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**CHAIRMAN'S MESSAGE**

Dear Fellow Member,

The new Executive Committee of India Council for the year 2002 will come into position when this newsletter comes in your hands. "Yours truly" has been given one more term and I am thankful to the Nomination Committee for having reposed confidence in me. There are only a few changes in the Execom. and I hope I will continue to get co-operation & support of all my colleagues in the Execom as well as from all of you. I will particularly expect the new Execom members to give new ideas so that the activities of IEEE further grow and become more well spread. They should also suggest, how India Council can be made more effective and purposeful.

In the March 2002 issue of The Institute, you would have read the news item regarding close co-operation between Delhi Section and Washington DC Section in USA under a Sister Section Pilot Project. This transnational approach is a very good idea and will be mutually beneficial to both the sections and their members. I would like to congratulate Dr. R Balasubramanian, Chairman Delhi Section as well as Dr. Shyam Bajpai, Chairman Washington DC Section for this novel concept which is already working quite successfully. I hope, the other Sections in India will also like to find similar partners. Though the Delhi Section has found a partner in far away USA, it may be worthwhile if the 10 Sections in India at least co-operate among themselves in their technical activities.

IEEE Region 10 Committee Meeting will be held on 5th & 6th April, 2002 at Bangkok, Thailand which I shall be attending. In the next issue of this newsletter, I will share with you the highlights of the meeting.

With best wishes

Noida  
31 Mar. '02

Promod K.  
Srivastava  
Chairman India  
Council, IEEE



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**Quotation**

**'Inventing is a combination of brains and materials. The more brains you use, the less material you need'**

**- Charles F Kettering**

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**EDITOR'S DESK**

'God, grant me the Serenity to accept the things I cannot change, Courage to change the things I can and Wisdom to know the difference'

One of the fundamental lessons we, human beings have always noticed in the animal kingdom is the meticulous manner in which they have been applying restraint, when it comes to their needs. Just consume what is sufficient is their mantra. We seem to have not learnt this lesson yet from these co-inhabitants.

In the matter of generation of waste by human beings, there are two sides to it. One is what can not be avoided and has to be necessarily accepted in its entirety in our daily life. The other is wasting of resources, just because one can afford it, be it food, fossil fuel or any such item. Such wasting by a section of the populace, is the bane of the society today and if allowed to continue unabated, as is being done today, we will be finally leaving behind a world, most likely un-inhabitable for our children whom we love most and for whose welfare all of us toil so hard.

If we conduct our daily chores bearing this urgent necessity in mind and act with utmost moderation in what ever we do, then only we can claim that we love our children in totality. Otherwise, we would be doing a real injustice to the next generation as the stage they would be inheriting from us to live their life would be barren, sterile, polluted and what not. Perhaps we may not be there to witness this deplorable sight. But, is that our aim?

**N. T. Nair**

Trivandrum Trivandrum Editor

31 Mar. '02 [email:  
del@vsnl.com](mailto:del@vsnl.com)

**An Appeal to IEEE Sections**

All IEEE sections are requested to forward regularly, short reports and photographs, if any, of their technical activities and also news of forthcoming events for publication in this newsletter

Editor

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**This issue is sponsored**

by  
**IEEE DELHI SECTION**

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**Technopreneur Promotion Programme for Individual  
Innovators**

The Ministry of Science and Technology has launched a novel programme known as "Technopreneur Promotion Programme" (TePP) jointly operated by Department of Scientific & Industrial Research (DSIR) and Technology Information, Forecasting and Assessment Council (TIFAC) of Department of Science & Technology (DST) to tap the vast innovative potential of the citizens of India. TePP will be a crucible to promote individual innovators to become technology based entrepreneurs (Technopreneurs).

### **Who can apply?**

Any Indian citizen having an original idea/invention/know-how can apply.

### **What proposals are eligible?**

Proposals from individual innovators to convert an original idea/invention/know-how into working prototype/processes. These proposals can be made by individuals or jointly with any sponsoring organisations.

### **How TePP can help you?**

Selected projects will be provided financial support to undertake the above developments, patent support & guidance, scientific/technical consultancy, fabrication assistance, market information and networking with related research labs/institutes as required.

Interested individuals may contact at the address given below for further information, giving details like the work done so far, the proposed project, including title of the project, objectives, project cost, support sought, duration, names and roles of other agencies including R&D laboratories if any, action plan, market demand, expected commercial output and techno-economic benefits etc.

Technopreneur Promotion Programme (TePP)  
Ministry of Science and Technology  
Post Bag No. 66  
Hauz Khas, New Delhi - 110016

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**News-Scan**

Economic Slowdown and Fancy Designations

**To motivate employees through the present economic slowdown, British Cos are giving them fancy designations in lieu of pay hikes. Toilet-cleaners have been reclassified as 'technical sanitation assistants' and window-cleaners as 'optical illuminator enhancers'. The up-lifting of job designations has seen titles such as directors, heads and chiefs being increasingly used. Those entrusted with the job of emptying out wastepaper baskets may bring new enthusiasm to their work after being reclassified as 'inhouse recycling managers'. Receptionists are already better known as 'front office managers'. Canteen- boys brewing tea get a fancy name as 'invigorating therapists'. During a survey of 1,700 workers, half said new titles improved their job satisfaction while the other half said it made no difference.**

(Courtesy: ToI)

## Post-graduate Study in Engineering

GATE(Graduate Aptitude Test in Engineering) is an all-India examination conducted by the six IITs and IISC, Bangalore to identify meritorious and motivated candidates for admission to post-graduate programmes in engineering, technology, architecture and pharmacy, at the national level. The other objective is to serve as a benchmark for normalization of the undergraduate engineering education in the country.

The GATE 2002 examination witnessed an unprecedented increase in the number of candidates, may be due to the industry downturn, especially in the IT sector and job market crash across industries. This year 1.15 lakh students registered for the examination to secure a place among the 18,500 seats available at post-graduate educational institutions in India. This is 90% more than last year's figure of 62,907 and the highest recorded in 17 years, since the inception of GATE in 1983-84.

(Courtesy: Business Line)

## Fortune's Top Five -2001

Based on an Associated Press calculation of 2001 revenues, Wal-Mart Stores Inc. will top the Fortune 500 list, becoming the largest company in the United States and the world for the first time ever.

Rank	2001	Revenues
1	Wal-Mart Stores Inc	220.4 US\$ billions
2.	Exxon Mobil Corp.	212.9 ..
3	General Motors Corp.	177.3 ..
4	Ford Motor Co.	162.4 ..
5	General Electric Co.	126.0 ..

## Pareto Principle

Widely used and adapted all over the commercial and industrial world, Pareto Analysis or distribution, is the work of a 19th century philosopher and economist, Vilfredo Damasco Frederico Pareto (1848-1923). Also known as the 80:20 Rule, its basic statement is as follows: "80 percent of a goal can be achieved with only 20 percent of the effort required to achieve 100 % of the goal"

Some of the other versions are:

q 80 % of the sales volume is generated by 20 % of customers

q 20 % of the population has 80 % of the income.

q In an industry, 20 % of the equipment consume about 80 % of the energy.

Pareto's work was extended by a number of later management gurus, such as George K Zipf, who postulated the 'Principle of least effort'. This says that 20 % of the resources ( human or otherwise) generally produce 80 % of the output .Then, Juran used the 80:20 rule to find quality flaws, on the basis that 80% of the problems come from 20 % of the sources.

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**Technology in Brief**

## Water jets as lightning conductors

Lightning hits around 600 people each year in the US - killing 100. The majority of victims are in sports grounds or playgrounds when struck. The strikes lead to insurance claims of an astonishing \$5 billion per annum. So predicting when and where lightning is going to strike is crucial. According to Doug Palmer of BoltBlocker, a Co in California, lightning could be drawn to a safe spot by squirting an ultra-thin jet of water mixed with salt and soluble polymers towards the storm cloud. The salt boosts the water's conductivity while the long-chain polymers help prevent the jet breaking apart into a stream of droplets. Palmer's idea is to propel a jet with a diameter of just 1 cm around 300 metres into the air. Any lightning about to form will be attracted towards the conducting water jet. When the strike is triggered, the 10,000 ampere current will pass down the jet, hopefully safely earthing itself on a hefty copper cone surrounding the water nozzle.

## Bell Labs doubles data delivery speed

Bell labs, the research arm of Lucent Technologies Inc claims to have doubled the distance and the speed at which data can be sent over long-haul telecommunications networks. This development will eventually make it cheaper for telecommunications service providers to send more data on optical fibre networks over longer distances. In a demonstration, Bell labs sent a massive 2.56 terabits of data per second over a distance of 2,500 miles, the equivalent of sending the contents of 2,560,000 novels every second across the US. The previous record was 1.6 terabits per second over 1,250 miles, or half the distance.

## Speedier Net Access Over Plain Old Telephone Lines

This is not the ubiquitous DSL (Digital Subscriber Line) broadband access, but a new way to gain high-speed access to the Internet, using plain old copper phone lines. Artera Group International of US is developing a system that it claims, can increase the flow of data over existing telecom "pipes."

The acceleration can be impressive. Over one phone line, the Artera Turbo can deliver a fivefold increase, up to 250 kilobits per second (kbps) via a standard 56-kbps dial-up modem. In offices with two or more modems and phone lines, the system can compete with DSL modem upload speeds, which typically range from 400 to 600 kbps. Existing broadband connections such as cable and DSL modems, get a boost, too.

The Turbo relies on six patent-pending technologies, so how-it-works details are skimpy. Swapping some PC power for bandwidth through a mix of caching, compression, optimization, and other techniques are believed to be employed, anyway. One trick slashes the latency, or delay, between packets of digital data by 80 %.

**(Courtesy: BusinessWeek)**

## Indian IT Scene vis-a-vis Chinese

**F C Kohli, FIEEE,**

Founder member of IEEE movement in India

(Excerpts from an interview in Economic Times daily)

India has yet to tap into the power of computers. Computers are still being largely used for simple activities, like e-mail. They can increase the productivity of a country manifold. In the last five years, productivity in the US has gone up by 3-4 times due to the effective use of information technology.

India should regard China as a benchmark in the infotech arena. China has a very vibrant software industry. However, while our software industry is tuned to the export market, theirs is for their internal needs. It's basically a difference in priorities. India should not be complacent about China's software prowess at all.

China is developing an enormous amount of software systems, not just applications, in their own language. And once they change their priorities and start exporting, reaching \$50 billion in software exports over a period of time is not impossible for them.

India can leverage a number of our software skills in increasing our hardware exports too.

Areas like design engineering, embedded software and software on chip are some hardware export areas, where we don't need to put millions of dollars worth of silicon foundries or factories. But for this, we need 3,000 to 4,000 microelectronics engineers in the country, much higher than the paltry 200 such engineers we have in our country these days.

## **Genesis of the word 'ENGINEER'**

The word 'Engineer' has absolutely nothing to do with the word 'Engine'. It is derived from the French word 'Ingenic' meaning ingenuity. It was Napoleon who coined the French word 'Ingenieur' meaning a person in the army who used ingenuity.  
(Courtesy: 'The Engineer in You'- Book by Dr. P. Kannaiah et al)

'Have the courage to live. Anyone can die'

-Robert Cody

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## **Internet Humour**

'Bills travel through the mail at twice the speed of cheques'  
'Housework is what a woman does that nobody ever notices, unless she doesn't do it'

## **Random Thoughts**

- Those who don't study the past will repeat its errors; those who do study it, will find other ways to err.
- Friends may come and go, but enemies accumulate.
- He that flatters you more than you desire either has deceived you or wishes to deceive
- People are always available for work in the past tense.
- A man on top of the mountain didn't fall there

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**"We, the members of the IEEE ... do hereby ... agree to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others"**

- IEEE Code of Ethics

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**This electronic version of the IEEE India Bulletin is an adaptation of the official, printed newsletter. This adaptation has required some minor modifications and restructuring of the original text, to suit its viewing as a webpage.  
Thank you for visiting this webpage.**

### **Administrivia:**

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