



Chairman's Message



Dear Members,

IEEE is looking for young and experienced volunteers for various committees at Region and Head Quarters. Region 10 Director has requested to recommend a list of potential young volunteers from our Region who can be called upon to serve in MGA Committees in 2010 e.g SAC, GOLD, N&A, Strategic Planning. Please send me your biography together with a brief description of the IEEE

activities that you have been involved in the last 5 years. The IEEE Educational Activities Board Nominations and Appointments Committee, is accepting recommendations till 20th April 2009 for the position of 2010 Vice President, IEEE Educational Activities. IEEE Educational Activities Board (EAB) is recruiting Program Evaluators volunteers from R10 which primarily involves accreditation of engineering and engineering technology university programs around the world. Interested volunteers may get in touch with the Section or Council officers.

Dr. Lewis Terman (the immediate past President, 2008) of IEEE has set up an IEEE India Ad Hoc Committee to identify the needs of IEEE members in India under the changed circumstances that the uniqueness enjoyed by professional societies like IEEE is under question today as Web fulfills many of the needs. The Web not only provides free access, it is also fast and provides extensive information and services. Your inputs are welcome and will be valuable to the committee in understanding the needs of the members in India. Your opinion may be conveyed to Mr. N.T. Nair, the Past chairman of the India Council and the member of the editorial board of India Info.

With best wishes to you for a rewarding time ahead, in personal and professional fronts.

Kasi Rajgopal

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

Bangalore
01 April '09

India looked at seriously

With its growing technical community and large number of IEEE members, India holds many opportunities for IEEE. In particular, the country is a leader in software development, a field in which IEEE wants to get more involved. There are plenty of Indian members who could help. Last year, India had more than 25, 000 IEEE members, second only to the United States, which has almost 210, 000. In return, IEEE could help India's engineering and technology community in many ways. Accordingly, IEEE President John Vig has established a 2009 Ad-hoc committee to study ways to expand IEEE's presence in India. The committee follows the 'focus on India' established last year by 2008 IEEE President Lewis Terman.

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Editorial

Focus on Youth



These are days when jobs are either being lost or turning less remunerative due to the lingering financial crisis – expected to remain so, at least till the end of 2010. In our professions, the value added is extremely high and then why do EE professionals experience such set backs? May be majority are working in the service sector, which necessarily have to reflect the undulations in the economic scene. There could be many more reasons.

Whatever that be, one thing is undeniable. Good majority of EE professionals are by age 'youth', and it is their vibrancy, flexibility and hard work that has changed the face of the world, especially through the super fast transformation of the communications field. In many industries, which have no direct relation to the 'electrons related technologies' so to say, the softwares that support such industries have been responsible for their high profitability and fast expansion.

This therefore, should be one clue to stem the financial crisis as well. Newer approaches through the adaptability that can come from the youthful minds, adequately moderated by the wisdom of the seniors, could evolve techniques to nullify the ill effects of the present complex situation and provide fillip to counter the economic downturn. This is where professional societies like ours can try our hands collectively to respond to the current syndrome in a positive way.

Have a good working month!

Regards,

Trivandrum
10 April 2009

V K Damodaran
vkd@ieee.org

IEEE Code of Ethics

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

4. To reject bribery in all its forms;

Editorial Board

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visit: http://www.ewh.ieee.org/r10/india_council

From India Council Secretary



Hello Everyone,

The speed is picking up for celebrating the 125th Anniversary of IEEE by Indian Sections. India Council is joining hands with Bangalore Section for organizing the All India IEEE Student Branch Counselor Congress at Bangalore scheduled on 3rd and 4th July, 2009 at the New Horizon College of Engineering. This would definitely be an event which is essentially required for the Student Branch

Counselors who play a key role with Student Members and their activities. The Student Branch Counselors definitely play a major role in bridging the gap between the Students and Industry/Management to fulfill the requirement of becoming full fledged professional engineers with the help of IEEE. In view of this, I earnestly request all the Section Chairs as well as Student Activity Chairs of all the Indian Sections to give wide publicity and nominate at least 5 – 10 participants from each of the Sections. This workshop would be befitting with eminent speakers engaged to inspire, encourage, evaluate and establish sound IEEE relations along with a proper blend of 'Values in Professional, Management and Academics', matching the needs of the True Student Branch Counselors.

In the last newsletter India Council had sought active utilization of the registered NDLP faculty, country-wide. It appears that speed has not picked up in this regard and I once again request all the Section Chairs and Section NDLP Coordinators through their Executive Committee to give a thorough publicity for the NDLP program as great efforts have gone into formulating and implementing NDLP program in India by our predecessors.

I also request all the Section Chairs to arrange for disseminating information on IEEE 125th Anniversary Celebrations through India Council Newsletter for better publicity and response. India Council extends full support to these events and requests all Sections to patronage these annual events of India Council like the All India Student Congress, INDICON etc, by nominating good number of participants.

Looking forward for your continued support,

With Best Regards,

K RAMAKRISHNA

Secretary

Email: kramakrishna@ieee.org

Madhavan – New Face of Engineering!

Guruprasad Madhavan (29), a native of Tamilnadu and working for Biomedical Engineering Ph. D. at Binghamton University (NY) has been recognized as IEEE's 'New Face of Engineering'. His work on neuromuscular stimulation approaches that may help prevent osteoporosis, heart failure and mild cognitive impairment — all related to low blood pressure, has been the major reason for his selection for the IEEE/IEEE-USA's 2009 "New Face of Engineering."

"My energy to perform better has multiplied, and so has my responsibility to better communicate engineering" - Madhavan said after being selected.

The New Faces of Engineering is sponsored by the National Engineers Week Foundation, a coalition of engineering societies, major corporations and government agencies. The program highlights the vitality, diversity and rich contributions of engineers under 30. Madhavan is one among the 14 engineers recognized for this international honor this year.

Forthcoming Events

NaBIC'09

The World Congress on Nature and Biologically Inspired Computing (NaBIC'09) intended to address various issues with respect to building up of computers in man's image, is a 3 day platform with the theme "Nurturing Intelligent Computing Towards Advancement of Machine Intelligence". **All accepted papers will appear in conference proceedings published by the IEEE Computer Society and indexed by both EI (Compendex) and ISTP.** A first of its kind in India, NaBIC'09 is having Prof. Suash Deb, A. Abraham and F. Herrera as General Chairs. - NaBIC'09 Please visit (for detailed information): <http://www.mirlabs.org/nabic09>

E mail: nabic.system@gmail.com

CISP 2009 & BMEI 2009

The 2nd International Congress on Image and Signal Processing (CISP 2009) and the 2nd International Conference on BioMedical Engineering and Informatics (BMEI 2009) will be jointly held in Tianjin, China, from 17 to 19 October 2009.

For those who are not familiar with China, Tianjin is one of the four municipalities in China having the status of a Province. It is a financial and commercial center in North China and is known for its numerous travel resources and rich history, such as the Huangyaguan Great Wall, Dule Temple, Panshan Mountain and Food Street. It takes only 30 minutes to travel between Tianjin and Beijing by high-speed train.

For more information, visit the conference web page: <http://www.tjut.edu.cn/cisp-bmei2009>

National Seminar on Thermal Design and Cooling Techniques for Power Electronics

NaMPET, CDAC, Degree C and IEEE are jointly organizing a two days National Seminar on the above topic at Trivandrum on 20th & 21st April 2009. Subject experts from IISc, SAMEER & CDAC (India) and electronics cooling specialists from USA and France will be presenting papers and case studies in this seminar.

For details contact: Email: pecool@cdactvm.in

AEMC 2009

The biennial IEEE Applied Electromagnetics Conference – AEMC 2009 is scheduled to be held during December 14-16, 2009 in Kolkata, India. This is organized by the AP-MTT Joint Chapter of IEEE Calcutta Section in association with the Institute of Radio Physics and Electronics, University of Calcutta and Webel, India. Special two-hour program is planned to enhance industry-academia interaction. Papers presented at the conference are archived in IEEE Xplore.

Contact **Dr. Debatosh Guha**, General Co-chair
E-mail: dguha@ieee.org Web: www.ieee-aemc.org

TENCON 2009 Emerging Technologies for Sustainable Development

23-26 November 2009, Singapore
Submission Deadline for Full Paper: 1 June 2009
Submit your paper at <http://www.tencon2009.org/>
Enquiry: Email: info@tencon2009.org

TENCON is premier international technical conference of IEEE Region 10, comprising of 56 Sections, 5 Councils, 8 Sub-sections, 334 Chapters and 490 Student Branches and is held annually since 1980.

A New Way for Splitting Water

The design of efficient systems for splitting water into hydrogen and oxygen, driven by sunlight is among the most important challenges facing science today, underpinning the long term potential of hydrogen as a clean, sustainable fuel. But man-made systems that exist today are very inefficient and often require additional use of sacrificial chemical agents.

Now, a unique approach developed by Prof. David Milstein and colleagues of the Weizmann Institute's Organic Chemistry Department, provides a new mode of bond generation between oxygen atoms and even defined the mechanism by which it takes place. In fact, it is the generation of oxygen gas by the formation of a bond between two oxygen atoms originating from water molecules, that prove to be the bottleneck in the water splitting process. The results have recently been published in Science.

Nature, by taking a different path, has evolved a very efficient process: photosynthesis – carried out by plants – the source of all oxygen on Earth. Although there has been significant progress towards the understanding of photosynthesis, just how this system functions remains unclear. Worldwide efforts have been devoted to the development of artificial photosynthetic systems based on metal complexes that serve as catalysts, with little success.

The new approach recently devised by the team is divided into a sequence of reactions, which leads to the liberation of hydrogen and oxygen in consecutive thermal- and light-driven steps, mediated by a unique ingredient – a special metal complex that Milstein's team designed in previous studies. Moreover, the one that they designed – a metal complex of the element ruthenium – is a 'smart' complex in which the metal center and the organic part attached to it cooperate in the cleavage of the water molecule.

The team found that upon mixing this complex with water the bonds between the hydrogen and oxygen atoms break, with one hydrogen atom ending up binding to its organic part, while the remaining hydrogen and oxygen atoms (OH group) bind to its metal center.

This modified version of the complex provides the basis for the next stage of the process: the 'heat stage.' When the water solution is heated to 100 degrees C, hydrogen gas is released from the complex – a potential source of clean fuel – and another OH group is added to the metal center.

'But the most interesting part is the third 'light stage,' says Milstein. 'When we exposed this third complex to light at room temperature, not only was oxygen gas produced, but the metal complex also reverted back to its original state, which could be recycled for use in further reactions.'

Yet Milstein and his team have also succeeded in identifying an unprecedented mechanism for such a process. Additional experiments have indicated that during the third stage, light provides the energy required to cause the two OH groups to get together to form hydrogen peroxide (H₂O₂), which quickly breaks up into oxygen and water.

Discovery of an efficient artificial catalyst for the sunlight-driven splitting of water into oxygen and hydrogen is a major goal of renewable clean energy research.

Participating in the research were former postdoctoral student Stephan Kohl, Ph.D., student Leonid Schwartsburd and technician Yehoshua Ben-David all of the Organic Chemistry Department, together with staff scientists Lev Weiner, Leonid Konstantinovski, Linda Shimon and Mark Iron of the Chemical Research Support Department.

Source: Weizmann Institute of Science 2009, Abridged from Sonnenseite Newsletter vol. 12 (April 2009)

HK's Correct Contacts

Veteran IEEEian Shri. H. Kalyanasundaram's contact details given in the previous issue suffered a typographical error and many of our readers could not contact HK, when he was bereaved. We apologize for the omission and reproduce below the correct details:

Phone: 022 2772 3951

Address:

A106, Cottage Land, 16A, Sector 19A,
Nerul East, Navi Mumbai – 400 706

Fuller said:

“There is no shortage of food on this planet; there is, however, a serious shortage of intelligence. And, I might add, compassion.” – Buckminster Fuller (Designer of the Geodesic dome).

And in the end, it's not the years in your life that count. It's the life in your years
- **Abraham Lincoln**

When I approach a child, he inspires in me two sentiments; tenderness for what he is, and respect for what he may become
- **Louis Pasteur**

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The 2009 ad-hoc committee, also chaired by Kasturi, will work with industry representatives to learn what types of certification and continuing education programs are in demand. It will also discuss with members of academia how to improve engineering curricula and get more schools accredited. In addition, the Kasturi group wants to get Indian companies more involved in standards development, an area dominated by European, Japanese, and U.S. companies. An important goal is to come up with humanitarian programs that IEEE members could develop for India's societal needs. This includes bringing electricity and Internet access to remote villages.

ENTRY-LEVEL CERTIFICATE: The initiative has already borne fruit in the target area of software. The IEEE Computer Society has developed a certification program for entry-level software professionals. Now available worldwide, it was first rolled out in India last September and leads to a certificate for a Certified Software Development Associate. The Computer Society counted on input from Indian software companies including Tata Consultancy Services, Infosys Technologies, and Wipro. "Software, especially its application, is an important area that is rapidly growing," Terman says. "India is very focused on software; it's an area in which we could increase our presence. It's a great opportunity for us."

Today is a gift; that is why we call it the 'Present' - Babatunde Olatunji

Meat and GHG

Worldwide meat production (beef, chicken and pork) emits more green house gases than do all other forms like transportation or industrial processes (of course, energy production is the leading cause), says United Nations' Food and Agriculture Organization (FAO):

Of the 6.5 billion tons of CO₂ equivalent GHG emitted every year -

Energy production	- 21.5%
Livestock production	- 18.0%
Transportation	- 14.0%
Fossil fuel retrieval	- 12.0%
Agriculture	- 12.0%
Residential	- 10.0%
Manufacturing	- 7.0%
Land use	- 4.0%
Waste disposal & treatment	~ 3.0%

(%ages are rounded and so will add up to >100)

Glowing Power Cord

It will be interesting to have your power cord connecting your TV, Computer, fan or anything could give out light to indicate that it is carrying power and also to regulate its luminescence depending upon the strength of the power it takes. It is now a reality. Electroluminescent fibres embedded inside the cord get brighter when more power flows through, pulsing and scintillating with various patterns that are difficult to ignore – may be this may help in improving safety.

(Adapted from Executive Knowledge Lines See: www.cairos.com)

IREDA can loan Rs. 170,000 million

For renewable energy production, Govt. of India Agency proposes to loan as much as Rs. 17,000 crore to developers and this is expected to bring in 5,000 MW of green power to the grids. (Source: Akshaya Urja)

51 countries to the fore!

For renewable energy promotion an organization is being launched by 51 countries including India called International Renewable Energy Agency (IRENA). It will provide political recommendations and identify funding sources and also act as the global voice for renewable energy.

Every innovation begins with a thought.

ThinkLABS is an educational training and product company in the field of robotics & embedded systems incubated at SINE, IIT Mumbai. With strong R&D focus and technical backing we have reached out to over 18,000 students in 35 cities across India by providing them resources through a wide variety of development boards, sensors, robotic kits, software-based resources, basic and advanced level training sessions.

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