

IEEE India Bulletin Vol. 12 No. 11 November 2002**INDEX****Features**

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CHAIRMAN'S MESSAGE

Dear Fellow Member,

I am informed by the IEEE Head quarters that on 8th October, 2002, an Agreement was signed between IEEE and the Institution of Engineers (India) for joint co-operation in professional and technical activities. I am sure with this Agreement, both the giant professional organizations, IE(I), the largest body of engineers in India and IEEE, largest in the world, will derive mutual benefit for their members. The details of the Agreement will be shared with you when I receive the copy. I will take this opportunity to congratulate Prof. Nirmalendu Chatterjee, Chairman, Calcutta Section who took initiative in this matter.

You are aware, IEEE had already signed an Agreement with IETE in 1995 which was extended in 2001 upto 2004. So IEEE, in co-operation with two largest engineering professional bodies of India can carry out or associate with a large number of conferences, seminars and other activities. It is a good trend and may be that more professional bodies join hands with IEEE in future.

Year 2002 is coming to an end and you would have received Renewal Notice for your Membership with enhanced dues. Though most of the High Grade Members are covered under 50% discount for low income and, therefore, may not much feel the pinch, the student category is certainly hit hard by the hike in their dues. I hope the section/ chapter leaders will try to compensate them by organizing more educational and technical activities so that the students continue to feel motivated and keep their membership. I had requested the IEEE President Ray Findlay to reconsider the steep hike in the dues, particularly for student category, and perhaps the matter would have been discussed in the World Sections Congress held in Washington DC last month. The Section Chairs from India who attended the Congress would also have raised the issue. Let us hope for the best.

I propose to hold the Annual General Meeting of India Council at the time of ACE 2002 in December 2002 at Kolkata. Details will be given in this newsletter in December 2002 issue. You may like to attend it and give your views to make India Council more effective.

With best wishes,

Promod K. Srivastava

Noida Chairman

1 Nov. '02

India Council, IEEE

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Quotation

*"The day people stop bringing you their problems is the day
you have stopped leading them"*

-Colin Powell

EDITOR'S DESK

**"Information Overload –
A by-product of IT revolution"**

It is estimated that the last 30 years have seen the production of more information than the previous 5,000 years put together. Telecommunications, Internet, Desk Top Publishing and such other techniques work relentlessly today, handling massive amounts of information. All these lead us to a situation of information overload, which throws up some new challenges.

Information overload is the state of affairs which occurs when the amount of information we receive exceeds our ability to process it in a meaningful way. The rapid adoption of new technologies in the workplace has vastly increased the amount of information we can produce in the course of a day or week. There is now a mismatch between the speed at which information is created and the means available to us to handle them efficiently and effectively. This is how overload occurs.

As per Thomas Stewart, author of *'Intellectual Capital: the New Wealth of Organizations'*, the first year of the information age was as recent as 1991, the year in which for the first time US businesses spent more money on Information Technology – equipment to capture, process, analyse and distribute information – than on conventional production and plant equipment. Other developed and developing countries also joined the bandwagon soon, resulting in the production and circulation of a horde of information in the world today, both solicited and unsolicited.

Information deluge is thus a reality, calling for deployment of efficient methods to handle it. This means setting criteria and priorities for sorting the information, applying filters, making good use of the dustbin and finally isolating the relevant ones for immediate use, storing, passing on to the others or even throwing away after careful study.

Are we getting organized to face the challenges posed to us by this information overdrive?

Trivandrum

N.T.NAIR

1 Nov. '02

Editor

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IEEE SECTIONS CONGRESS 2002

report by **R Narayanan**, Chairman, IEEE Kerala Section

he 2002 edition of the triennial IEEE

The Sections Congress was held during 18 - 21 Oct 2002 in Washington DC, USA. It was attended by 262 primary delegates out of the total of 298 Sections. This has been a record percentage. In addition 72 staff members of IEEE from Regional offices and IEEE Headquarters attended. Plenary sessions during the three days featured talks on "International Space Station" by Mr W Michael Hawes of NASA, on "Leadership" by Dr. Raymond Findlay, IEEE President and "Innovation for global collaboration" by Dr. Curtis R Carlson, CEO of SRI International.

The Core Training sessions and break-out sessions on aspects of Management, Finances, reporting etc. were well organized and handled by experienced people. There were lots of opportunities and facilities for one-to-one interaction as well as sharing and networking with like-minded delegates. These sessions indeed did add value in an effective way. It is interesting to note that quite a few sessions were related to the development of soft skills among engineers which the Indian IT companies are addressing well.

In the session on "Women in Engineering", the Kerala Section came in for special mention not only for being the only section in Region 10 for having started it but also for the innovative schemes and activities pursued and planned consistent with IEEE's objectives. I made a brief impromptu presentation on the social context in Kerala. There was a recommendation that our section should play a role at the IEEE Headquarters level in propagating and advising on the functioning of the WIE affinity group.

The concluding session saw delegates voting 40 major recommendations for the IEEE leadership to act upon. These were derived from the individual regional caucus groups and articulated well. It is interesting to note that as many as six recommendations out of 40 relate to the increase in student membership dues and adding service value to student members. All the six recommendations in this area were voted among the top 20 priority items.

The logistics management and facilities for delegates were of the highest order. The macro and micro level planning and execution were a model for organizing such events. At the end the returns from attending the Congress exceeded my initial expectations.

News-Scan

Autorikshaw, the poor man's taxi of India, Sri Lanka, Indonesia and other Asian countries, will soon be seen on the streets of California and other states in the US. Permission from Environmental Protection Agency(EPA) has already been obtained for plying three-wheelers from Bajaj on California's roads, mostly to be used as carriers, ferrying small quantity of goods like flowers for short distances. Plans are already on to market two-wheelers also at a price of \$1,900, leveraging on price advantage against competitors like Honda(\$4,400) and Vespa(\$4,200)

Advertising

'The science of arresting the human intelligence for long enough to get money from it'.
-Stephen Leacock

Joke – Rated the Best

Two hunters are out in the woods when one of them collapses. He doesn't seem to be breathing and his eyes are glazed. The other guy whips out his cellphone and calls the emergency services. He gasps: "My friend is dead! What can I do?" The operator says: "Calm down, I can help. First, let's make sure he's dead." There is silence, then a shot is heard. Back on the phone, the guy says: "OK, now what?"

[This was rated the funniest of 40,000 gags from 70 countries and the winner is Gural Gossal, from India]

IEEE NEWS & EVENTS

2002 IEEE International Conference On Personal Wireless Communications

(ICPWC-2002)

December 15-17, 2002, New Delhi, INDIA

Sponsored by:

IEEE AES/COM/LEOS India Council Chapter

In cooperation

IEEE Communication Society, IEEE Region 10

with

IEEE India Council, IETE(India), IEEE Delhi Section

Ministry of Communications and Information Technology, Govt. of India

The Asia Electronics & Info-Communications Union

IEEE AES/COM/LEOS India Council Chapter in cooperation with IEEE Communication Society, IEEE Region 10, IEEE India Council, IETE(India), IEEE Delhi Section, Ministry of Communications and Information Technology, Govt. of India, and The Asia Electronics & Info-Communications Union cordially invite you all to attend "2002 IEEE International Conference On Personal Wireless Communications (ICPWC-2002)" to be held during December 15-17, 2002, at Hotel Hyatt, New Delhi, INDIA. The ICPWC in India is being held since 1996 after every 18 months or so and represented each time by at least 30 countries. The proceedings of the conference has been a valuable source of information and is published by IEEE and procured by the most prestigious libraries all over the world.

The conference will present original research results, experimental/field trial results, and innovative applications in all areas of wireless communications and networks. Possible topics include:

- | | |
|---|--------------------------------|
| * Modulation, Coding, Equalization | * RF and Spectrum Issues |
| * Space Time Codes, Turbo Codes
MMDS | * Wireless Local Loop: LMDS, |
| * CDMA, OFDM, Multi carrier techniques | * 3G/3.5G/4G Technologies |
| * Transmit Diversity, Multi-user
Architectures/Protocols | * Wireless NW |
| * Adaptive and Intelligent Antennas | * Internet and IP for Wireless |
| * Advanced Signal Processing for Wireless
Networks | * Wireless Ad-hoc/Sensor |

In addition to technical paper presentations, panel discussions and pre-conference short courses/tutorials by leading experts in the field are planned.

General Chairs

Dr. D. P. S. Seth

Dr. R. G. Gupta**Advisory Committee**

Prof. Vijay K. Bhargava

Dr. Y. S. Rao

Dr. A. K. Seth

Prof. Ramjee Prasad

Dr. Kumar N. Sivarajan

Corporations desiring to sponsor conference exhibition, please contact:

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Conference website: <http://www.ece.iisc.ernet.in/icpwc2002>

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IEEE and IE(I) sign Agreement

A new National Society Agreement was signed between IEEE and the Institution of Engineers, India (IEI) at IEEE Office in Piscataway, New Jersey, USA on 8 October 2002. On this occasion, Prof.(Dr.)Samiran Choudhari, President, IE(I), Prof. G.P. Lal, Past President, IE(I) and Mr.Daniel J.Senese, Executive Director, IEEE discussed matters of mutual interest. The term of the agreement shall be from 2003-2005. A complete listing of all National Society Agreements can be found at the following Website: www.ieee.org/nsa

For more details, please contact Ted Hissey (t.hissey@ieee.org) or Tamara Walsh in the following address:

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"You see what power is – holding someone else's fear in your hand and showing it to them"

-Amy Tan

LIBRARY SCAN

[Starting from this issue, we will publish under this new column, highlights of selected books on Management, Science & Technology etc which have contemporary relevance]

Title : First Hired, Last Fired
Authors : Robert M. Bramson and Susan J. Bramson

Published by
 Contemporary Books, USA.
 US \$19.95

How to make yourself indispensable in an age of downsizing, mergers, and restructuring, the theme skillfully handled in this book is most relevant in this era of pink slips, lay-offs etc. The authors start with a description of indispensable employees, to be followed by a look at the characteristics of people who are virtually lay-off proof and finally discussing various pointers for building your repertoire of indispensable attributes.

Technology in brief

Stronger than steel and as easy to mould as plastic

Search for a material having the above attributes has been on the agenda of metallurgists for years. What scientists at the California Institute of Technology discovered some 40 years ago is now being commercialized in a major way by companies like Liquidmetal of California.

A molten metal normally crystallizes when it solidifies; it was not until the late 1950s that scientists discovered the existence of crystal-free (that is, amorphous) metals. The advantage is clear: Liquidmetal's alloy based on titanium and zirconium is 2.5 times stronger than titanium or steel and less than half their weight for the same amount of strength. These alloys are also non-corroding and strongly resistant to dents. Besides its strength, the alloy is easy to shape. Metals shrink when they crystallize; once they harden, they have to be formed by machines. The new alloys, by contrast, can be cast in moulds just like plastics, but they are 50 times as strong.

The titanium/zirconium- based alloy costs \$26 to \$33 a kilogram, compared with \$18 to 20 for titanium, but the extra money spent on the alloy can be saved in processing.

The first bulk product to use the new alloy is golf clubs, to be followed by mobile phones. Other potential uses are for watch cases, jewellery, orthopaedic implants, surgical instruments etc.

Dissipation Array System (DAS) for lightning protection

DAS is based on a natural phenomenon known to scientists for centuries as the 'point discharge' principle or 'charge transfer'. A sharp point in a strong electrostatic field will leak off electrons by ionizing the adjacent air molecules, provided the point's potential is raised 10,000 V above that of its surroundings. This principle is demonstrated by what scientists call natural dissipation. The ionization produced by trees, grass, fences, and other structures can naturally dissipate up to 90 per cent of the total energy generated by an electrical storm, thereby preventing the formation of lightning.

The DAS employs the point discharge principle by providing thousands of points with specific point separation, which simultaneously produce ions over a large area, thus preventing the formation of a streamer, which is the precursor of a lightning strike.

This ionization process creates a flow of current from the point(s) into the surrounding air. Under electrical storm conditions, this ionization current increases exponentially with the storm's electrostatic field, which can reach levels as high as 30,000V/m of elevation above earth during a mature storm. The charge induced on the site by the storm is removed from the protected area and transferred to the air molecules. These charged molecules then move away from the site.

Thus DAS prevents strikes by continually lowering the voltage differential between the ground and the charged cloud to well below the lightning potential, even in the midst of a worst-case storm. Because it prevents rather than redirects lightning, DAS is possibly the best long-term solution to lightning strike problems.

For further reading:

1. IEEE paper on the subject by Donald W. Zipse, Life Fellow, at the IEEE Web site.
2. Traffic Technology International Oct/Nov 2002 issue
3. Website of Lightning Eliminators & Consultants(LEC)

“We, the members of the IEEE... do hereby... agree to accept responsibility in making engineering decisions consistent with safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or environment; ..” -IEEE Code of Ethics