



THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS

Newsletter

40
years

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FROM PRESIDENTS' DESK

Members may be aware that from its early days, our Institution has been regularly providing a forum for discussion on all major issues engaging their attention, and has been contributing to national development through its various Reports/Recommendations. A new hall-mark was reached in this activity on March 7, 1994, when a highly successful seminar - "Electronics Industry : The Challenge of Globalization", was organized by the IETE at Delton Hall, New Delhi by bringing together, for the first time, all major industry associations in our areas, viz, CETMA, ELCINA, IEEMA, MAIT & TEMA. In fact, the preparations for this seminar had begun almost in May 1993 when our Council had set up a Study Group under the National Policies Advisory Committee to discuss this issue, particularly in respect of the electronic components sector together with the industry associations. This study has brought out an interim Report/Recommendations on fiscal policy/tariff structure, export possibilities, new technologies, technical manpower development and selectivity in thrust areas, which was submitted to the Government of India in December 1993. Encouraged by the interest of the Government on these recommendations, some of which have been translated into reality in the various concessions given in the national budget proposals for 1994-95, this seminar attracted special significance. A report on this seminar is now being finalized and would be made available to the members in the near future.

Members would be pleased to note that IETE is now becoming more visible through its programmes and activities. Our Book Series in association with Tata McGraw Hill, now has three books at advanced level, viz, Power Electronics & Drives, Signal Processing, Micro-electronics and is already attracting wide attention. Another series on popularisation of electronics jointly with NBT will be launched soon, with the first book on "Robots and Robotics". Our 25th Mid-Term Symposium on "Electronic Access & Security Systems" held at Calcutta on April 9-10, 1994 was a grand success. Many local centres are now engaged in NORAD for training women and SUSIE for training school children and are active in national development. Besides, our Sub-centres are also expanding, one of them, viz, Pilani being upgraded on March 25, 1994 to a full Centre. We hope that these and other activities will further stimulate IETE in the service of our members and our society.

Bangalore

B S Sonde
President

PRESIDENT ELECT



Brig SVS Chowdhry, Distinguished Fellow, and Vice President, IETE has been elected the President for the year 1994-95. He will assume office on the

1st of Oct 94.

NEWS FROM HEADQUARTERS

Report on the 25th Mid Term Symposium

The 25th Mid Term Symposium of the Institution on the theme *Electronic Access and Security Systems* was successfully conducted during 9th to 10th April at Calcutta in Vidyut Bhavan Auditorium, Salt Lake city. Shri Satya Sadhan Chakroborty, Hon'ble Minister for Education, West Bengal inaugurated the function. The Key-note address during the Inaugural Session was delivered by Shri N Vittal, Chairman Telecom Commission and Secretary DOE. The 21st Vikram Sarabhai Memorial Lecture was delivered by Dr A P Mitra, Bhatnagar Fellow and Chairman, Expert Advisory Committee of Ministry of Environment & Forests, on the subject *The Changing Atmosphere - Back to the Future*. The 9th Lal C

Verman Award was presented to Shri A K Srivastav, Executive Director, ITI Ltd, Bangalore who delivered a lecture on *ISO 9000 and its Impact on Organisations* on the morning of 10th April.

The Inaugural Session also saw the release of Vol III of the IETE Book Series on *Microelectronics*, edited by Dr W S Khokle & Dr M J Zarabi and a Souvenir on the occasion by the Chief Guest. The four technical sessions spanning two days were devoted to Multimedia Networks & Network Access Service Information Systems, Security Systems and Special Applications-Standards & Protocols. The technical sessions were followed by Panel Discussions.

The IETE-Calcutta Centre's commendable efforts in conducting the symposium efficiently are very much appreciated. IETE also thanks Webel Telecommunication Industries Ltd, Peerless General Finance & Investment Ltd, Siemens, Telematics Ltd, VSNL and Andrew Yule Co Ltd for hosting the lunches and dinners during the symposium.

Seminar on Electronics Industry : The Challenge of Globalization

A one-day seminar was organized by the IETE together with CETMA, ELCINA, IEEMA, MAIT & TEMA. It was sponsored by DOE & DOT and was a well attended function held at Delton Hall, IETE HQ on 7th March 1994. In his Key-note address Shri N Vittal, Secy DOE & Chairman, Telecom Commission expressed his great appreciation of the fact that the IETE had taken the initiative to convene so appropriate a forum with a theme covering the entire electronic spectra in a heretofore unheard of joint session of all Electronic Industry Associations. "Innovate or loose" is the advise Shri Vittal has for the Indian



A view of the dias during the 7th March Seminar

Industry, to succeed in a liberalized regime stripped of all protective mantle by the Govt.

The seminar gathering was welcomed by Lt Gen SG Mookerjee PVSM, AVSM, VSM (Retd), Chairman NPAC of IETE. A brief background of the seminar was presented by Shri Gautam Soni, Sr Director, DOE. Prof B S Sonde, President IETE highlighted IETE's efforts in preparing an interim report on the Components Industry for the consideration of the Govt prior to the budget. The seminar was conducted in two technical sessions devoted to **Manufacturing and Technology: Global Trends and Competitive Advantage and Strategy & Policy Framework** for global Market Entry respectively. The first session was chaired by Shri Om Wadhwa, JV Electronics Ltd and the second session by Prof B S Sonde. Dr M B Athreya delivered the keynote address in session II. The lists of talks include those given by, Mr Manohar David, Philips India Ltd, Dr Sira G Rao, ITI, Shri Y P Singh, Siemens India Ltd, Dr Behram H Wadia, Behram Wadia & Associates, Bikram Dasgupta, PCL, A De, ICICI, Dr P Raja Mohan Rao, President TEEMA, Shri Gulu Mirchandani, President CETMA, Shri A Soota, President MAIT and Prof Jai P

Singh, INMARSAT.

The salient points of the deliberation were :

- There is a need for serious analysis to determine areas of competitive advantage in both export and domestic markets and to consolidate human, material and financial resources for these.
- Key issues to be tackled by the industrialists in the globalization process are (i) quality (ii) meeting of deadlines, packaging and customer service (iii) ability to manage R&D and productivity.
- Action to achieve this include (i) consolidation of people and resources for complementing strength (ii) strategic alliance with foreign companies (ii) restructuring organisational design and business portfolio, upgrading manufacturing and process infrastructure (iv) marketing strategy (target to achieve 20/80 percent proportion in domestic/export market).
- The Govt should manage the trade regime by taking timely action against adverse trade repercussions, promote R&D and human resource development.

Council Election 1994-97

The following have been elected to the IETE Council (1994-97).

Shri M C Agarwal, Siemens, New Delhi
Lt Gen M K Ghosh, AVSM, ADC, SO-in-C,
New Delhi
Dr C Rao Kasarabada, ECIL, Hyderabad
Prof A Kumar, IISc, Bangalore
Dr S Pal, ISRO, Bangalore
Maj Gen Prem Prakash (Retd), New Delhi
Shri S C Tiwari, Indian Airlines, New Delhi

Sustaining Donor Member Representative Election 1994-97

M/s Mekaster have been elected the Representative of Sustaining Donor Members to the Council and Shri V M Trehan, CMD will represent.

The 26th World Telecommunication Day (17 May, 1994)

The theme for the 26th World Telecom Day is **Telecommunication and Culture**. The IETE HQ in collaboration with DLC will celebrate the day in a specially arranged function on the 17th May at 1800 hrs at Delton Hall. Prof B S Sonde, President IETE will preside over the function and Lt Gen S G Mookerjee Chairman, NPAC will be the convenor. Eminent speakers are being invited to speak on the theme. All members are invited to join the celebration to be held at the HQ as well as at the functions arranged at various local centres.

Upgradation of Pilani Sub-Centre to a Local Centre

IETE Sub-centre at Pilani was upgraded to a Local Centre on 25th Mar 94 by Prof B S Sonde, President, IETE. Prof R N Biswas, Director, CEERI, Pilani presided over the function. Prof S C Dutta Roy and Shri O P N Calla, Council Members were also present.

IETE Students' Forums (ISF)

IETE Students' Forums have

been established in the following Engineering Colleges/Institutes :

- National Institute of Engineering, Mysore
- Gogte Institute of Technology, Belgaum
- College of Engg, Anna University, Madras
- Dr MGR College of Engg, Madras
- Govt Engg College, Pune
- Bharati Vidyapeeth's College of Engg, Pune
- Marathwada Institute of Technology, Aurangabad
- Walchand College of Engg, Sholapur (Maharashtra)
- Moffakkam Jah College of Engg, Hyderabad
- Mohammed Sathak College of Engg, Kilakarai, Tamil Nadu
- Satyabhama College of Engg, Madras
- Punjab Engg College, Chandigarh

Reimbursement of Membership Fee

The Director General, Doordarshan, Govt of India, has decided to reimburse 90% of the Annual Membership/ Fellowship fee of the Institution of Electronics and Telecommunication Engineers for the Engg Officers of Doordarshan, who have put in at least five years service in IBES cadre in Doordarshan. (Ref No. 13(28)/IETE/93-E-VII dt Dec 17, 93).

Allotment of Land by WEBEL to Calcutta Centre

A plot of land - 10800 sq ft, has been offered to the Calcutta Centre by WEBEL in their Electronics Complex at Salt Lake at a cost of Rs 4 lakhs. The Council of IETE acknowledge with gratitude the generous gesture of WEBEL.

Summer School in Electronics (SUSIE)

A scheme for hobby development of students in the age group of 12-17 years has been granted to IETE by the Dept of Electronics and is to be implemented at Madras and Chandigarh

IETE Centres during the summer vacation of 1994. During this period, it is expected that approximately 200 students will be trained at these Centres.

NORAD Scheme

The Dept of Women and Child Development (DWCD), Ministry of HRD has granted an extension of the NORAD scheme under which training of poor, needy urban women as data entry operators is already underway. The new scheme has an enhanced syllabi on completion of which a candidate is eligible to appear for DOEACCs' O-Level examination. The course duration is extended to one year. This scheme is to be implemented at Bangalore, Bombay, Madras and Pune for a batch of 120 students each. The centres at Ahmedabad, Calcutta, Delhi, Hyderabad, Jabalpur and Trivandrum who are already running the course have been sanctioned another batch of 50 students each under the extended scheme.

Academic News

The following Universities have recognised AMIETE in 1994.

1. Goa University, Vide GU/I/Recog/Engg/130/94/18259 dated 17.2.94.
2. Sardar Patel University, Vide D B/338 dated 25.4.94.

IETE-CASET-DOE Lecture Series

An expert lecture series on **Neural Networks in Quality Control and Systems Diagnosis** was organised jointly by IETE-CASET and MAEP-DOE from 11-13th April 94. The main speaker was Prof Popovic a well known UNDP expert in process control from University of Bremen Germany. Prof S Banerjee and Prof H M Gupta from IIT Delhi delivered lectures on Back propagation, Pattern-Recognition and Morphology of Image Processing. The participants were from various reputed organizations like ECIL, DIT, SAC, DRDO.

NEWS FROM LOCAL CENTRES

Aligarh

The IETE Aligarh Centre organised a Technical Quiz Contest for undergraduate students of Electrical Engineering, Electronics Engineering and Computer Engineering on Tuesday, 19th April, 1994. The Quiz contest was held in the premises of Z H College of Engineering & Technology, A M U, Aligarh and about 50 students participated in it.

Bangalore

Under the scheme of Technical Infoburst, the following activities and talks were arranged during January - March 1994.

- Inauguration of coaching classes for AMIETE students (Maths & NWT) : Sri J Parama Sivam, LRDE (26/01/94)
- Inauguration of Coaching Classes for AMIETE students (Matl & Procs) : Sri K Shankar Narayanan, Retd Dir, DoT (27/01/94)
- Waveguides : Sri A N Murthy, Ex Dir, DRDO (29/01/94)
- Spread Spectrum Communication : Sri Velu Swamy, Scientist, LRDE (30/01/94)
- Slotted Arrays : Dr S Christopher, LRDE (05/02/94)
- Microwave Link : Prof A Kumar, IISc (06/02/94)
- Digital Cellular Systems : Sri Y S Rao, Vice President, BPL (12/02/94)
- Fundamentals of Electromagnetics : Sri A N Murthy, Retd Dir, DRDO (13/02/94)
- Fundamentals of Digital Techniques : Sri J Parama Sivam, LRDE (13/02/94)

● Principles of Telemetry : Sri R K Rajangam, ISAC (19/02/94)

● Solar Cells : Sri N Srinivasa Murthy, ISAC (20/02/94)

● A/D and D/A Converters : Sri L G M Prakashan, LRDE (26/02/94)

● Microwave Components : Sri A N Murthy, Ex Dir, DRDO (27/02/94)

● Noise in Communication Systems : Sri Veluswamy, DRDO (05/03/94)

● Magnetic Materials : Sri K Shankara Narayana, Retd Dir, DoT (06/03/94)

● Principles of Telex : Sri B K Bhat, Div Engineer, DoT (12/03/94)

● Maxwell Equations : Sri A N Murthy, Retd Dir DRDO (13/03/94)

● EMI and EMC : Sri S Desikamani, Dir, ETDC (19/03/94)

● Reliability and Quality Control : Sri G R Dayananda, Dy Dir, ETDC (20/03/94)

● Transducers : Sri Y K Jain, LEOS (26/03/94)

● Introduction to Quantum Physics : Sri A N Murthy, Ex Dir, DRDO (27/03/94)

Hyderabad

● The Hyderabad IETE Centre cosponsored a two day workshop on Self Management of Executive Tension (SMET) with Vivekananda Kendra of Yoga, Hyderabad Chapter on 19th Feb '94.

● The National Science Day was celebrated on 20th Feb '94 in collaboration with AP Academy of Sciences, Hyderabad. Dr M Krishna Murthy (FIETE) Retd Chief Controller, DRDO gave a speech on *Relevance of Sir C V Raman Today* and Shri U V Warlu, Past Chairman IETE Hyderabad

Centre gave a talk on *Use of Non Conventional Energy Sources* and Padmabhushan Dr P Siva Reddy, President, AP Academy of Sciences presided over the function.

● The Data Entry Operators course under NORAD Scheme was inaugurated on 16th March '94.

● The IETE Council Election work and IETE Delhi Centre Executive Election works were taken up at IETE Hyderabad Centre with patriarch of the centre, Shri M Madan Mohan as the Returning Officer. The nearly two month long actively culminated with counting being taken up on April 2, 1994 in the presence of the following Observers deputed from Headquarters.

Prof R K Arora
Prof K K Biswas
Brig S V S Chowdhry
Prof B L Deekshatulu
Shri R N Guru
Lt Gen S G Mookerjee
Dr P K Patwardhan

Kanpur

A workshop on Video Teleconferencing was held on 01 Apr 94 at Lecture Hall L6, IIT, Kanpur. Prof R C Malhotra, Director, IIT, Kanpur was the Chief Guest and Prof M N Faruqi, Vice-Chancellor, AMU, Aligarh delivered the Key-note address on this occasion.

Madras

Prof B S Sonde, President IETE inaugurated the Electronics Laboratory at the centre on 5th March 1994. The lab was set up using a grant of Rs 1 lakh received from the HQ for the purpose and is expected to greatly boost the practical knowledge of AMIETE/DIP IETE students. Prof Sonde delivered a lecture on *Widening World of Telecommunication* on the occasion.



Prof B S Sonde inaugurating the Electronics Lab at the Madras Local Centre

Patna

A lecture on Radio Paging by Shri H R Singh, Executive Member, IETE Patna Centre and Superintending Engineer, All India Radio, Patna was held on 15 Apr 94.

Pune

The Pune centre of the IETE successfully organised a National level seminar on *Optical Fibre Communication*. The seminar was inaugurated by Shri H K Firodia, the well known industrialist, in the presence of dignitaries like Shri M G Kulkarni, Member, Telecom Commission, Dr V Nagarajan, Managing Director, OPTEL Telecommunications Ltd, Bhopal, Prof B S Sonde, President, IETE and other invitees from the city of Pune. Shri M Y Thote, Chairman of the Pune Centre welcomed the guests and participants and Shri M N Shukla, convened the seminar. Shri Firodia in his inaugural address stressed on the need for good communication service and voiced his expectations of this new technology in improving our system. In his Key-note address Dr Nagarajan traced the evolution of Optical Communication Systems and dwelt on it's status in India as well as at the global level. He talked

on it's future applications in the Indian Telecom Network. Prof Sonde who presided over the function said that photonics will become increasingly important for bulk transport in communications and in switching, application. Shri G K Dawra, Hony Secretary of the centre proposed a vote of thanks.

There were five technical sessions each chaired by a prominent person in the field. Session I on Optical Fibre Communication Systems, was

chaired by Shri B B Karandikar, Chief GM, Maharashtra Telecom Circle. Session II on Performance and Quality of OFC systems, was chaired by Shri V V Chaudhari, Chief GM Telecom Maintenance, Western Telecom Region, Bombay. Session III on Manufacture, Network Management and Misc Aspect of OFC was chaired by Shri Pradeep Kumar, General Manager, Pune Telecoms. Session IV on Non-Public Telecommunication Network Applications of OFC was chaired by Dr Vijay P Bhatkar, Executive Director, C-DAC. Session V on Future Trends in Optical Fibre Technology was chaired by Shri B N Iyengar, Chief GM MTNL Bombay. The proceedings of the seminar is a compilation of more than thirty papers. The quality and technical content of the papers are excellent. Shri M G Kulkarni, Member Telecomm Commission steered the panel discussions at the end of the technical sessions.

TECHNICAL NEWS

WTDC '94

The First World Telecommunication Development Conference (WTDC 94) held by the International



Prof B S Sonde delivering the Presidential Address during the Seminar on Optical Fibre Communication

Telecommunication Union (ITU) took place in Buenos Aires, Argentina from 21 to 29 March 1994.

The purpose of the Conference was (i) to review the progress made in telecommunication development since publication in December 1984 of the report *The Missing Link* (ii) to set the goals and objectives up to the year 2000 and to define and establish a common vision and strategies for achieving balanced telecommunication development by and beyond the end of the century; and (iii) to approve an action plan which translates the goals and objectives agreed upon into a concrete work programme to be implemented over the next four years in cooperation

with partners of the development sector.

The conference reports show that global telecommunication market boomed in 1992. The size of the telecommunication market was estimated at US\$535 billion in 1992 according to ITU report. Revenues for services increased 8% from previous year whereas equipment revenues rose by 9% in 1992. Yet, despite the size and growth of the telecommunication sector, there are still considerable disparities. The 24 industrial nations of the OECD contributed 85% of global telecommunication service revenues although they are home to only 16% of the world's population. And high income countries, with only 15% of the global population

have 71% of the world's telephone lines.

The success stories shows how Botswana, a least developed country developed its telecommunication network while at the same time installed state-of-the-art technology. Turkey is noteworthy because it is one example where a government-run PTT dramatically increased the number of lines despite a relatively large population and a sizable land area. The Republic of Korea is examined as it clearly illustrates how quickly teledensity can converge with that of developed countries. Chile shows the rapid impact that privatization can have on network growth.

FORUM

Our country is on the road to competitive market and free economy. The new budget has laid the path for growth in future. It is now for the industry and technocrats to ride the horse and march into the new world. However, politics and economics are two inseparable parts of the same mechanism. GATT and similar agreements/drafts are the outcome of this marriage.

Ever since human beings learnt to organise, there has been a conscious effort to keep various sections of society segregated. Haves & Have-nots and Developed & Developing are two aspects of the same struggle from micro to macro levels of world community. Time and again local industry has cried for level playing grounds. Threat of MNCs invading protected areas has made many uncomfortable. Why?

Both the struggles for parity between Haves and Have-nots and quest for level playing ground are caused by fear. The Haves fear to lose the gains and the Have-nots fear of not being able to meet the quality and efficiency necessary for the game. Both are based on lack of understanding. It is well

known that developing countries cannot match the infrastructures of MNCs of developed nations. But they can match in knowledge and effort. In fact if software industry is an example then countries like India can improve in this field by using analytical capabilities of our software professionals to bridge the gap caused by better infrastructures of MNCs and create an understanding by giving good service without becoming a permanent load.

Our planners have recognised this fact and launched new schemes of education in computer hardware and software. But, this industry needs the support of our businessmen and professionals working abroad. It is well-known fact that Indian engineers and professionals do extremely well outside India. Mainly because they get good infrastructure to use their capabilities. But once settled there are not many who would like to return or help others back home for various reasons. The result is that the host countries lose faith in their promises and many governments are tightening their visa rules as a counter measure. We need to break this lock by creating entries for those who want to come back, even for short

periods, as well as enter into trade agreements and invest in offices abroad to assure the developed countries that our professionals are going there only to use their infrastructures and give better service and will return home on completion. We also need to create more capable organisations at home to provide channels as well as laws that ensure their return on completion.

All nations are talking of a new world order. No new world order can be successful without lasting values and a code of behaviour based on mutual trust and respect. Technocrats and Professionals can help in creating the values and trust. While all talk of technologies and systems, there is a need to talk of values and codes also. After all technology is only to improve the life and environment and help people grow. But, for that environment and people need to exist in harmony.

It is well known that mis-utilization of scientific growth sometimes causes other dangers also. While nation moves, let IETEians also ponder on these dangers and create bridges for lasting growth and development.

Cdr(Dr) H S Sharma (Retd)
Hony Editor

ANNOUNCEMENT

Conference on Emerging Optoelectronic Technologies CEOT 94

(with international participation)

18-22 July 1994

Venue : Indian Institute of Science,
Bangalore

Organized by IETE jointly with IISc, JNCASR & SPIE

July 18-19 Professional Development Courses on Advanced
Topics

July 20-22 Conference : 125 Contributed & Invited papers
to be presented in three parallel sessions;
Plenary Lectures, Panel Discussion etc.

For Programme details & Registration Contact :

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Book Series

The following (Hard Bound) Volumes of the IETE Book
Series published by Tata McGraw Hill publishing company
are available for sale (limited copies)

Vol 1 Power Electronics and Drives Rs.275/-
Edited by G K Dubey & C Rao Kasarabada

Vol 2 Signal Processing Rs.235/-
Edited by Surendra Prasad & V U Reddy

Vol 3 Microelectronics Rs.260/-
Edited by W S Khokle and M J Zarabi

The following books brought out on the occasion of the
40th Foundation Day of IETE are also available for sale

IETE-The First Four Decades by R P Shenoy Rs.40/-

40th Anniversary Commemoration Volume Rs.60/-

Announcement & Call for Papers

**37th Annual Technical Convention (ATC '94)
on**

Globalisation of Networks

1-2 Oct 1994

Venue : Delton Hall, IETE HQ, New Delhi.

Contributed papers are invited on the following topics :

Public and Private Networks
Global Networks
PCN, Optical Networks and Computer Networks
Satellite Networks

Receipt of Abstracts
Paper Acceptance notice
Camera Ready Copy (for
inclusion in Proceedings)

June 25, 1994
July 12, 1994
August 16, 1994

Contact Address :

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New Delhi - 110 003

List of Organisations which Recognise DOEACC Qualifications for Job Purposes/Incentive Scheme

Public Sector Units (PSU)/Government

All India Council of Technical Education
Govt of Tamil Nadu
Videsh Sanchar Nigam Ltd
Railway Recruitment Board
Hindustan Aeronautics Ltd
MP Cooperative Oil Seed Growers Federation Ltd
Instrumentation Ltd Kota
CGDA (Incentive Scheme)
Indian Bank and other Banks (Incentive Scheme)
MSEB , Shipping Corporation of India Ltd

Private Sector

Vijaya Bank, Apple Industries, Square D Software Ltd

Accreditation for DOEACC Schemes

474 Institution have been granted provisional
accreditation for DOEACC 'O' level exam, 63 Institution for
'A' level, 11 Institution for 'B' level & 10 for 'C' level exam
so far.

CALENDAR OF EVENTS

Subjects	Dates	Venue	Contact
Commutech '94, National Seminar on Computer and Communication	21-22 May, 1994	Trivandrum	N Haridasan, Hony Secy, IETE Trivandrum Centre, C/o SDO Phones, Trivandrum 695014
International Conference on Computer Systems and Education	22-25, June 1994	Bangalore	N Balakrishnan Supercomputer Education & Research Centre, IISc, Bangalore 560012
Pacific Telecommunications Council PTC- Sydney Conference	29 June-1 July, 1994	Sydney, Australia	PTC Sydney Conference PO Box 661, Moonee Ponds vic 3039 Australia
International Conference on Emerging Optoelectronic Technologies (CEOT '94)	18-22, July '94	Bangalore	A Selvarajan, ECE Dept, IISc, Bangalore 560 012
3rd IASTED International Conference on Reliability Quality Control and Risk Assessment	3-5 Oct, 1994	Washington, USA	IASTED Secretariat ROCR '94, 18H West Katella Avenue #101, Anaheim California 92804, USA
Communication India '94 Exhibition & Conference (CI '94)	25-28, Oct 1994	New Delhi	President, Exhibitions India E-6 Defence Colony New Delhi 110 024
INTRONICS '94- International Seminar on Industrial Electronics, Drives & Automation Systems	24-25 Nov 1994	Bangalore	M B Telong, Org Secy, IEEMA 501, Kakkad Chambers, Dr Annie Besant Rd, Worli Bombay 400018
Pronic '94 : International Exhibition of Equipment & Products for Electronics	5-9 Dec 1994	Paris Nord, Villepinte, France	Manager, Exhibitions India, E-6 Defence Colony, New Delhi 110 024
IEEE/IAS International Conference on Industrial Automation and Control	5-7 Jan, 1995	Hyderabad	E Bhagiratha Rao, Conference General Chairman, IEE/IAS Conference Engg Staff College of India, Hyderabad 500004
PTC '95 (The Pacific Telecomm Council's 17th Annual Conference) on "Convergence : Closing the gap"	22-26 Jan, '95	Honolulu, Hawaii	2454, South Beretania street Suite 302, Honolulu HI 96826, USA
National Conference on Communications (NCC '95)	March, 1995	Kanpur	Sanjay K Bose Dept of Electrical Engineering IIT, Kanpur 208 016
ITU's Telecom 95 Forum Technology Summit & Strategic Summit	3-11, Oct 1995	Geneva	B S Sonde, President IETE, 2, Institutional Area, Lodi Road New Delhi 110 003 Or IISc, Bangalore 560 012

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