEEE WIE Affinity Group, Chennai [Voice: +91 09443856444, Ph: 0 44 23764928] has been nominated as the Region 10 WIE Coordinator for 2008. Congratulations!

GHG Emissions rising!

Two important greenhouse gases, CO₂ and N₂O in the atmosphere reached a record high in 2006, said the World Meteorological Orgn. on Nov 24. The Avg. concentration of CO₂ has reached 381.2 ppm compared to 379.2 in 2005. N₂O reached 320.1 ppb from 319.2 ppb. [Source: Down to Earth 31-12-'07]

Small opportunities are often the beginning of great enterprises - Demosthenes

(contd. to page 3...)

Exemplary Activities of BV College Student Branch, Delhi

Under the able guidance of the Branch Counselor Mrs. Neeta Pandey, and led by Raja Banthia, Chairperson, IEEE Student Branch, Bharati Vidyapeeth's College of Engg., New Delhi-63 saw a very active year in 2007.

FERVOUR 2007 was the first annual technical festival organized on 19-20 Jan 2007. Many technical events like TPP, Project Exhibition, SPAC, programming contests, International Education Fair etc. were a part of this mega event.

The other shining activities were: The Embedded systems workshop during the summer vacation from 7th June'07 to 3rd July'07 comprising of 10 sessions in all by Mr. Abhishek Aggarwal; A placement Workshop for final year students (day long) on 4th August, to train them for forthcoming campus placement process; Robotic Workshop (30.8.07); Inauguration of WIE Affinity Group; Lecture on Signals and Systems (27.9.07); WIE Meet (Oct 18); Lecture on Power Scene by H. L. Bajaj and a series of other 4 technical lectures; Online quizzes and many more.

5 students participated in AISC 2007 in Gandhi Nagar and two of them (Mr. Abhishek Aggarwal & Mr. Tanuj Joshi) won best paper awards. The members also participated in the 10th Biannual Meet of Delhi Section on 17 Oct. Another innovative idea was to run the Dr. Vikram Sarabhai Rotating Shield Quiz in which 5 student branches of Delhi Sn and IEEE GOLD participated.

There were weekly meets of members for planning future activities and sharing of knowledge through presentations and as a result of activities, membership rose from 36 to 100. ROOTS or Reaching Out in Oblation to Schools was organized to guide students on career and this was done in 4 schools.

The team also drew up a Road Ahead for the first half year of 2008, as:

1. Quarterly Meet (22nd Jan)
2. FERVOUR 2008 & National Student Symposium (1-2 Feb)
3. Career Development Workshop (Feb)
4. HR Summit (Mar)
5. Excursion (Mar)
6. Elections (April)

The Branch's first bi-monthly e-journal Pratibimb was released on 1st September 2007. Two more editions have been released in the month of November 07 & Jan 08. (<http://pratibimb.bvpieee.org>)

Raja Banthia, you have our appreciation from the India Council and the News Letter Team!

Technology News

Solar Power to Replace Oil by 2050 – An ambitious Grand Plan for USA

Dreaming big is no sin. If there is the will and the wherewithal to realize it, then no wonder, revolutions in technology will take place. One such very ambitious plan for USA is reported in Scientific American India Jan 2008 issue. Ken Zweibel (President of Prime Star Solar in California who for 15 years worked as Manager of Thin Film PV Partnership at National Renewable Energy Laboratory), James Mason (Director of the Solar Energy Campaign and the Hydrogen Research Institute in Farmingdale, NY and Vasilis Fthenakis (Head of PV Environmental Research Centre at Brookhaven National Lab as well as Professor & Director of Centre for Life Cycle Analysis at Columbia University) have come forward to present a grand plan for Solar energy to replace all oil imports by 2050 – and more.

The payoffs will be: Foreign Oil dependence cut from 60% to 0%; Green house gases emissions slashed; Domestic jobs increased; Massive trade deficit of the USA reduced significantly and with eyes off oil producers, global tensions eased with attendant military costs lowered too.

Key concepts include:

1. A massive switch from coal, oil, natural gas and nuclear power plants could supply 69% of the US electricity and 35% of its total energy by 2050.
2. A vast area of PV cells would have to be erected in the Southwest. Excess daytime energy would be stored as compressed air in underground caverns to be tapped during the night.
3. Large solar concentrator power plants would be built as well.
4. A new HVDC power transmission backbone would deliver solar electricity across the country.
5. \$ 420 billion in subsidies from 2011 to 2050 would be required to fund the infrastructure and make it cost-competitive.

The proposed subsidy need not be a shocking idea, as it is less than the present US Farm Price Support program. Political leadership would need to raise this amount with a carbon tax.

The energy in sunlight striking the earth for 40 minutes can supply the present global energy consumption for a full year (8760 hrs). US have in its Southwest alone, more than 250,000 sq. miles area suitable for constructing solar power plants.

Thin film PV's efficiency is expected to go up from 10 % to 14 %. 30,000 sq. miles land area required. Installed Watt cost will climb down from Rs. 160 to Rs. 48 eq. Electricity sale price will slip down from 18 to 9 cent (Rs. 7.20 to 3.60). Solar installed capacity will rise from 0.5 GW to 2,940 GW.

A two phase program from now on to 2020 and 2020-2050 is planned. By 2020, the industries involved will undergo sea change for the better and prospects will also improve.

Earlier, there was a plan to replace oil completely by 2050, through energy conservation and replacing natural gas in place of oil through a four pronged approach in phases: 1. Double the efficiency of using the oil – for the 1st quarter share. 2. Have creative Public policies and Business models – for 2nd Q share. 3. Use bio-oil - for 3rd Q share. 4. Use more natural gas at doubled efficiency and look for miracles – for the 4th Q share! May be the oil free days were unimaginable and everybody wanted to avoid any serious discussion on it.

Let us hope that the output of three veterans through a 10 year intellectual labour, including costing, will not go waste. Certainly, political leadership will find lot of sense in changing their strategy, as the present one is taking them face to face with the wall.

- VKD

In the middle of every difficulty lies opportunity. – Albert Einstein

Editorial

New Year: New Targets to Set!



Another year is born, and as anywhere else we the volunteers in IEEE in India too, have to set new targets to meet, and hope to achieve better and better results in the technology arena. It is also our prayer that, what we do selflessly in our professional area will impact the society beneficially, in more ways than one.

This year, we have a visit starting in mid January, of R 10 Director, Prof. (Ms.) Janina Mazierska to all the 10 Sections under the India Council (15 Jan to 08 Feb). It has been planned to be, not in a hurry, and so we all can expect to have opportunity to air our ambitions and goals in working as a professional in one of the most sought after profession at present. Not to mention, it is our duty to make this visit a memorable meeting of members for the R 10 Director.

Beginning of the Year 2008 is marked with new hopes and challenges as well, on a global scale. We just had an year pass by when hot discussions were held on Global Warming and Climate Change. Many unwilling countries have also committed (USA and India included) to cut short GHG emissions and participate in the global race to hold the spiraling temperature rise due to human activities. It is a good beginning and a challenge and opportunity for all engineers – irrespective of their trade and geographical location.

Next, it is the new talk in the USA, of getting rid fully of oil import by 2050. In one such discussion, energy conservation and increased use of natural gas were

contemplated in a phased manner to say goodbye to oil by the middle of the century. Many thought that it is unviable and no worthwhile discussions emerged. But, the present suggestion to depend on sunshine alone to achieve this stupendous task is going to generate some serious discussions. Please see report elsewhere. The beauty of this line of thinking is that, it is going to revolutionize several of the technologies that we are now handling to bring in the synergy of efficient uses of resources as well as thinking side by side on the ecological compatibility of the technologies that we use. Even if oil were still used in that not so distant future, we would have but re-defined the way we look at processes on this earth. That is, in itself, capable of giving proud moments for all engineers on this globe!

Regards,

Trivandrum
01 Jan '08

V. K. Damodaran, Editor
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Energy News

Building Energy Efficiency to be reckoned

The government will for the first time in India, rate the energy efficiency of building projects. For instance, buildings using solar energy instead of conventional coal powered electricity would be given higher ratings. The rating criteria for India were set out by TERI together with the BEE and other arms of the government.

World's Largest Wave farm – A Scottish achievement

The 160 m Pelamis devices will generate 3 MW of green power. Scottish Power expects the units to be operating by next year. The \$ 10 million project will involve 4 floating generators, which convert wave movement into electricity. The units will be positioned off the coast of the facility's sister site, the European Marine Test Centre, also located in Orkney. This could offset 7,000 T of GHG each year.

Source: Akshay Urja 9-10-2007

To

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