



Chairman's Message



Dear Members,

It is a great honor for all of us in the IEEE community in India that Dr. Surendra Pal, IEEE Fellow, Distinguished Scientist and Associate Director & Programme Director, Satellite Navigation Programme, ISRO has been conferred the 2010 IEEE Judith A. Resnik Award

by the IEEE Board of Directors for his outstanding contribution "For the development of various space borne communication systems, planning, operationalization and advancement of Global Navigation Satellite Services (GNSS) in India". On behalf of IEEE India Council and Sections, I extend our heartfelt congratulations to Dr. Surendra Pal on this magnificent achievement. I had the privilege of working very closely with Dr. Pal and observe his leadership qualities, balanced analysis and views and humble personality during our association in IEEE Bangalore Section.

The All India Student Branch Counselor Congress organized jointly by the Bangalore Section and cosponsored by India Council at New Horizon College of Engineering on 3-4 July was a great success with 40 plus counselors from Hyderabad, Chennai, Kerala, Kolkota, Gujarat, Delhi and Bangalore Sections participating and benefiting from the workshop. The session conducted by Dr. Mini Thomas, R10 SAC, and Dr. Suresh Chandra Pal was highly appreciated. Mr. K Ramakrishna, Dr. Debabrata Das and Dr. Sainarayanan deserve special mention for the excellent organization and their tireless efforts to get the counselors from all over India to participate in the event. In spite of his busy schedule as Vice Chancellor of Visvesvaraya Technological University, Prof. H. P. Khincha inaugurated the event showing his commitment to IEEE and showing the way to all the branch leaders.

With warm regards

Bangalore
01 July '09

Kasi Rajgopal
Chairman, IEEE India Council
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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:

..... 7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others.

Congrats Delhi & Kolkata!

The PES Chapters of New Delhi and Kolkata have brought laurels to India along with others from NY/Long Island, Pittsburgh, Panama, and Uruguay by being recognized for the best performance during the last 10 years!

This selection was based on participation in the different programs PES has for chapters including Outstanding Chapter Award, High Performance Chapter Program, Web Site Contest, and Membership Contest.

This recognition is provided for both Large Chapters and Small Chapters, as listed below with the respective Chairperson identified.

Large Chapters:

- New Delhi Chapter - Bhim Singh
- New York & Long Island Chapter - Ajoy Das
- Pittsburgh Chapter - Mey Sen

Small Chapters:

- Kolkata Chapter - Sivaji Chakravorti
- Panama Chapter - Adalina Aguilar
- Uruguay Chapter - Marcelo Castelli

Announced by **Dr. Gregory Reed**, Vice President, Membership & Image IEEE Power & Energy Society

Grassoline at the Pump!

Hey, I did not make a typographical error! It is NOT Gasoline, but really Grassoline!! Scientific American has an article entitled like this and the content of it is awe inspiring. What does it say? Simply this: It is clear to one and all that we should somehow get off oil, as soon as we can. Many options are there for us, being worked out by several laboratories and one sustainable route is considered to be 'biofuels'. There are several ways in which we can produce biofuels and one such route is to turn cellulose directly into fuel. Even for this you can have a maize of a problem, running through alternative routes, yet reaching the goal.

It is said that Termites can lead us to the most efficient route. Why? Termites are model biofuel factories! Microbes living inside the gut of a termite break cellulose down into sugars. Biological engineers are attempting to replicate this process on an industrial scale.

The key concepts leading to grassoline are: 1. Second generation biofuels made from the inedible parts of plants are the most environmentally friendly and technologically promising near term alternatives to oil. 2. Most of this 'grassoline' will come from agricultural residues such as corn stalks, weed like energy crops and wood waste. 3. For the US, scientists believe that it can grow enough of these feed stocks to replace about half of oil without affecting food supply.

Editorial Board

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

From India Council Secretary



Dear All,

The All India IEEE Student Branch Counsel Congress jointly organized by the India Council, Bangalore Section and R10 SAC has successfully completed with a good participation from a wide geographic spectrum of Indian Sections. The Congress provided a good platform for exchange of new ideas, sharing of experience and imparting important inputs on various team building and human value related

issues. Eminent speakers, covering varied areas have engaged the participants very busy throughout the two days, which would certainly help the student members for their continued successes at national and international levels.

IEEE India received many awards and recognitions in this year viz. (a) Best R10 Student Branch Web Site Award by Delhi and Bombay Sections, (b) 2008 R10 Distinguished Small Section Award by Kharagpur Section, (c) 2010 Judith A Resnik Award by IEEE Fellow Dr. Surendra Pal of Bangalore Section, (d) Distinguished Student Humanitarian Award of IEEE President by BVB College of Engineering IEEE Student Branch of Bangalore Section and (e) People Choice as well as IEEE outstanding Student Humanitarian Awards in the IEEE President's "Change the World" competition by Mr. Sampat Kumar V. of Madras Section. These awards will definitely motivate all Indian members, especially the youngsters, to perform better and utilize the IEEE platform for enriching their knowledge and talent.

Many events are falling in the Second half of the year which include the 125th Anniversary Celebration by various Sections, All India Student Congress, INDICON 2009, Women in Engineering Congress and the GOLD Congress. All the members are requested to give wide publicity to these events and actively participate in them, so as to take India and IEEE to greater heights of success & recognition.

With all Best Wishes,

K Ramakrishna
Secretary

Email: kramakrishna@ieee.org

Attention Researchers

International Joint Journal Conference in Computer, Electronics And Electrical, CEE 2009, November 2009

The Conference is organized by The Association of Computer Electronics and Electrical Engineers (ACEEE) and it is technically sponsored by Academy Publishers, Finland. All the accepted papers will be published in the special issue (during November) of the International Journal of Recent Trends in Engineering [ISSN: 1797-9617] by the Academy Publishers, Finland, which is expected to index in the major academic databases, including IEE INSPEC, EI (Compendex), Thomson ISI (ISTP), and other indexing services.

<http://www.academypublisher.com/ijrte/>

All papers must conform to standard Academy Publishers double-column format and must be submitted as 'pdf' file format and can be submitted through the Easy chair Conference papers submission system or to the email cee.paper@gmail.com. Use following Easy chair link to submit your papers. Full Paper Submission: 27 July 2009.

<http://www.easychair.org/conferences/?conf=cee2009>

Prof. Vinu V Das, General Chair, ARTCom 2009, Email: cee.chair@gmail.com, <http://www.ijjcee.com/>

TECH NOTES

Fan-out wafer level packages - New thinner Chips for better packaging

Chip packaging technologies are driving towards thinner, smaller packages that are the need of the day in current day mobile technology. Fan out wafer level technology is one of the solutions to address this demand profile. The key benefits include a smaller package footprint compared to conventional lead frame or laminate packages, medium to high I/O count, maximum connection density, as well as desirable electrical and thermal performance. It also offers a high-performance, power-efficient solution for the wireless.

Fan-out WLP package thickness is between 0.3 and 0.5 mm, whereas most BGA are 0.65 mm thick or even thicker. Since QFN/SON packages of 0.5 mm thickness are already on the market and thinner versions are in the works, fan-out WLP is less likely to be a replacement for those. Fan-out WLP enables much smaller packages than BGAs or QFN/SONs, because the line width/space is smaller.

The primary driver for fan-out WLP or wafer-level fan-out WLFO is cost reduction vs. current FBGA (laminate-based CSPs). One of the major concerns that this technology faces is the shrinkage of the pitches and pads at the chip/package interface is happening much faster than the shrinkage at the package/board.

Fan-out WLP will likely be used as an alternative to thin BGA of low to medium pin count in highly miniaturized mobile equipment. Targeted devices include base band (DSP), applications processor, power management, RF transceiver for wireless mobile or digital consumer product applications, where the I/O counts are up around 750.

Embedded die may compete with fan-out WLP in some applications. Today's progress in embedded die infrastructure suggests that it can be used only in low-end products, unless a technology breakthrough occurs. Area utilization is more attractive in embedded die technology, but for fine pitch, fine metal line applications, fan-out WLP provides better control and quality. Embedded die technology will be a solution for module-level packaging, while fan-out WLP is well suited for component-level packaging.

(Source: 3D packaging News Letter - March 2009)/sIn murthy

Think it Over!

To find a friend, one must close one eye; to keep him, two.

- Norman Douglas

Life can only be understood backwards, but it must be lived forwards.

- Soren Kierkegaard

Some give up their designs when they have almost reached the goal

- Herodotus

A man who doesn't trust himself can never really trust anyone else.

- Cardinal De Rotz

The only real mistake is the one from which we learn nothing – John Powell

125 years of IEEE: Engineering the Future

The celebrations to mark the occasion of IEEE completing 125 years of service to humanity is being celebrated by the IEEE Headquarters in association with various arms of the organization worldwide and one such celebration is in Bangalore. We Indians can be proud of this. But, apart from these events, every Section and several Branches and Societies under the IEEE banner in India have planned to have a series of events to commemorate the growth of IEEE, which has mainly been due to its members volunteering to achieve laurels for the banner. A series of inspiring and invigorating lectures from eminent volunteers have been a core part of such celebrations apart from technical seminars and conferences.

Recently, Rob Reilly, Ed. D., Secretary, Education Society of IEEE International Committee and Oliver K. Ban, Ph. D., Administrative Committee Member of IEEE Education Society and Chief Technologist & Senior Global Telecom Lead of IBM, toured India for delivering lectures and interacting with IEEE members in India. They gave lectures in Mumbai, Trivandrum and Chennai. The lectures in Trivandrum were very well attended, evoking long interactive discussions on the subjects: The Science Behind the Art of Teaching A Science & Can You Win The Nobel Prize? You Certainly Can! (by Rob) and Electrical Engineering's Future - A Few Thoughts from Industry Perspective (by Ban).



Mr. C. Satish Babu (Vice Chair, Kerala Sn; Aju Thomas (R10 Education Society Chapter), Dr. Rob Reilly and Dr. Oliver Ban

A section of the audience in Trivandrum

All India IEEE Student Branch Counselor Congress

3-4 July 09, Bangalore

In conjunction with IEEE's 125th Anniversary Celebration, IEEE Bangalore Section, IEEE India Council and IEEE R10 SAC in association with New Horizon College of Engineering, Bangalore organized the All India IEEE Student Branch Counselor Congress on 3-4 July in Bangalore.



43 Student Branch Counselors from Bangalore, Gujarat, Madras, Calcutta, Bombay and Kerala Sections participated in the congress. The event was inaugurated by Prof H P Kincha, Vice-Chancellor of Visweswaraya Technological University. Shri Mohan Manghnani, Chairman, New Horizon College of Engineering, Ms Mini Thomas, R10 SAC, Prof K Rajagopal, Chair, IEEE India Council, Mr K. Ramakrishna, Chair, IEEE Bangalore Section & India Council Secretary and Dr. Debabrata Das, Organizing Chair participated. The Congress started with an Ice Breaking session had many informative sessions like Role of Branch Counselor during starting of

a IEEE Student Branch, Activities Planning, Crisis Resolution & Election Process at IEEE Student Branch - SBC's Role, Women in Engineering, Prizes & Awards across R10 and World, Role of Branch Counselors in moulding the future professionals with ethics etc. Student Branch counselors of few successful branches shared their experiences with the participants. The participants felt the congress was very informative for the better planning and organization of their student branch.

Technology, Humanity and Sustainability: IEEE's Focus on India

28 August 2009, Bangalore

A full-day meeting on the application of technologies for addressing societal challenges is planned for 28 Aug '09 at Bangalore. The major focus will be on the challenges faced in the Indian Sub-continent, including but not limited to health care, education, agriculture, rural connectivity, disaster management, and energy. The meeting will cover the use of electrical and electronics engineering, computer engineering and science, information and communications technologies, and related disciplines to such challenges.

Tentative Speakers:

Dr. Lewis M. Terman, 2008 Past President, IEEE

Dr. Richard Gowen, President, IEEE Foundation

Sponsored by:

IEEE Foundation

IEEE India Council

IEEE Humanitarian Technology Network

IEEE - Fostering Technological Innovation and Excellence for the Benefit of Humanity.

**There are two kinds of failures: those who thought and never did,
and those who did and never thought – Laurence J. Peter**

125 and Going On!



IEEE has grown real big and real global! Of the 375,000 members it has, 45% as of now are from outside the USA - a far different setting when compared to a decade back or earlier. Professionally, it has been a provider for its members anywhere in the world and holding hands with leading countries in the world in shaping standards and codes of practice etc. for them. It has an enormous knowledge base and is leading in bringing out journals in the cutting edge areas as well bringing out books and monographs on the latest topics in Electronics, Computers, IT and several sister subjects.

The growth from the beginning though under two different labels, has converged now into a single banner encompassing more than 3 dozen distinct disciplines. In India, we have been holding activities around 10 centres in India, where quite a lot of research, and engineering activities in IEEE's subject areas are carried out. The need to pay in dollars and the comparatively unaffordable membership fee prevented several professionals from joining as members. Things are now looking upward. The percentage of students and youth now participating as members and in activities has gone up like anything. The involvement of women also jumped levels. Look at the audience for the talks on July 11 at Trivandrum in page 3.

The National Distinguished Lecture Programme evolved last year and continued this year, we think, should give a stimulus for 'going on further' in India for IEEE.

Trivandrum
12 July 2009

V K Damodaran
Editor
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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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