



सह वीर्यं करवावहै

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IETE NEWSLETTER

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Key Pages

- News from Head Quarters
 - Sir J C Bose Memorial Lecture
 - Lecture on UWB Devices & Systems
- News from Local Centres
- ISF Activities
- Books at special cost
- Proposed Technical Events (2004-05)
- Calendar of Events

FROM PRESIDENT'S DESK



Dear Colleagues,

Greetings for the festive season and good wishes for the very best in the New Year.

Activities of the IETE are expanding to keep pace with Vision-2020, which envisages India to be knowledge super-power. One of our commitments to our society is to empower the people with the latest and quality technical inputs in electronics, telecommunication, computers and information technology. This task is quite demanding as technologies used in information and communication are rapidly changing. The hardware and software lend themselves for a variety of value-addition. Paradigm applications of ICTs include research in basic sciences, design, development, manufacturing, medicine, drug delivery, governance, commercial activities, banking, office and personal management etc.

For empowering people we have planned technical activities around emerging topics in our discipline at each of our centres/ subcentres, which can be availed by all techno-savvy people to update themselves. As you are aware, quality education is a powerful tool for eradication of illiteracy and enabling development especially in rural and remote areas. For this purpose we have initiated e-learning programme. Fortunately, ISRO and C-DAC have offered their active co-operation in our e-learning venture, which we intend to offer at affordable cost for the needy people all over the country.

IETE –Council has already recognized the tremendous potential of ICTs for economic growth, poverty alleviation and environmental friendly development. Accordingly, it has given go-ahead to conduct IETE Expo-2005 around ICTs. Our efforts are always to devise ways and means to gain access to the new technologies, which enable people to acquire knowledge and information. We have to accelerate our efforts for making India a developed nation. Our emphasis is to take ICTs to the people at the earliest lest they become costlier with the delayed action. I seek your cooperation and active participation to take IETE programmes to rural and remote areas where people need them firstly for supporting the development activities and secondly for bringing-up the literacy levels. Your suggestions for improvements, alleviation of illiteracy and building knowledge society are welcome; please do post them on our Web site, www.iete.org

Lt Gen D P Sehgal

NEWS FROM HEAD QUARTERS

Sir J C Bose Memorial Lecture

The IETE HQ arranged Sir J C Bose Memorial Lecture at New Delhi on Nov 20, 2004. Welcoming all, Shri P N Chopra, Chairman, Technical Programmes Committee informed that Sir J C Bose's name is associated with wireless communication and to perpetuate the memories of the eminent scientists, IETE has initiated annual lecture



Lt Gen DP Sehgal presenting a bouquet to Dr K Kasturirangan, Member Parliament

since 1995. The speakers who have spoken under this series of lectures are Prof M G K Menon, Dr A P Mitra, Prof U R Rao, Shri K Santhanam, Prof S N Ghosh, Prof P B Vidyasagar, Prof S Mukhopadhyay, Dr Manju Sharma and Prof A K Barua. Shri P N Chopra also gave the brief life sketch of Sir J C Bose.

Lt Gen D P Sehgal, PVSM, AVSM, VSM (Retd), President IETE in his address said that IETE takes pride in acknowledging the achievements of Indian scientists. The 21st century belongs to India and if we have the power, it is only because of electronics, IT and telecommunication. Today we see all-round improvements in the performance of technical systems because of application of electronics hardware and computer software. We owe this all to the scientists like Sir J C Bose, who

contributed to the scientific discoveries through their research and innovation.

Lt Gen Davinder Kumar, VSM & Bar and Co-Chairman, TPC introduced the key speaker, Dr K Kasturirangan, Member Parliament and Director, NIAS, Bangalore. He enumerated some of the many achievements of Dr Kasturirangan. He also said that space is a new frontier and India as a developing nation, that aspires to be a world power soon, requires to undertake space missions, which are needed for the development of the nation as a whole.

Dr K Kasturirangan, Member Parliament and Director, NIAS, Bangalore delivered the **10th Sir J C Bose Memorial Lecture** on **“Evolution of Space Science Mission: Some Interesting Aspects”**. He said that Sir J C Bose was one of the pioneers in Wireless transmission technology and demonstrated some basic aspects of how to achieve long distance communication. He addressed the question of improved sensitivity of receivers effectively. Dr Kasturirangan's talk focused on some of the aspects of science of communication rather than on technology and its applications. He said



A view of dais during JC Bose Memorial Lecture, (from L to R) : Shri PN Chopra, Maj Gen CM Logani, Dr K Kasturirangan, Lt Gen DP Sehgal and Lt Gen Davinder Kumar

that natural way of communicating with the universe is through astronomical observations. Tracing the genesis of Indian space programme he mentioned about the importance of geo-magnetic equator that lies above the southern part of India. He said that it was Dr Vikram Sarabhai—pioneer of the Indian Space Science, who thought of making use of space as a vantagepoint for initiating developmental activities for the country. Dr Kasturirangan also lauded the contributions of great scientists like Homi Bhabha, MGK Menon, U R Rao and Satish Dhawan who visualized the importance of technology and emphasized on the Govt investing in space programme.

Dr Kasturirangan deliberated in detail on the two recent initiatives of ISRO in Space Science, viz. ASTROSAT, which is a multiwavelength astronomical observatory and CHANDRAYAAN-1, which is India's first mission to the moon. He explained the thrust areas of cosmic ray research at Tata Institute of Fundamental Research (TIFR), Mumbai, where they are concentrating on the elementary particle physics and their interactions and Astrophysics. At Physical Research Laboratory (PRL) Ahmedabad, the main thrust is on solar system studies. Dr Kasturirangan also elucidated X-Ray astronomical activities at TIFR and PRL. In Launch Vehicles he talked about the capabilities of Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Launch Vehicle (GSLV).

Talking of scientific objectives of ASTROSAT, he said it is to study correlated intensity variations over time in the visible, UV, soft and hard X-Ray bands to address the origin of radiation in different wave bands, search for BLACK HOLE sources, measure magnetic fields of neutron stars, conduct deep surveys of selected regions of the sky to detect faint quasars to study the large scale structures in the Universe. The second dedicated science mission of the ISRO, CHANDRAYAAN-1 will address some of the outstanding questions concerning the

origin and evolution of the moon. It will give impetus to a small group engaged in planetary research through a committed long-term programme, provide unique opportunities to upgrade several areas of technology and will help to create a cadre of young scientists who can participate in future international planetary missions. Dr Kasturirangan described the science of X-ray telescope, cadmium-zinc-telluride detectors and UV Imaging instruments. He gave the payloads for proposed Astrosat Mission and India's first mission to moon.

Maj Gen C M Logani, VSM, Secretary General IETE proposed the vote of thanks.

Technical Lecture

A technical lecture on "Spectrum Management Framework for Ultra Wide Band (UWB) Technology and its Impact on Radio Communication Services" was delivered by Shri Rajesh Mehrotra, Radio Communication Engineer, working with ITU, Geneva on Dec 17, 2004. Chairman Technical Programmes Committee, Shri P N Chopra introduced the subject of the lecture and Council Member Shri P K Garg introduced the speaker. Shri Rajesh

Mehrotra in his interesting talk traced the genesis of Ultra Wide Band devices & systems, right from the time when it was used for military operations to the recent demands fueled by the requirements of Internet Access along with low-cost, low power and high speed short-range wireless systems for telecommunication. He said that the current technology permits transmission and reception of a train of very narrow pulse-widths of the order of 10 Pico-seconds to 10 Nano seconds. UWB systems and devices are used for short-range high-speed multi-user data communication and radar in the frequency band of 3.1 Giga Hertz to 10.6 Giga Hertz. It uses pulsed communication system and the bandwidth of transmission could be of the order of 2 Giga Hertz and more, which may cause inband interference to the other communications. Therefore, its impact on the existing communication services including GSM, CDMA, GPS, Galileo etc. needs to be thoroughly examined before deploying the UWB for use.

Shri Rajesh Mehrotra gave a detailed account of the studies, which have been undertaken by ITU Study Group-1 (Task Group 1/8) and are under consideration of



Lecture on Ultra Wide Band devices & systems. Sitting on dais (L to R) : Shri PN Chopra, Shri Rajesh Mehrotra, Lt Gen DP Sehgal, Shri PK Garg, Maj Gen CM Logani

ITU. There are many challenges yet to be sorted out before the spectrum management framework for UWB deployment for common civil usage is generalized.

Lt Gen D P Sehgal, President IETE, summarized the talk and said that the use of ultra wide band systems appears eminent in today's context of wireless homes requirements of high speed internet access and search & rescue operation. He said these systems will have to be deployed at a distance from the existing communication installations to avoid in-band interference.

NEWS FROM LOCAL CENTRES

Allahabad

A one day seminar on the topic "Communications- New Horizons" was organized at S N Ghosh auditorium, in which invited talks were delivered by Prof G N Pandey of IIIT, Allahabad, Dr M M Gore of MNNIT, Er G K Srivastava of Doordarshan Kendra, Allahabad and Dr Arun Kumar of Allahabad University. IETE and CSI, Allahabad jointly organized a technical presentation on the topic "Emerging Trends in Wireless Networking and thin Client Technology" by technical experts of HCL Infosystems Ltd, Noida.

Bangalore

The IETE Bangalore Centre has started construction of the 2nd floor on the existing IETE building.

The centre organized a number of technical lectures on the topics which included Embedded 'C', Real time operating systems (VxWorks), Task library and task Information routines, Semaphore library, Mutual exclusion, Inner task communication Message Queries & Pipes, Memory, Interrupts & Timers and practical training to AMIETE students on experiments as per the syllabus was imparted.



AVM AS Murthy, Chairman, Building Committee & Prof C Murali, Chairman, IETE Bangalore Centre performing pooja at the commencement of construction of 2nd Floor of IETE Bangalore Centre

Dehradun

The following lectures were delivered at IETE Dehradun Centre :-

- ☛ Science on Philately by Shri Abhay Mishra, Sc-"D", DEAL, Dehradun on Aug 12, 2004.
- ☛ Recent Trends in Image Processing by Prof R C Joshi, IIT Roorkee on Oct 19, 2004.

Delhi

- ☛ A technical lecture on "Semi Conductors: Emerging Trends and Technologies" by Shri Gopal Shukla, Ultro Technologies Pvt Ltd was organised by the centre on Aug 21, 2004.
- ☛ A group of about 20 foreign delegates attending conference at CSIO visited Delhi Centre on Sept 27, 2004 and were briefed on the activities and role of IETE in promoting technical education in the country.
- ☛ In order to augment the library facilities in the centre, books worth about Rs 40,000/- have been acquired to benefit the students. In addition, a phased programme has been initiated to undertake bookbinding exercise for proper upkeep of library books.

Jaipur

- ☛ The IETE Jaipur Centre has revived its monthly lecture series with the intention to invite distinguished and expert speakers in the field of Electronics & Telecommunication, Computers and Information Technology to deliver their talks in the emerging technologies and their applications for the benefit of people at large. The first talk under this lecture series was delivered by Shri S L Singh, GM, BSNL on "Growth in Telecom Sector: Needs of Techno Managers" on Aug 20, 2004 at ETDC (IIQM) Malviya Industrial Area, Jaipur.

The centre organized an essay competition for the students of Engineering Colleges and Polytechnic of Rajasthan during Sept-October 2004. Sixty two students from different institutions of Rajasthan submitted their contributions on the topics proposed by BSNL, which included Indian Telephone cards, ISDN, Phone plus facilities, Excel, centre facilities on B'fone and WLL, Sancharnet, Cellone, Tarang etc. The prize distribution function was organized at Rajasthan Institute of Engineering and Technology, Bhankrota, Jaipur on October 16, 2004 and Shri P K Saha, Gen Manager, Marketing, BSNL honoured six students and delivered his talk of monthly series on the topic "GSM based automobile tracking Systems" on this occasion.

Kochi

The Kochi Centre presented Prof M N Namboodiripad Memorial award to the DIPIETE students who have passed in 2003 from the Kochi Centre with highest rank on Sept 30, 2004. Honorary Minister Shri Dominic Presentation gave away the awards to the meritorious students.

Mankapur

A workshop on Vedic Mathematics was organized by IETE Sub-Centre Mankapur on Oct 30- 31, 2004 at Sanchar Vihar Auditorium, ITI Ltd, Mankapur. Dr Narinder Puri, IIT Roorkee conducted the workshop. He elaborated the powers of Vedic Mathematics in converting complicated mathematical methods in one line mental and super fast methods along with quick cross checking systems. Approximately 650 students participated. The workshop was inaugurated by Shri S P Tripathi, Addl GM, ITI, Ltd, Mankapur.

Nagpur

Prof S C Datta Roy, Ex Vice President, IETE visited Nagpur Centre and addressed

the gathering of Corporate members & student members. Students were happy with the inspirations, they got from the frank discussions with Prof S C Datta Roy.

Pune

Finolex Endowment Lecture was arranged on Aug 30, 2004 at the centre. Dr Naresh Dadhich, Director IUCAA (Inter University Centre for Astronomy and Astrophysics) delivered a talk on "Science: Method & Vision". Dr Sharadachandra Gokhale, former Editor of Kesari, Trustee of Sakal & President of CASP (Community Aid & Sponsorship Programme).

Prof T H Dandavate from SIT College Pune, delivered a talk on "Introduction to the Embedded Systems" on Sept 16, 2004.

Varanasi

A national seminar on "Nano Technology" was jointly organized by IETE Gorakhpur Professional Activity Centre and Institute of Technology & Management on Nov 5-6, 2004. The Chief Guest of the seminar was the Vice Chancellor of UP Technical University, Prof D S Chauhan and Dr R C Srivastava, Commissioner, Gorakhpur Division presided.

Vijayawada

The following technical lectures were conducted by the Centre:-

- ☞ "Introduction to Microprocessors" by Shri V Ramjee
- ☞ "A Practical Approach to Neural Networks- An Overview" and "Pattern Recognition for Using Neural Networks" by Shri G Vijay Kumar
- ☞ "Satellite Communication" was delivered by Er J Laxmi Narayana.
- ☞ "Data Mining and Neural Networks" by Shri G Vijay Kumar

ISF ACTIVITIES

The activities conducted by different IETE Students' Forums were:-

1. ISF, Fr C Rodrigues Institute of Technology, Vashi in association with Department of Electronics & Telecommunication Engineering arranged the following programmes:-
 - ☞ One day seminar on Advanced Communication Techniques (LOOPS 2K4) on Aug 7, 2004.
 - ☞ A two-day short- term course on "Data Compression and Encryption" on Sept 24-25, 2004.
 - ☞ Under EXTC lecture series the topics covered were on PLC & its use in Industry, Designing with lights, Optoelectronics & its applications, Effective technical presentation, Memory Management.
 - ☞ IETE-ISF Students also shone in various related activities, viz academics, games and competitions. They also excelled in different presentations like National Project Presentation, Technical Paper Presentation and Robotics competition.
2. IETE ISF has been formed at Sau Venutai Chavan Polytechnic, Sinhabad Road, Pune. Prof J K Wakre, Principal and Prof Mrs Shah took initiative in forming the forum.
3. A new Students' Chapter was inaugurated at Baldev Mirdha Institute of Technology, Jaipur by Dr T H Choudhary, Director, Centre for Telecom Management and Studies and Ex Chairman, IETE and delivered an invited talk on "Transformation of telecom as Information Infrastructure for a knowledgeable society".
4. The Punjab Engineering College Students' Forum of IETE,

Chandigarh and Students' Chapter of India Society for Technical Education (ISTE) jointly organized a Digital Workshop from Oct 11 to Oct 16, 2004. The ISF also launched a technical magazine "Technovision" on Nov 04, 2004.

5. ISF-M S Ramaiah Institute of Technology, Bangalore in association with students of EC Department conducted a technical programme on Oct 29 & Oct 30, 2004. Prof B S Sonde, Past President, IETE & Ex Vice Chancellor Goa University inaugurated the Programme and also delivered the keynote address. The programme covered technical quiz, paper presentation, lectures and software & hardware debugging exercises.
6. ISF-R V College of Engineering (E&C Dept) organized a two day Techno-Cultural fest "IMPULSE-04" on Oct 30-31, 2004. Various colleges from Karnataka participated. A technical magazine "Avalanche" was brought out during the occasion. Shri C Srinivas of CISCO Systems delivered a technical lecture.
7. IETE Student Forum was inaugurated at Dayananda Sagar College of Engineering, Bangalore by Prof C Murali, Chairman IETE Bangalore Centre. Prof R Prakash delivered a lecture on "Embedded Systems".
8. ISF at Guru Nanak Dev Engg College, Bidar was inaugurated by Shri C Govardhan, Chairman IETE Hyderabad Centre on Nov 10, 2004. The Guest of Honour, Prof K Babu Rao, delivered a lecture on CDMA technology.



Sri C Govardhan, Chairman, IETE Hyderabad Center & Principal General Manager BSNL, Hyderabad inaugurating the IETE Students' forum at Guru Nanak Dev Engg College Bidar

9. A one day workshop on "Embedded Controller" was held at Jawaharlal Nehru National College of Engineering (JNCCE), Shimoga on Nov 27, 2004.
10. Dr N Gopala Krishnan, Phd D Litt, Hony Director of Indian Institute of Scientific Heritage, Trivandrum and Senior Scientist working at CSIR, Govt of India inaugurated the first IETE Students' Forum at NSS College of Engineering Palakkad on Dec 13, 2004. Shri C K Haridas, Chairman of the Sub-Centre, Palakkad presided over the function.

ACHIEVEMENT

Lt Gen D P Sehgal, (Retd) PVSM, AVSM, VSM (DF 023941L), President IETE, has been appointed as a Member of Telecom Disputes Settlement & Appellate Tribunal. This prestigious appointment has been conferred on him in recognition of his outstanding technical abilities, dynamic leadership and contributions in the field of electronics, telecommunications and information technology. He has participated in the national and international forums. IETE congratulates and wishes him all the best.

छात्रों के लिए कॉयल नेट परियोजना की पुस्तकें विशेष मूल्य पर उपलब्ध

पुस्तक का शीर्षक	मुद्रित मूल्य	विशेष मूल्य
1 प्रसारण तकनीकी- कल आज और कल (Transmission Technology)	120/-	85/-
2 उपग्रह संचार प्रणाली के बढ़ते कदम (Satellite Communication Systems)	120/-	85/-
3 भौगोलिक सूचना प्रणाली (Geographical Information System)	120/-	85/-
4 (टेली-मेडिसिन) (Telemedicine)	75/-	55/-
5 हवाई चेतावनी तथा नियंत्रण प्रणाली (Airborne Warning and Control System-AWACS)	75/-	55/-

नोट

संदर्भ के लिए सभी पुस्तकें आईईटीई की लाइब्रेरी में उपलब्ध हैं।

TECHNICAL EVENTS OF IETE HQ /CENTRES

IETE has planned the following technical events during Dec 2004-Nov 2005

Centre(s)	Date	Topic
Thiruvananthapuram	11 Dec 04	Seminar on Data Communication in Wired and Wireless Networks
Varanasi	12 Dec 2004	Digital Broadcasting and Internet
Noida	19 Dec 04	Seminar on Super Computers
Coimbatore	21-22 Dec 04	Conference on INFONICS –2004
Lucknow	Dec 04/Jan 05	A Seminar(<i>Subject to be given by the Centre</i>)
Delhi	15 Jan 05	IETE Apex Forum on “Reaching the Unreached”
Rajkot	16/23 Jan 05	Inauguration of Premises
Vadodara	29-30 Jan 05	Seminar on Embedded System and Emerging Trends
Varanasi	3-5 Feb 05	Symposium on ELECTRO –2005-Emerging Trends in Electronics
Kanpur	4-6 Feb 05	International Conference (ICCC-05) on Communications and Computing
Allahabad	12 Feb 05	Council Meeting
	13-14 Feb 05	Seminar on INTERNET: New Horizons
Noida	20 Feb 05	Seminar on Modern Trends in Television Broadcasting including ‘DTH’
Mumbai	25-26 Feb 05	Seminar on Broadband – The Broadband - The Road Ahead
Aligarh	26-27 Feb 05	Modern Trends in Electronics and Communication Systems (MTECS 2005) (<i>Proposed for Zonal Seminar to be decided by Chairman, TPC/Zonal Coordinator</i>)
Bangalore	28 Feb 05	9th Sir C V Raman Memorial Lecture
Kolkata	5-6 Mar 05	Seminar on Business Process Outsourcing (BPO- and Prospects in India)
Chandigarh	11-12 Mar 05	Seminar on Emerging Wireless Technologies
Bangalore	22-24 Apr 05	Council Meeting & Pre-Symposium Tutorials and 36th MTS-Emerging & Futuristic Communication System (EFCoS-05)
Shimla	Apr 05	A Seminar
Gwalior	Apr 05	Seminar on Interfacing Between the Man and Machine
Noida	Apr 05	Seminar on 3G Telecom Landline and Mobile – a Fusion
Delhi	17 May 05	World Telecommunication Day Celebration
Noida	June 05	Seminar on Spectrum Management In the growing age of Communications
Kochi	July 05	Council Meeting A Zonal Seminar (<i>To be decided by Chairman, TPC/ Zonal Coordinator</i>)
Noida	Aug 05	Seminar on Challenge of Private FM Broadcasting
Lucknow	Sept 05	A Zonal Seminar has been proposed (<i>To be decided by Chairman, TPC/ Zonal Coordinator</i>)
New Delhi	Sept 05	IETE Expo – 2005 International Conference & 48th ATC on ICT- Quality of Life
Kolkata	30 Nov 05	11th Sir J C Bose Memorial Lecture
Amravati	-	3-days Conference on Information Education, Telecommunication and Entertainment
Pilani	-	Seminar on Embedded Systems - Challenges in Design Automation

CALENDAR OF EVENTS

Subject	Date	Venue	Contact
 National Conference on Industrial Automation-Emerging Trends	21-22 Jan 2005	Chennai	Dr K Viswa Kumar, Convenor Concourse 2005, Easwari Engineering College, Bharathi Salai, Ramapuram, Chennai-600 089 Ph: 044-2249-0430/ 2249-0431/2249-5350 Fax: 044-2249-0430 e-mail: eecw@vsnl.com Web: www.easwari.ac.in
 IEEE International Conference on Personal Wireless Communications (ICPWC 2005)	23-25 Jan 2005	New Delhi	Dr R G Gupta, Director Ministry of Communications & Information Technology, Department of Information Technology, Electronics Niketan, 6 CGO Complex, New Delhi 110003 Tel: + 91(11) 2436-3095 (o) Fax : +91 (11) 2436-5404 e-mail: guptarg@mit.gov.in
 National Seminar on Embedded Systems & Emerging Trends	29-30 Jan 2005	Vadodara	Vadodara Sub-Centre 501-506, Vraj Siddhi Tower Khanderao Market, Char Rasta Rajmahal Rd, Vadodara-390001 Ph: 0265- 24224759426325146 (M) e-mail:vadodara@indiatimes.com;nconfiete@rediffmail.com
 2nd AIDC Expo 2005-Knowledge Forum on Automatic Identification & Data Capture Technologies	2-4 Feb 2005	New Delhi	Rakhee Chakraborty, Manager-Corp. Relation & Communication, AIDC Solutions Inc.301, III Floor, Depali, Building 92, Nehru Place, New Delhi-110019 Tel: +91 11 5167-0205 / 06 / 07 Fax: +91 11 5167 0208 Mob- 09110102118 E-mail: rakheebansal@aidcsolutions.org URL: www.aidcsolutions.org
 International Conference and Exposition on Communication & Computing	5-6 Feb 2005	Kanpur	Dr Y N Singh (yensingh@iitk.ac.in) Secretariat for ICC-05 Electrical Engg Deptt, Room No. 216 IIT, Kanpur, Kanpur – 208016 Tel:+91 51 2259-7409 Fax: +91 51 2259-0063 e-mail: iccc-05@iitk.ac.in Web: www.iitk.ac.in/iccc-05/
 National Conference on Physics of Electronic Materials and Devices (PEMD-2005)	10-12 Feb 2005	Sambalpur	Dr G N Dash, Chair-Technical, Dept of Physics, Sambalpur University, Jyoti Vihar, Burla, Sambalpur-768019, Orissa Tel: 0663-2432062, 2431719 Fax: 0663-2430158 Website:http://hyderabad.sancharnet.in/supgphys
 National Conference on Bioinformatics Computing (NCBC'05)	18-19 Mar 2005	Patiala	Shri Deepak Garg, Convenor, NCBC'05 Computer Science & Engineering Department Thapar Institute of Engineering & Technology Patiala-147004 (Punjab) Ph: 0175-2393007 Mobile: 09815599654 E-mail: deepakgarg@ieec.org
 36th IETE Mid Term Symposium & Exhibition "Emerging & Futuristic Communication Systems" (EFCoS-05)	22-24 Apr 2005	Bangalore	The Hony Secretary, IETE Bangalore Centre, Bellary Road, Ganganagar Extension, Bangalore-560 032 Ph: 080-2333 1133/ 080-2333 7231 e-mail:iete@radarindia.com; ietebang@vsnl.com Website: www.ieteblr.org OR IETE HQ, 2, Institutional Area, Lodi Road, New Delhi-110 003 Ph: 011-5150 4751/ 2463 1830 Extn 51&53,Fax:2464949429 e-mail: membership@iete.org Website: www.iete.org / www.iete.info

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