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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.

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CHAIRMAN'S MESSAGE

IEEE in India

During the last two years IEEE activities in India have been becoming progressively better. The successes have been achieved due to the efforts of a large number of members working in our Sections and Chapters.

Shri H.L. Bajaj was the IEEE Director for Region 10 for 1997 and 1998. We must give to him the credit for organising the timely receipt of the IEEE Spectrum in India and for the reduction of the Student Subscription to \$ 14.00 (from the earlier amount of \$ 20.00).

He deserves a big bouquet of flowers for a highly successful term as the Director for the Asia-Pacific region.

Dr. R.K. Bagga, Chairman of IEEE India Council for 1997-98 led the Council with HIGH distinction. The Annual Conference of India Council in 1997 was hosted by Hyderabad Section under Shri N. S. S Prasads able Chairmanship. Professor R. Nandi organised the Students Convention for IEEE India Council at Calcutta. Both of the events proved to be highly successful. In addition in 1997 IC succeeded in making all its Chapters fully functional.

These activities were followed up in 1998 by another successful Annual Conference of the India Council hosted by Ahmedabad Section.

Professor V.K. Damodarans regular publication of IC Bulletin has added a highly colourful feather to the India Councils cap. He and the ICs Page Master Dr. S. Parthasarthy have developed two excellent means of communication for IEEE members in India. Their work has proved to be of crucial importance to IC.

IC has also benefited by the excellent support from Shri H. Kalyanasundaram, its Ombudsman and Shri N. V. Rao, the Secretary-Treasurer for 97-98. IEEE in India is fortunate to have such selfless volunteer officers.

After two successful years, I and the other office-bearers of 1999 have a heavy responsibility. And we would be able to discharge it successfully only with the full support of all the members.

I therefore seek the support of all the Sections, the Chapters and the members in India by way of not only organizing useful and relevant technical activities but also by way of new ideas, charting

out new directions that IC can pursue for the greater benefit of all its members.

I propose to use this column together with Shri H. L. Bajaj and Dr. R. K. Bagga so that we may be able to jointly work for improving the standing of IC as well as of our profession as a whole.

Ahmedabad Dr. A. K. Aggarwal 01 February 1999 Chairman

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Ahmedabad Dr. A.K. Aggarwal
1st Feb. 1999 Chairman



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KNOWLEDGE MANAGEMENT

- o Does your organisation learn from its own successes and failures and those of others?
- o Do you initiate knowledge management projects to find ways to capture, interpret, organise, disseminate and capitalize what you have learnt?
- o Do your project teams hold lessons learned meetings during and/or at the end of the projects reflecting on what they did well and also on what they didnt do so well?
- o Do you encourage exchanges among technical experts who have vast company knowledge stored in their heads?
- o Do you catalogue the competencies of employees to help match them up with other individuals or project team who could use their expertise?
- o How do you enhance the training programs to use what was learned?
- o Do your engineers share best practices they have picked up from outside reading, conferences etc.?

Gus Gaynor, former President of IEEE Engineering Management Society Board invites you to consider how your organisation can capture and use its vital knowledge. The potential pay off in time and cost savings, everyones enjoyment of work, and ultimately the success of the organisation, is huge and just waiting to be realised.

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ENERGY IN INDIA

India's share of Energy Resources

Sources	Unit	World	India	%of world
Oil	mt	138,300	800	0.58
Gas	mtoe	139,700	700	0.50
Coal	mt	1,031,610	69,947	6.78
Hydel	mtoe	218	30	13.76

Nuclear	mtoe	596	2	0.34
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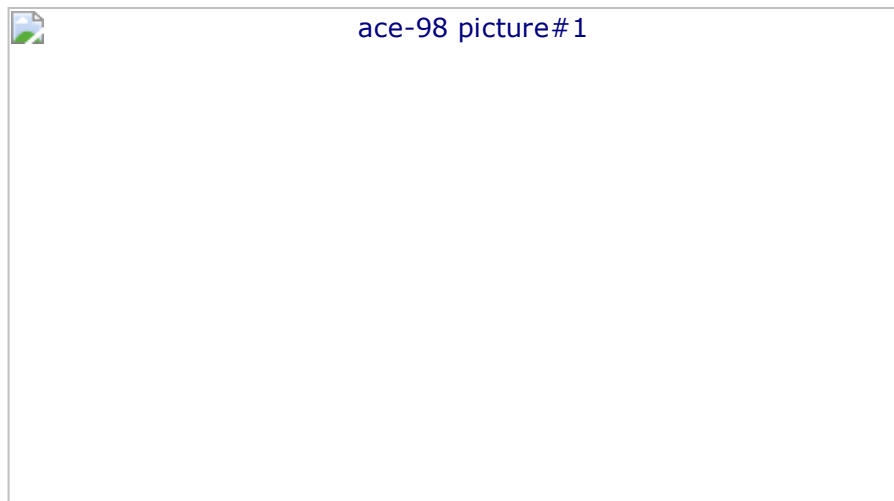
WELCOME OPPOSITION

- The newer and better a thing is, the more opposition it will meet with the onset.
- The more opposition there is, the better. Does a river acquire velocity, unless there is resistance?
- It is opposition which foretells success!

Swami Vivekananda

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ACE-98 A REPORT FROM AHMEDABAD



Lights on ! at ACE'98 in Ahmedabad

The 1998 Annual Conference and Exhibition (ACE - 98) of India Council was hosted by Gujarat Section. It was organized at the Institute of Reservoir Studies, O.N.G.C. Campus, Ahmedabad.

Since NETWORKING and INTERNET have assumed a great importance today, it was chosen as the theme of the Conference. Gujarat has a large base of both upstream and down-stream petro-chemical industries. Hence it was decided that EE application in these industries must be made the focal area.

Thus at Ahmedabad were organised the twin Conferences as follows. :

1. The International Conference on Networking India and the World (CNIW-98) : Dec. 9-12, 1998.
2. The International Conference on the Applications of Computers, Electronics and Electrical Engg. to the Petroleum and Chemical Industries (CEEPCI-98) : Dec 10-12, 1998.

The Petroleum and Chemical Industries Committee of the IEEE Industry Applications Society organizes every year, since 1954, a Conference similar to CEEPCI-98. The Industry Applications

Society Chapter of Gujarat Section had been asked by the Area Chair, Region 10 (West), IEEE Industry Applications Society to hold a similar Conference in 1997.

However the Chapter decided to hold it in 1998 jointly with ACE-98.

Professor Tadao Ichikawa, Hiroshima University, is the Chairman of the task force on Youth for Research in Computing (YUFORIC).

YUFORIC has been set up by IEEE Computer Society and it organizes meetings of Research Students along with IEEE Conferences. Professor A.R. Pandya, DDIT, Nadiad and Shri Shrikant Malik L&T Inf. Systems, Bombay helped organize the YUFORIC sessions jointly with CNIW-98.

The Pre-Conference Tutorials for CNIW-98 were inaugurated at a brief function by Dr. H.M. Desai, Ag. Vice-Chancellor, Gujarat University on Dec 9, 1998. The following tutorials were held on Dec 9 and Dec 10 under this program. :

- i. HTML and Web page construction
Dr. Charles Rubenstein
Pratt Institute, New York
- ii. Computer Security and Networks
Dr. Bruce Barnes
Gregory Mason University, USA
- iii. WEB Engineering : Methodology for Developing Large Web Sites.
Dr. Athula Ginige
University of Western Australia
- iv. Intelligent Agents and their Applications
Dr. San Murugesan
University of Western Australia

For CEEPCI-98, the inauguration of the Pre-Conference tutorials was by Shri S. K. Sood, General Manager, IRS ONGC on Dec 10, 1998. The tutorials were as follows. :

- i. Variable Speed Drives
Dr. S.P. Das, IIT Kanpur
- ii. Process Control Computers
Dr. M. Krishna Kumar, IISc, Bangalore

The Conferences were inaugurated at 5 P.M. on Dec. 10, 1998 by Shri N. Lal, Executive Director O.N.G.C in the presence of Shri H. L. Bajaj, Director IEEE Region 10 and Executive Director NTPC.

The Conferences had a rich fare of Invited Talks, Keynote Speeches, Panel Discussions and Special Talks for research students.

The participants were 176 delegates, 46 students and research workers, 26 invited & key-note speakers and 73 other invitees. The technical presentations at the Conferences were at a high level and the Local Implementation Committee & IEEE Student Volunteers took excellent care for the other arrangement.

ACE-98 from 11-12 December 1998 had the following programs:

1. INVITED TALKS : INTERNET TECHNOLOGIES : Today & Tomorrow :
Dr. S. Ramani, NCST
CURRICULUM 91-2001
Dr. Bruce Barnes
Gregory Mason University, USA
PREPARING FOR INTERNET EXPLOSION-an educationists view
Dr. Yogesh Deshpande
UWS, Australia

2. SPECIAL SESSIONS : Dr . M. Farooq,
Royal Military College of Engg, Canada
Dr. C. H. Mehta ONGC, Dehradun
Dr. C. S. Jain, IRS

3. TECHNICAL SESSIONS: CEEPCI-98 - 11,12 Dec. 1998 Condition Monitoring and life Extension Studies - Shri R.C. Shenoy,
TATA Hydro P S Co. Motor and drive systems -
Dr. S.P. Das, IIT Kanpur Power Electronics and Control -
Dr. V.R. Kanetkar, ABB Computer Applications and Estimation -
Dr. C. H. Mehta, ONGC, Dehradun Electrical Systems Performance, Control and Protection -
Shri. S. C. Buch, GE Consultants Process Control Automation -
Shri M. N. Vyas, IPCL

4. CHAIRMEN OF SESSIONS : CNIW- 98 Prof. M. Farooq,
Royal Military College , Canada
Dr D.V.R. Seshadri
Multimedia Frontier, Gandhi Nagar
Maj. Gen. (Dr.) R. K. Bagga, (Retd).
Prof. (IT), ASCI, Hydedrabad
Dr. Satyajit Chakraborty,
Institute of Engineering
and Management W.B.

5. PANEL DISCUSSION - I Topic : INTERNET TECHNOLOGIES Today and Tomorrow
Dr. S. Ramani, Chairman, NCST
Maj. Gen. (Dr.) R. K. Bagga, (Retd)
Prof. (IT), ASCI, Hyderabad
Dr. Bruce Barnes,
Gregory Mason University, USA
Dr. San Murugesan,
University of Western Australia
Shri Dhiren Bhai Patel,
Amtech Electronics Pvt. Ltd., Gandhinagar

PANEL DISCUSSION-II Topic : Future Trends in Networking
Shri S.K. Gupta, Chairman, DOT
Dr. Charles Rubenstein,
Pratt Institute, NewYork Dr. Athula Ginige,
University of Western Australia Mr. C.J. Shah, H.C.L. Infosys
Mr. Amit Shukla, Netlink

6. IEEE YOUTH FOR RESEARCH IN COMPUTING (YUFORIC) TASK FORCE PROGRAM

Program Guides: Dr. S. Ramani, NCST
Dr. Charles Rubenstein, Pratt Institute
Dr. Athula Ginige, University of Western Australia



From left 1. Mr. H.L. Bajaj (Director Region 10), 3. Dr. A.K. Aggarwal (Present Chairman IC), 4. Dr. R.K. Bagga (then Chairman IC) -- at the ACE'98

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TECHNOLOGY CORNER

Fibre based tweezers to trap micro objects

The first optical trapping system that uses optical fibers has been made by researchers at Fukuyama University at Hiroshima, Japan. These tweezers can move trapped micro objects such as microorganisms and biological cells synchronized to the movement of the trapping fibre without physical contact. It is very useful for manipulating biological cells as it is non-invasive. Laser beam trapping is based on the principle of controlling the electromagnetic momentum of the trapped particle.

Chaos theory meets Computer

The Chaos theory, which came to limelight in the 1980s is now hitting a mark with the Computers of today and tomorrow. In 1998 September, William L. Ditto of the Georgia Institute of Technology and Sudeshna Sinha of the Institute of Mathematical Science in Madras published the first ever design for a chaotic computer. So far, the machine have only been simulated mathematically. It seems it will take several months to build a computer using this theory. Daniel J. Gauthier of Duke University feels the design is very interesting. Why? Chaotic machines can add and multiply numbers, handle boolean logic and even perform more specialised calculations. What Ditto aims and believes their computer will do is to do everything current computers do and more!

Whether the Chaotic Computer can do so faster and cheaper is yet not known. Semiconductor computers have such head start, getting it in the embrace of Chaos can take time. Anyhow, the designers propose to use lasers and analogue electronic circuits in the third millennium computing wizard which will have chaotic and not random elements to do the work. It is definitely worth having to wait - only months!!

Your hair will tell what you ate!

Strange indeed! Eat meat or eat vegetables and it shines through your hair. Stephen A. Macko, a professor of Environmental Sciences at University of Virginia in Charlottesville surprised his students by his strange chemical analysis. It takes about six days for what you eat to show up in the hair. He is applying his technique to hairs even older than 5000 years. The professor seems to

have more hair in his lab than in a barber shop!

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Quotable Quotes

The most wonderfully complex fictional character is much less complicated than the most boring actual person.
- Elizabeth Mccracken

Ideas are like wandering sons. They show up when you least expect them.
- Bern Williams

The people who make a difference are not ones with the credentials, but the ones with the concern.
- Max Lucado

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FORTHCOMING EVENTS

National Seminar on
DISTRIBUTED COMPUTING: Emerging Technologies and Applications
26-27 February 1999
TRIVANDRUM
organised by:
Computer Society of India, Trivandrum Chapter
IEEE Kerala Section
cosponsored by:
IETE Trivandrum Local Centre
IE(India) Kerala State Centre

Separate islands of local area network (LAN) based computing are linked by public and private LANs to form enterprise networks. New technologies like Java RMI, CORBA and DCOM are emerging which provides infrastructure and environment for faster development of scalable distributed applications. The Seminar will focus on overview of these technologies, their inter operability and software development using these technologies.

Org. Com. Chairman: Prof. R. Sahadevan

Prog. Com. Chairman: Dr. K. S. Raman

Delegate Registration Form

DISCOM 99

National Seminar on Distributed Computing: Emerging Technologies and Applications
26-27 February 1999, Trivandrum

Name:

Designation:

Organisation:

Address for Communication:

Phone:

Fax:

E-mail:

Category:Member CSI/IEEE/IETE/IE(I)

Cheque/DD details:

- o No:
- o Date:
- o Rs:

Signature:

Mail to:
Sunilkumar I.N.
Convener, DISCOM 99
IEEE/CSI, I Floor Cherians Square
Ambujavilasam Road
Trivandrum 695 001

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GUJARAT CALLING

Gujarat Section invites you for:

Programmes on

1. Object Oriented Concepts and C++

by Ms. Bageshree Shevade & Mr. Chirag Gandhi
99 Feb -2,4,8,10,12,15,17 &19

2. VSAT Networks

by Mr. Tejas Mehta
99 Feb 22

3. Advanced ORACLE database architecture

by Mr. Tejas Mehta
99 Feb 26

All talks at 6 pm.

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EDITORIAL

Academic Programmes

The new office bearers of the India Council, its various Chapters, its Ten Sections and dozens of student chapters have by now settled for planning their activities for the last year of the Second Millennium. So much so good. The Bulletin looks forward to their co-operation in sending matter for publication including activity photographs and also the one time support of a months expenses. The academic activities can mainly be of two types. First and foremost, the elders who are knowledgeable and experienced should pass on their expertise to the student community to

get them copied, multiplied and practised - with a multiplier effect. These purely educational programmes are not to be limited to student chapter technical activities, but to be made a perceptible part of the Sections lecture programmes.

The second type could be of more serious, but simpler tutorial sessions for the working population of engineers in the country, who are compelled to update their technical knowledge and skills almost every now and then. These could be done by the copious use of video films and other electronic media, when the central outfit of IEEE is more than adequately equipped. We in India very rarely utilise these opportunities. May be 1999 can open the flood gates for such practically oriented tutorial activities. The national and international seminars and workshops organised by the IC and its Sections with much painstaking efforts as in ACE 98, can be better appreciated by the members and the student volunteers with such preparatory technical programmes spread through out the year. They are not to become the icing on the cake, as many think of such events. Let us hope that the Sections will continue to lay emphasis on these aspects and that the members will make best use of such opportunities.

One other thing the Sections can plan for is, their building of bridges to various other social and professional organisations active in Science and Society oriented projects in the country.

Trivandrum Prof. V K Damodaran
02 feb. 1999 Editor



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