

FROM PRESIDENT'S DESK



Indian Telecom has good and bad news for the mobile users. The good news is that the saga of 3G spectrum auction which was being deferred endlessly for the last few years has finally kicked off on 9th April'10 when its e-auction began. The bad news is that the Mobile Number Portability (MNP) got stuck again after missing several deadlines. This time the problem lies with the Home Ministry clearance for the porting process for the numbers under lawful interception and Security agencies seem to be carefully evaluating clearance procedure.

Several rounds of bidding having completed indicate that 3G spectrum is going to provide huge revenue to the Government to the tune of \$11 billion much beyond the expectations. The bidding data shows that the bid for each license is almost double from the base price. Wireless Broadband spectrum auction is to follow after close of 3G auction. The good news is that some of the Service Providers are planning to roll out Pre-4G technology, that is, 3GPP Long Term Evolution (LTE) net bit rate capacity of up to 100 megabits per sec in the Down link and 50 megabits per sec in UP link. The Service Providers are marketing the LTE as 4G though it is not complying to full IMT Advanced Standards of 4G. The good news is that as the auction of 3G spectrum is still on, the government has already begun work on 4G spectrum. TRAI has already started pre-consultation process on 4G spectrum. Auction of 4G will begin as soon as the operators roll out their 3G network as per Shri Raja, the Union Communications Minister.

The cell phone penetration in the country has been moving with mind boggling speed of 12 to 14 million new connections every month but the benefit of this has been mostly contained in the urban areas. Considering the need for connectivity in rural areas, IETE organized its 41st Mid-Term Symposium at Tirupati on the topical theme "Taking Telecom Revolution to Rural India-Bridging the Digital Divide" on 9-10 April'10. The Symposium was inaugurated by Dr K Radhakrishnan, Chairman, ISRO & Secretary, Dept of Space, Bangalore. Large numbers of papers were presented in the Symposium and deliberations included various aspects covering the major problems to provide connectivity to villages at affordable cost and by judicious use of USO fund for areas which are less remunerative for the Service Providers. Deliberations were also made for connectivity to villages which are not electrified thus exploring possibilities of using alternate source of energy.

Technology is evolving in more specialized segments as the demand is rising. The precision and smaller size machines and equipments which are faster and easier to work are in demand. IETE as an institution is always striving to keep abreast with latest technology and conduct technical programs on topical and cutting edge technologies themes. I would like to invite members and entrepreneurs to participate in the forthcoming programs and get benefited. I also invite you all to participate in World Telecommunication & Information Society Day planned for May 17, 2010 at New Delhi & all IETE Centres on the theme "Better City, Better Life with ICTs."

Lt Gen Ashok Agarwal, PVSM (Retd)

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IETE HQs, New Delhi



सह वीर्य करबावहे

News From Headquarters

41st IETE Mid-Term Symposium

The true benefits of technology are in its application, and if an effective deployment of a network that enables information to flow to rural areas is implemented it would not only bring access to better lives for million of houses but also be able to improve scores on literacy and employability. These way rural communities could improve their living & working standards. Efforts have been & are being made from both governmental and non-governmental platforms to enhance the infrastructure to help modern telecommunication technologies serve all segments of India's culturally diverse society, and to transform it into a country of technologically aware people.

For the Indian Telecom Industry, one of the fastest growing industries in the world, it is projected that it will have 'billion plus' mobile users by 2015. With the saturation in the urban developed mobile markets, the industry has begun to see hope of 'billion plus' in the rural India. Telecom and network connectivity have widely been seen as the enablers of a nation's socio-economic growth. In its capacity to minimize the digital divide, IETE organized an interactive 41st Mid-Term Symposium 2010 (MTS-2010) on 9th-10th April 2010 at Tirupati, on the matching theme as its miniscule but relevant contribution towards the cause.

"Taking Telecom & IT Revolution to Rural India-Bridging the Digital Divide" was the topic chosen for IETE's flagship event MTS-2010. This programme drew an enthusiastic response from the participants representing a cross section of industry, academia, public & private sectors.

The dignitaries present on the occasion included **Dr K Radhakrishnan**, Chairman ISRO & Secretary, Dept of Space, Bangalore; **Prof N Prabhakhara Rao**, Vice-Chancellor, Sri Venkateswara University, Tirupati; **Shri S Ramakrishnan**, Director (Projects), VSSC, ISRO, Thiruvananthapuram; **Lt Gen Ashok Agarwal**, PVSM (Retd), President, IETE; **Prof D Narayana Rao**, Council Member IETE; **Shri R K Gupta**, Chairman, TPC; **Shri**

K S Prakash Rao, Co-Chairman TPC; **Dr S Vijaya Bhaskara Rao**, Chairman, IETE Tirupati Centre and **Brig V K Panday (Retd)**, Secretary General IETE.



Dr K Radhakrishnan, Chairman ISRO, the Chief Guest addressing the gathering.

Dr K Radhakrishnan, Chairman ISRO & Secretary, Dept of Space, Bangalore, graced the occasion as the Chief Guest. The ISRO Chief was of the view that unless other allied infrastructure facilities like quality power, effective communication system, road and marketing network were not further augmented in the villages, it would be difficult to take the benefits of Information Technology and Space Technology to rural India and help people achieve economic and social developments. He said ISRO's endeavour would be to provide more accurate, useful and real-time data to farmers, fishermen and other rural folk so that they effectively use them and reap maximum benefit. He pointed out that



Dignitaries releasing MTS-2010 Souvenir.

India, which was among the few nations, has carved a niche for itself especially in the realm of remote sensing satellite technology and has set a target for itself to put in space as many as 500 communication transponders by the year 2040.

Prof N Prabhakhara Rao, Vice-Chancellor, Sri Venkateswara University, Tirupati, was the Guest of Honour. The **37th Vikram Sarabhai Memorial Lecture** was delivered by **Shri S Ramakrishnan**, Director (Projects), VSSC, ISRO, Thiruvananthapuram, on “**Access to Space through Indian Launch Vehicles-Current Capabilities and Future Perspective**”.

Shri R K Gupta, Chairman, TPC, presented a brief overview of the symposium and **Lt Gen Ashok Agarwal, PVSM (Retd)**, President IETE, delivered his presidential remarks underlining the importance of the theme for the conference. Prof D Narayana Rao and Sri K S Prakash Rao, Council Members, introduced the Chief Guest and Shri S Ramakrishnan respectively to the audience. **Dr S Vijaya Bhaskara Rao**, Chairman, IETE Tirupati Centre welcomed the delegates and **Brig V K Panday (Retd)** proposed the vote of thanks.

On this occasion the **22nd Lal C Verman Award Lecture**

President Elect 2010-11



Shri R K Gupta has been unanimously elected as **President** of the **Institution of Electronics & Telecommunication Engineers (IETE)** for the year 2010-2011.

A 1969 batch officer of Indian Broadcasting Engineers Service (IBES), Shri Gupta is Former Engineer-in-Chief of Doordarshan who has held key positions in AIR and Doordarshan for more than 3 decades. He has been responsible to bring Free to Air DTH of Doordarshan ‘DD Direct +’ in a record time. He modernized the network of Doordarshan and introduced digitalization in a big way. As Director, he was responsible to implement all FM transmitters and studio projects of All India Radio in Northern India.

In recognition of his outstanding contribution to the development of Digital TV and DTH in Asia – Pacific region, he has been honoured with “ABU Engineering Excellence Award – 2004”. He was also conferred with “Eminent Engineer Award – 2002” by Institution of Engineers (India).

Shri Gupta is a widely travelled person, who has participated in a number of National and International Seminars and Conferences at USA, Japan, UK, Switzerland, Netherland, Turkey, Singapore, Bhutan and Malaysia. He was instrumental in making vital policy decisions pertaining to Spectrum Management, Digital Compression, HDTV and Digital Radio at the World Radio Communication Conference, WRC-2003, at Geneva and 40th General Assembly of ABU at Istanbul.

He has held key positions in various National and International organizations in the field of Broadcasting and Communication including National Working Group (NWG) – 6 of ITU-R of which he was the Chairman. He was the Vice-Chairman of Technical Committee of Asia-Pacific Broadcasting Union, ABU. He was also the Chairman of Panel of Judges for ABU Engineering Excellence Award for the year 2003. He was the President of Broadcast Engineering Society (India) in 2000-02.

Presently, Shri Gupta is the Chairman, TPC; Co-Chairman, ICC; Council Member & Fellow of IETE. He is Fellow of Institution of Engineers (India).

A sports lover; he was also the President of “Doordarshan Cricket Club” – DDCC in 2002-04.

Shri Gupta has been closely associated with the implementation of Edusat Project of Indira Gandhi National Open University (IGNOU), which employs DVB-RCS technology to provide Interactive Education in Virtual Classroom mode. He is also a member of various technical Committees in several Govt organizations.

Our congratulations to Shri R K Gupta on his election.

was delivered by **Shri K Sita Rama Rao**, Scientist 'F' & Dy Director, R&QA RCI, DRDO, Hyderabad, on the topic **"Steps for a Reliable Product : Analysis, Stress Screening and Documentation."** During this two-day symposium, four technical sessions on *Telecom & IT in Rural Development*, *Tele Medicine*, *IT in Technology & Agriculture* and *Rural Connectivity* were held. The invited talks were delivered by **Shri Pankaj Gupta**, **Shri Murthy L N Remilla**, **Dr Pawan Kapur**, **Brig Lakshman Singh**, **VSM (Retd)** and **Dr KTV Reddy**. There were also oral and poster presentations related to the above sessions.

Prof G Sarojamma, VC, SPMVV, Tirupati, was the Chief Guest in the Valedictory session on the concluding day. Prof Deekshatulu, Dr T H Chowdary, Dr Vengamma, Director, SVIMS and Shri Madan Gopal, Director, Regional Science Centre, chaired the sessions and participated in the valedictory function. A Students' Paper Contest was organized by the IETE Tirupati Centre and about 200 students from different engineering colleges participated in the event and the prizes were distributed during the valedictory function.

News From Centres

Bengaluru

Feb 21, 2010: Commenced short-term course on **"VHDL & FPGA Design"**.

Feb 28, 2010: - Short-Term Course on **"Embedded System Design using Microcontroller"** completed.
-The **14th Sir C V Raman Memorial Lecture** on **"Radio Astronomy Related Technology**



14th Sir C V Raman Memorial Lecture in progress.

Developments at Raman Research Institute, Bangalore" was delivered by **Prof Udayshankar**, Raman Research Institute. **Shri R Lakshminarayana Rao**, Chairman, IETE Bangalore Centre, presided. The event was telecast by the Doordarshan channel.

Mar 20, 2010: A technical talk on **"Soft Skills & Personality Development"** was delivered by **Prof Rangasayee**, FIETE, for the benefits of the students.

Burdwan

The Sub-Centre conducted the conference on **"Materials, Devices and Circuits in Communication Technology (MDCCT-2010)"** on 27-28 March 2010, jointly with Dept of Physics, University of Burdwan, commemorating the 150 years of the Birth Anniversary of Sir J C Bose.

Chennai

The Centre jointly with the Institution of Engineering & Technology (IET), Chennai Network, organized a technical lecture on **"Global Positioning System"** on March 16, 2010 by Dr Swarna Ravindra Babu, GNSS Group, Advanced Technology Labs, Wipro Technologies.

Coimbatore

- An **Indo-European International Workshop** on **"Advances in Electrical and Electronics Engineering"** was held from Dec 7 to 11, 2009, presided over by **Dr T R Padmanabhan**, Chairman IETE Coimbatore Centre. The speakers at the



Inauguration of Indo European International Workshop at Coimbatore.

workshop included: Prof Chandur Sadarangani, Royal Institute of Technology (KTH), Stockholm, Sweden; Prof Emeritus Roland Eriksson, KTH Stockholm; Prof Rajeev Thottappillil, KTH Stockholm and Dr Gerhard Diendorfer, OVE, Austria.

- Seminars on “**Low SNR Performance on Digital Systems**” on Jan 29, 2010 and “**Low Power VLSP**” at Avinashilingam University, on Feb 12, 2010, were conducted.
- The Centre co-sponsored the two-day National Level Technical Symposium, “**Interface 2010**” on Jan 31 & Feb 01, 2010, organized by Coimbatore Institute of Technology (CIT). The symposium was inaugurated by **Shri A Raja**, Union Minister for Communications & IT, Govt of India.

Delhi

The Centre co-organized a two-day conference **India Com 2010** at Bharati Vidyapeeth on “**Computing for Nation Development**” on 25th-26th Feb 2010 jointly with CSI and Bharati Vidyapeeth. **Dr Ashoke Ghosh**, President Delivery Services, GrapeCity India, Noida, graced the occasion as the Chief Guest. **Prof D K Bandyopadhyay**, Vice Chancellor, GGS Indraprastha University, Delhi, presided over the function. More than 300 papers were received for the conference.

Dharwad

- An orientation program to take up “**Project work at Academic Institutions**” was conducted at ISF SDM College of Engineering & Technology, Dhavalagiri, Dharwad, on Jan 01, 2010. The resource persons, including Dr Vijaya C, Prof S S Kerur, Shri M M Gadag, Prof S A Joshi and Prof N P Bannibagi, touched upon the challenges and opportunities in the domains like Digital Signal Processing, VLSI, Embedded Systems, C Programming, Communications & Wireless Communications etc. They all suggested on possible projects which could be taken up by the students as part of their academic project work. Prof R M Yadahalli, HOD (E&CE), gave some tips to young students about importance of good initiation of their project work.
- A seminar on “**Awareness Program on Campus Interviews**” by **Prof Shivanagouda**, GM, Placement Officer, SDM College of Engineering & Technology,

Dharwad, was organized on Feb 05, 2010. About 180 ISF members attended this seminar apart from new corporate members. He stressed on having soft skills apart from complete knowledge of the subject.

Gwalior

IETE Gwalior Sub-Centre and CSI Gwalior Chapter jointly organized a two-day National Conference on “**Electronics, Computers and Communications (NCECC-2010)**” on 06-07 March 2010 at DRDE Auditorium, Gwalior. **Prof R S Tomar** was the Chief Guest for the inaugural function. **Dr R Vijaya Raghavan**, Director DRDE, Gwalior, presided over the function. Keynote address was delivered by Prof Tomar on “**Metamaterials**”. The conference was attended by 120 scientists, academicians & research scholars. Eighty eight papers were selected for the conference. The papers were presented in twelve different sessions.

Hyderabad

- The 1st **Prof CVS Rao Memorial Lecture** on “**Modern Advances in Electromagnetic Fields for Biological Systems**” was delivered on Feb 05, 2010 by **Dr G R Babu**, Prof & Head, ECE Dept, Kesava Memorial Institute of Technology, Hyderabad. He was also felicitated on the occasion for completing his 50 years in the teaching profession.
- The 12th **M Madan Mohan Endowment Lecture** on “**Indian Earth Observation Programme- Past, Present and Future**” was delivered on Mar 2, 2010 by the Chief Guest **Dr V Jayaraman**, Director, NRSC, Hyderabad. **Dr V Gunasekhar Reddy**, Chairman, IETE Hyderabad Centre, presided over the programme.



A view of participants during 12th M Madan Mohan Endowment Lecture at Hyderabad.

- **EDUSAT programme** was launched along with live telecast of National Science Day & **14th Sir C V Raman Memorial Lecture** was delivered on 6th Feb 2010.
- A two-day course on **“Global Positioning System: Augmentation & Applications”** on 3rd-4th April 2010 was inaugurated by **Shri K Vijay Kumar Gupta**, CEO, Kwaliti Electronics Ltd, Hyderabad. **Dr B M Reddy**, INSA (Hon) Scientist, NGRI, Hyderabad, was the Guest of Honour. About 113 participants attended the course from several engineering colleges, industries, organizations, etc.

Nagpur

- A National Conference on **“Emerging Trends in Electronics Engineering and Computing – E3C-2010”** was organized on 9th -10th Feb, 2010 by Dept of Computer Science Engineering and Electronics Engineering of JD College of Engineering, Nagpur, in association with IETE, Nagpur Centre. **Shri Vikas Patil**, State Information Commissioner, Maharashtra State Information Commission Division Bench, Nagpur/Amravati, presided over the function. **Shri Mukund Joshi**, Former Member, Telecom Commission, Govt of India & Chairman IETE Nagpur Centre, was the Guest of Honour. Keynote address was delivered by **Shri Akhilesh Shrivastava**, Vice President, Product IP Based Company, Hyderabad. Dignitaries present on the occasion were: Shri Sanjay Agrawal, Dr Pramod Patil, Prof Srikant Sonekar, Prof Nilesh Mohota, Shri MG Joshi, Er S L Dravekar. 212 technical papers were selected from the total of 325 papers for the National Conference. 130 papers were selected for presentation which was carried out in six parallel sessions on 9th and 10th February 2010.
- On 27th Feb 2010 President IETE, **Lt Gen AK Agarwal, PVSM (Retd)**, visited the Centre to attend the Special Executive Meeting organized.
- **Prof Onkar Kemkar**, PCD Institute of Computer Studies & Research, Nagpur, while delivering a lecture on **“ICT and Health for all”** on 13 Mar 2010 at the Centre said that while the convergence of ICT produced many exciting possibilities for developing new services in the medical field, it has also thrown many challenges to industries for offering more comprehensive health care services to the society without escalating the

cost. ICT is being considered a potential solution of distribution of health care services in the rural areas. This prospective has created a large amount of research and development projects in the area of telemedicine around the world.

- **Vidarbha Level Project Competition** was organized by the Centre in association with VMV Commerce, JMT Arts & JJP Science College, Nagpur, for Engineering Students at VMV Campus, on Mar 27, 2010. The project **“Spy Robot”** from the team of Suyash Deo, Ketan Deshpande and Akshay Poshattiwar of Shree Datta Meghe (SDM) Polytechnic, Nagpur, was adjudged the 1st best project. The SDM Polytechnic also bagged the Late Mrs Shubhashree Shashidhar Memorial Trophy. The Chief Guest on the occasion was **Adv S J Badani**, President, Nagpur Gujarati Mandal. The project on **“Automation in Automobiles”** by Paras Wadher of PCD Institute of Computer Studies & Research, VMV Nagpur, was considered for the 2nd best project. The 3rd best project selected was **“Automated Material Sorting Conveyor Belt using Robotic Gates”** by the team Shweta Dawley, Ashiwini Borikar, Shruti Mansinghka and Preen Wakde of Govt Polytechnic, Nagpur. The proceedings of the function were conducted by Dr D A Deshpande and vote of thanks was proposed by Prof Onkar Kemkar.



1st Prize Winner Team of the Vidarbha Level Project Competition held at Nagpur.

- “The vehicles, the roads and transportation management will be safer, more efficient and more reliable if Intelligent Transportation System is implemented as quickly as possible in India” **Dr Preeti Bajaj**, Principal, GH Raison College of Engineering, Nagpur, said

while delivering the keynote address on “**Emergent Trends in Electronics**” on the occasion of **Late Dr P K Kapre Memorial Lecture** held at Centre on Apr 03, 2010. **Prof D R Nandanwar**, Principal, Government Polytechnic, Nagpur, presided over the function. Shri M G Joshi, Chairman, IETE Nagpur Centre, delivered the welcome address. Prominent persons present were: Prof P K Rangole, Former Senior Scientist CEERI, Pilani; Dr Mohan Deshpande, Former Director, VRCE; Air Vice Marshal U A Deshpande; Shri A R Sawatkar, GM Mobile; Er S P Gorowara, DIG BSF; Col R M Onkar; Dr D A Deshpande; Dr M S Korde; Wg Cdr V M Deshpande. Dr Preeti Bajaj explained about intelligent transportation system, intelligent vehicle technology, driver assistance system, vehicular adhoc network also what smart cars were. She also explained about vehicle to vehicle communication, vehicle to roadside infrastructure communication and vice versa. Prof D R Nandanwar in his address stressed on the use of ICT in all disciplines. The vote of thanks was proposed by Er S L Dravekar.



On the occasion of Late Dr P K Kapre Memorial Lecture, Nagpur.

Nashik

IETE Nashik Sub-Centre & K K Wagh Institute of Engineering Education & Research, Nashik, organized “**State Level Circuit Design & Mini Project Contest**” on Mar 13, 2010 for E & TC students of the Institute.

Salem

A National Conference on “**Trends in Communication NCTC’10**” was organized on Mar 26, 2010 by Dept of ECE, Sona College Technology, Salem, and sponsored by the Sub-Centre.

Vadodara

The **IETE National Technical Paper Contest 2010** was inaugurated by the Chief Guest, **Dr S K Agarwal**, Principal and Campus Director, Varanama. Prof N G Bhavsar, Prof Pramod Modi, Prof M D Amipara, Lt Col R S Kohli (EME School), Dr Vedvyas Dwivedi, Shri V K Shah and Exec Members IE (I), Vadodara Centre, were present on the occasion. Other important persons present were: Prof M M Pathan, Prof S K Shah, Chairman Technical Committee. The contest was organized in two technical sessions of 6 papers each. Panel of judges included: Shri V K Shah, Prof Pramod Modi, Prof Vedvyas Dwivedi, Prof Jaymin B Bhalani and Prof Rakesh Soni. The winners of the contest were: 1st Prize - **Gaurav Rajput & Anway Mukherjee** for their paper “Voice Recognized Automatic Pen”; 2nd Prize- **Juhi Saraswat & Pratik Patel** for their paper “Electronics Braille System” and 3rd Prize- **Apurva Joshi & Pranali Desale** for the paper “Review of QUAD Rotor SPY Robot for Metrological Surveying using Wireless Technology”.



1st Prize Winners of IETE National Technical Paper Contest 2010.

Vijayawada

- The Centre organized “**Intra ISF Technical Paper Contest**” on March 13, 2010, inaugurated by **Shri A Venkateswarlu**, Past Chairman, IETE Vijayawada & Sr Sub-Divisional Engineer, Telecom. The first prize was jointly won by the teams of **Shri B Anil Kumar and Shri Y Bharat**, Dept of ECE, Gudlavalleru Engg College, Gudlavalleru, for their paper “Hybrid Integration of Light Emitters and Detectors with SOI based MOEMS” & **Shri IMSS Revanth and Kum P Naga Syamala**, Dept of ECE, Gudlavalleru, Engg College, for their paper “Nano Robotics &



View of dais at Intra ISF Technical Paper Contest.

Cryonics". The second prize was jointly won by the teams of **Kum KHN Anusha and Kum A Jahnvi**, Dept of ECE, Shri Vishnu Engg College for Women, Bhimavaram, West Godavari, for their paper "Micro Controller Based Hand Gripper using a Flex Sensor for Physically Challenged" and **Kum Y Navya & Kum M Sharmila**, Dept of ECE, VR Siddhartha Engg College, Vijayawada, for their paper "Wireless laser Communication". Prizes and certificates were awarded to the winners.

- A Computer Lab was inaugurated by **Shri A Venkateshwarlu**, Past Chairman, IETE Vijayawada Centre, on 13th March 2010 for the benefit of the students. The Executive Committee Members also attended the inauguration.



Inauguration of Computer Lab, Vijaywada Centre.

Visakhapatnam

Prof B Leelaram Prakash, Hony Secretary & **Prof Ch Srinivasu**, Member IETE, together conducted a



Prof K Raja Rajeswari, Chairperson, Visakhapatnam Centre (in middle) & conductors of Technical Quiz.

technical quiz for ISF students of Visakhapatnam Centre, on March 27, 2010. **Prof K Raja Rajeswari**, Chairperson, Visakhapatnam Centre, appreciated and encouraged that such technical activities be conducted on regular basis. She distributed the prizes to the winners as appreciation of their merit.

ISF Activities

- Inauguration of ISF at **Gokaraju Rangaraju Institute of Technology, Hyderabad**, on **Jan 11, 2010** by Prof K Laxminarayana, Chairman, SIC, IETE. On this occasion Brig V K Panday (Retd) Secretary General, IETE made a presentation titled 'IETE on the move' showing the various activities of IETE. Prof KNB Kumar, Faculty coordinator for ISF, introduced the students' executive council.
- **PSG ISF, Coimbatore**, arranged a guest lecture on "GSM Technology" by Shri R Nagarajan from Nokia Siemens Networks to enlighten the members.
- The function for foundation day celebration of **ISF Babaria Institute of Technology**, Varnama, on **Jan 21, 2010** was clubbed with activities like a seminar on "PIC Controller" and a Circuit Designing Competition "Electronic Junkyard War". Certificates were awarded to the winners.
- **Nitte Meenakshi Institute of Technology, Bangalore**, ISF, conducted hands on workshop on "DSP & Embedded Systems Design on Reconfigurable Hardware platform" from **Jan 29, 2010 to Feb 04, 2010**. Dr K N Shankara, Satish Dhawan, ISRO HQ,

ISF Activities



ISF Activities



Bangalore, delivered on **Feb 04, 2010** a lecture on “Indian Satellite Systems & Its Applications”. The ISF also conducted one-day workshop on “IP-TV & the impact of 3G&4G on IPTV usage”. About 35 students participated, Shri R A Bhagavan, Hony Secretary IETE Bangalore Centre, distributed the certificates. Dr H C Nagaraj, Principal, presided.

- **ISF of SVMIT, Bhaurch**, organized a seminar on **Feb 04, 2010** on “Industrial Automation” in three modules, viz: Trends in Industrial Automation: The Macro View; Industrial Automation: Evolution & Contours of the current technological status and

Careers in Industrial Automation: Strong Growth Prospects and Prolific Training. Prof P R Mankad, Shri Amar Nibalkar and Mrs Janki Sharma were the other speakers on the occasion. The ISF also organized a seminar on “Implementation of embedded systems” on **Feb 06, 2010** with speaker Shri Nitin Paranjape and Shri Rohan Jaradi.

- Dr T R Padmanabhan, Chairman IETE Coimbatore Centre, inaugurated on **Feb 06, 2010** a one-day national workshop on “Advanced Wireless Networking” at **ISF Kumaraguru College of Technology (KCT), Coimbatore**. Dr Krishnaraj Vannavarayar,

Growth & Globalization of IETE Journals- a triumph & a success story

The power of Internet gives immense possibility for scientific publications to be indexed, linked, copied, archived and searched at ease. This has paved the way for the emergence of online IETE journals, perhaps the future of scientific communication that cannot be ignored any longer in the e-environment of today. IETE journals, namely **IETE Journal of Research**, **IETE Technical Review** and **IETE Journal of Education**, an established means of exchange of ideas between IETE fraternity and the outside scientific world, have now transited to online journals since Oct 2008 benefiting all stakeholders- authors, reviewers, editors, administrators and readers.

We are happy to announce that IETE is the only engineering Institution in India to have adopted on-line manuscript system for articles for its Journals. The successful development and implementation of manuscript management on-line system has given IETE journals a global standard. Both, **IETE Journal of Research & IETE Technical Review** are now part of “**Web of Science**”- a world renowned and coveted reference source visited by professionals, researchers, publishers and institutions of higher learning. This is indeed a very significant achievement for any journal to have this coveted place amongst the International journals of Science & Technology. The viewership has increased tremendously (more than 40-50 users are found on the web at any given point of time) and downloads of articles has become very popular.

To facilitate IETE in this endeavour, the contributions of the three Editors-in-Chief, Boards of Editors, Reviewers, Authors and readers deserve very high appreciations and commendations. Online versions are not only convenient but definitely has helped us to economize on cost & time, integration of boundaries, global visibility, internationally accepted quality standards and most importantly networking of authors, nationally & internationally.

IETE would like to acknowledge the yeomen services of the Editors-in-Chief **Prof S C Dutta Roy**, **Prof S K Koul**, **Prof (Dr) M Jagadesh Kumar** and **Prof Ranjan Bose**, all from IIT, Delhi. Prof (Dr) M Jagadesh Kumar played a stellar role in getting our journals on Web of Science. His dedication and persistent hard work is a role model for all of us in IETE.

Co-Chairman of KCT, presided over the workshop.

- A national level technical symposium “Projection’10” and “Job Mela” was organized by the **ISF of Parul Institute of Engineering & Technology, Limda, Vadodara** on **Feb 12-13, 2010**. Dr G C Jain, MD, MCBS, International Pvt Ltd, Ahmedabad, was the Chief Guest. Prof Indrajit Patel, Section Chairman-ISTE-Gujarat Section & Prof Satish K Shah – Coordinator ISF & Hony Secy IETE Vadodara Centre, were the Guests of Honour. The special invitees were Prof M M Pathan & Dr R C Desai-IETE, Vadodara Centre. Prof Abhay Upadhyay was the Coordinator of “Projection’10.”
- **ISF of Shri Ramdeobaba Kamla Nehru College of Engineering, Nagpur**, organized on **Feb 13, 2010** a seminar on “Career Aspects after Engineering”. Shri T Ram Mohan, Centre Director, PT Education Nagpur, was the Chief Guest & keynote speaker. Prof Anil Goyal, SRKNEC, was the Guest of Honour and speaker.
- On **Feb 16, 2010** inauguration of **ISF-II** of Department of Electronics, **Bapurao Deshmukh College of Engineering, Sewagram, Wardha**, was organized. Shri M G Joshi, Chairman IETE, Nagpur Centre was Chief Guest on the occasion with many other prominent persons of the Centre.
- Foundation Day celebrations of **ISF** and **PAC, CITC, Changa**, was jointly celebrated on **Feb 16, 2010** at V T Patel, Dept of E&C Engg, Faculty of Tech & Engg, Charusat, Changa.
- Prof K Raja Rajeswari, Chairperson of IETE Visakhapatnam Centre, inaugurated **ISF** at **Raghu Engineering College, Visakhapatnam** on **Feb 17, 2010**. She stressed on the need for looking into the future for generating new ideas and plans for the benefit of the society and the nation as a whole. Shri K Raghu, Chairman Educational Society and Prof G S N Murthy, Principal, Raghu Engineering College, were the other speakers on the occasion.
- **ISF Mahakal Institute of Technology & Management, Ujjain**, organized on **Feb 20, 2010** an event “Innovision 2010”, which was inaugurated by the Chief Guest Shri Suresh Babu, GM, BSNL, Ujjain. Technical events like quiz competition “Mind Spark” and paper presentation competition “Eco-Mansion” were also organized.
- The Dept of ECE of **St Ann’s College of Engineering & Technology, Chirala, Prakasam, AP**, on **Feb 20, 2010** inaugurated an **ISF** by Dr G N Swamy, Hon’ble Secretary of IETE Vijayawada Centre.
- A two-day technical festival “Oscillations 2010” was conducted on **Mar 04-05, 2010** by the **ISF, Padmabhushan Vasantdada Patil Pratishthan’s College of Engineering, Mumbai**. Numerous events hosted during festival were: Technical Paper Presentation, Project Exhibition, Lord of Logic, Short Film Festival, Showdown, Landgaming Funtronics, Output Wizards, Web-Designing and Junkyard wars.
- **ISF at VNR Vignana Jyothi Institute of Engg & Technology, Kukatpally, Hyderabad**, was inaugurated by Shri K S Krishna, NTV- Business Analyst, on **Mar 06, 2010**.
- An open seminar was organized on **Mar 08, 2010** on “Analysis, Design, Simulation and Implementation of DSP Based Embedded Controller for Active Filter to Eliminate and Compensate Organics” by EE Dept, IETE Vadodara Centre & **ISF MSU, Vadodara**. The dignitaries present on the occasion were: Mrs Hina B Chandwani, Reader EE Dept, Faculty of Technology & Engg, Vadodara; Dr A J Patil, Principal; Shri Gulabrao Devkaer Kale College of Engineering, Jalgaon; Prof M M Pathan, Chairman IETE Vadodara Centre; Prof A I Trivedi, Prof Sunil Patel and Prof S K Joshi.
- An **ISF** was inaugurated on **Mar 11, 2010** at **VEL TECH Dr R R & Dr S R Technical University, Avadi, Chennai**, by Prof V S Sundaramurthy, Chairman IETE Madras Chapter, who also delivered a Guest Lecture on “Antennae for Broadcasting”. About 258 student members joined the ISF Forum.
- Inauguration of ISFs at **Joginapally B R Engg College, Hyderabad**, on **Mar 13, 2010** and **Royal Institute of Technology & Science, RR Dist**, on **Mar 23, 2010** was accomplished.
- During the inauguration of **ISF** at **Panimalar Institute of Technology, Chennai**, on **Mar 19, 2010**, the activities conducted were a lecture on “Advances in Wireless Technology” by Shri A Ganesan, Ex-Chairman, IETE Chennai and Presentation of technical papers by the students of ECE Engg Dept. The inaugural address

was delivered by Shri V S Sundaramurthy, Chairman IETE Chennai.

- On **Mar 20, 2010** **ISF Asia Pacific Institute of Information Technology (APIIT) SD India, Panipat** with IETE, New Delhi, organized a well planned one-day “ISF-APIIT Annual Meet 2010” with the activities like “Kaun Banega Champion”- A Quiz Show based on top ten IT Company Profiles and Group Presentation on Future Challenges in IT”. The dignitaries present were Lt Gen Ashok Agrawal, President IETE; Prof (Dr) R K Choudhary, Director APIIT SD India, Panipat and Prof Shri Ravi Sachdeva, ISF Chairman, APIIT SD India, Panipat.
- Dept of ECE & Dept of CSE of **ISF MP Nachimuthu M Jaganathan Engineering College, Chennimalai, Erode**, organized a national Conference on “Soft Computing and Advanced Communication Systems (SAC’S 2010)” on **Apr 10, 2010**.

Professional Activity Centres (PACs)

- Expert Lectures by Prof Satish K Shah on **Feb 01, 2010** on “Introduction to the Hi-Tech & In-demand Fields in Present Era” for under graduate students of 6th semester and “Digital Processing of Speech Signals: Perspective & Applications” on **Mar 18, 2010** for the post graduate & research students of VT Patel Dept of Electronics & Communication Engineering, were organized by **ISF & PAC, CITC, Changa**. The core of the talks was to provide the theme concept, state of art technology with on-going research work.
- PAC at Institute of Technology & Management-Sector 23A, Gurgaon**, organized a seminar on “Emerging Trends in Mobile Communications” on **Mar 10, 2010**.
- PAC** was inaugurated on **Mar 22, 2010** at **KMCT College of Engineering, Kozhikode**, by Dr (Mrs) Sneh Mohan, Vice President IETE. Dr V B Panikker, Director of the College, presided over the function and the others who spoke on the occasion were: Shri K S Prakash Rao, South Zone Co-ordinator; Brig V K Panday, Secy Gen, IETE; Shri C K Haridas, Past Chairman Palakkad Sub-Centre; Prof P

Janardhanan (HOD-ECED), PAC Chairman and Shri Fiaz, Lecturer & VC, PAC. The opening of IETE Examination Centre at Kozhikode was announced on the occasion.



Dr (Mrs) Sneh Mohan, Vice President IETE, speaking at Kozhikode.

Achievements



Lt Col R M Onkar (Retd) (F036069) and Past Chairman of IETE Nagpur Centre, as a unique contribution to young aspirants, has published three books, namely: **Personality Development & Career Management, Self-Management by Introspection, and Managing Career by Discovering Your Personality**. These books are basically career oriented, containing information pertaining to selection of careers, facing personal interviews, communication skills, personality development, performance and soft skills.



Brigadier Lakshman Singh, VSM (Retd) (F043034L) Council Member and Chairman Task Force Publicity, IETE, was invited by Rajiv Gandhi Institute of Information Technology, Amethi, as a resource person for the National Seminar on “**e- Education; Empowering Un-served and Underserved**” held on April 15-17, 2010. He was one of the panellists, session chairmen and he also presented the paper entitled “**How to Bridge the Digital Divide**” during the seminar. He recommended that the model developed by IETE for providing vocational training to village youth be implemented and for this IETE was well placed for the task with its 57 Centres spread all over the country.

He also suggested that with financial support from the Government, full advantage need be drawn from the Govt plan for taking the broadband to the villages as part of the National Knowledge Network. These suggestions will form part of seminar's recommendations to the Ministry of Communication and Information technology. The seminar was well covered by the media and had some very eminent panellists and speakers.



Dr T S Rathore (F049768L) Immediate Past Chairman of IETE Mumbai Centre, has released two books **“Shraddha Suman”** and **“Pratibimb”**. He is also planning Hindi translation of his book **“Digital Measurement Techniques”**, the English and Russian versions of the book were published in 1996 and 2004 respectively.

Drive for Students' Enrolment

For the noble cause of promoting the activities of IETE, particularly to launch Student Membership drive for those who are deprived of regular education at engineering colleges, IETE has taken the initiative of participating in **Education Exhibition Fairs** during **2010** to be held at some metro cities of the country. **IETE Bangalore Centre** was the first to participate in **“Times Education Boutique 2010”** held at Kantevara Indoor stadium, Bangalore, on **01-02 May, 2010**. The response was



Visitors at IETE Exhibition hall.

encouraging as IETE was successful in boosting the aspiration level of eligible students for their interest in technical education in competitive environment. The other scheduled dates for Education Fairs are: **Hotel Ashoka, Delhi**, on **15-16 May 2010** and **City Centre, Kolkata**, on **22-23 May 2010**.

Letters to the Editor

IETE Newsletter endeavours to provide information about the activities of the institution, technology news, announcements of technical events and other related information for the benefit of the members and the readers. IETE Publications Committee is of the view that by creating a column in the Newsletter for the reader's feedback in the form of **“Letters to the Editor”**, the IETE Newsletter can be made more responsive and dynamic. IETE invites you to share your views, constructive comments, suggestions and any other matter of interest to the readers and IETE fraternity.

भारत में मेघनेटीरियल एक नई विधा है, जिसकी शुरुआत विश्व में पाँच वर्ष पूर्व हुई है। भारत को यदा इस विधि का उपयोग कर विश्व में नए ऊर्जायमान स्थापित कर सकेंगे है क्योंकि इस विधि को अपनाने वाले सभी जगह समर्थ नतीजा है और अभी किसी भी देश

संघोष्ठी की अध्यक्षता श्रीआरती के निदेशक डॉ. आर विजय राघवन ने की।
सीएसई एवं आईईटीई ग्वालिअर द्वारा आयोजित संघोष्ठी का उद्घाटन अतिथियों ने दीप प्रज्वलित कर किया। इस दौरान डॉ. राघवन ने कहा कि प्रथम विश्वयुद्ध के दौरान शिंसायनिक युद्ध हुआ था उसमें क्लोरीन गैस का उपयोग किया गया था। शरीर पर

उपयोग आवश्यक हो गया है। संगोष्ठी के पहले दिन चोपा, चेन्नई, सुरत, जयपुर, दिल्ली, भोपाल एवं आगरा से आए करीब 80 शोधार्थियों ने शोधपत्र प्रस्तुत किए। संगोष्ठी में शामिल अतिथियों का स्वागत सीएसआई के चेयरमैन संजय भार्गव, आईटीई के चेयरमैन दिवाकर पांडे

आभार विकास शिंदे ने व्यक्त किया।
समापन आज

समापन आज

दो दिवसीय राष्ट्रीय संगोष्ठी का स
रविचार को शाम 4 बजे किछ जागरण
कार्यक्रम की मुख्य अतिथि के रूप में
महामौर समीक्षा गुप्ता उपस्थित रहेंगी।

हिन्दुस्तान संवाद

आपकी

राजीव गांधी सूचना प्रौद्योगिकी संस्थान अमेठी के छठवें स्थापना दिवस के अवसर पर वंचित एवं अल्प लाभान्वित वर्ग का सशक्तीकरण विषय पर तीन दिवसीय सेमिनार का आयोजन गुरुवार से अमेठी में प्रारम्भ हुआ। जिसमें देश के लगभग 50 प्रतिभागी आए हैं।

सेमिनार का उद्घाटन करते हुए टिपल आर्टी के निदेशक डॉ. एमडी। तिवारी ने विभिन्न स्तरों पर शिक्षाविदों, तत्कालीनियों एवं प्रबंधकों का आह्वान किया कि वे राष्ट्रीय शिक्षा मिशन को सूचना देना प्रौद्योगिकी के माध्यम से संभव बनाएँ। मानव संसाधन विकास मंत्रालय ने उच्च शिक्षा के विभिन्न विषयों में ई-कान्टेंट विकास करने की प्रेरियोजना शुरू की है। इस संदर्भ में टिपल आर्टी इलाहाबाद को कम्प्यूटर

सम्बन्धी 18 विषयों में ई-कान्टेंट विकसित करने का जिम्मा सौंपा गया है।

सन् 1947 से उच्च एवं तकनीकी शिक्षा के क्षेत्र में हुए वृहद विकास की ओर इंगित करते हुए उन्होंने कहा कि 'निसिंदेह देश ने कई उपलब्धियाँ हासिल की हैं, लेकिन बहुत कुछ करना बाकी है, विशेषकर ग्रामीण एवं शहरी आंचल के बीच की दूरी कम करने हेतु।

प्रो. प्रमेश चन्द्रा, संस्थापक निदेशक,
डॉ.बीआर अम्बेडकर सेन्टर फॉर
बायोमेट्रिकलरिसर्च, दिल्ली
विश्वविद्यालय ने कहा कि आसान पहुँच
न होने के कारण छात्रों की एक बड़ी
तबके को उच्च शिक्षा से वंचित रहना
पड़ता है। एम.एम.ए.ए.ए.ए.ए.ए.ए.
वर्ग एवं अल्पसंख्यक जाति वर्ग के मध्य
के अंतर को विभिन्न कारकों जैसे शिक्षा
की गुणवत्ता, शैक्षिक संसाधनों की
आदान-प्रदान एवं शिक्षा छोड़ने वाले
विद्यार्थियों के उच्च स्तर के माध्यम से
सम्यक् किया।

सुबोध नाथ झा सेवानिवृत्त आईएस
ने छात्रों का आह्वान किया कि वे सूचना
तकनीकी संसाधनों के माध्यम से ग्रामीण
जनसंख्या को शिक्षित करके समाज के
प्रति अपने दायित्व का निर्वाह करें

तमिलनाडु, आंध्र प्रदेश, कर्नाटक एवं केरल के प्रत्येक शैक्षिक संस्था हासिल करने में उनके उच्चशिक्षी की सहभागिता करने हुए उन्होंने अन्य राज्यों अपितु उत्तर प्रदेश, मध्य प्रदेश, बिहार एवं उड़ीसा से भी इसी तरह के अथक प्रयास करने को कहा। श्री आरसी विष्णोटी ने समाज को अनुदान राशि से शक्तिमान करने हेतु 'सूचना' संसार प्रौद्योगिकी के उपयोग पर जोर दिया। गोविन्द सरन बरिष्ठ अधिवक्ता ने 'सूचना' के अधिकार अधिनियम २०००' के कानूनी पहलुओं पर प्रकाश डाला। श्री धर्मिन्द्र कुमार, विभागाध्यक्ष, कम्प्यूटर विज्ञान विभाग हिसार ने ई-पाठ्यक्रमों की प्रभावी प्रणाली, निरन्तर एवं समानता पर प्रकाश डाला।

ब्रिगेडियर लक्ष्मण सिंह सह अध्यक्ष आईईई परियोजना ईलान ने अपने परियोजना समूह द्वारा ग्रामीण क्षेत्रों में दूरस्थ शिक्षा के लिए किए गए कार्यों के बारे में विस्तार से बताया। प्रो. केएन अग्रवाल ने धन्यवाद ज्ञापित किया। सत्र में डॉ. अनुक्रिया वैश, डॉ. मीना कपूर, एवं प्रो. एके रे ने शिक्षण प्रक्रिया पाठ्य सामग्री के अन्तर्गत अपने मातृकां की चर्चा की। सेमिनार का संचालन सीमा शाह ने किया।

CORRESPONDENT

TIRUPATI

April 9: The Indian Space Research Organization (ISRO) chairman, Dr K. Radhakrishnan, expressed seri-

Addressing the 41st mid-term symposium of the Institution of Electronics and Telecommunication Engineers (IETE) with its

- Bridging the digital divide

- Dr Radhakrishnan said that it was high time that the areas of science, engineering and technology should come forward and synergize their efforts in the direction of addressing the pressing problems of population explosion and energy crisis, for which a massive public awareness was need of the hour.

"Though the Indian agriculture is based on monsoon rains, their predictability is

natural disasters, while the Bay of Bengal alone would generate 70 per cent of the cyclones in the world. About 200 districts in the country are affected by this phenomenon. In addition to this, the problem of land scarcity for agriculture had already cropped up," he said.

The Isro chief ruled that the space technology is going to touch all the vital areas of human existence, besides influencing the economic and social spheres of

The Isro's prime objectives included low cost access to space, self-reliance in space programmes, interplanetary exploration and involvement of the common man in the effective grounding of the resulting emerging out of the space-based research, he said.

After 18 years of development, the GSLV satellite launcher with the critical

April 15 from the Sriharikota space centre. Named GSLV-D3, the three-stage rocket will put in orbit the 2.2 tonne advanced communication and navigation satellite, the GSAT-4, Dr Radhakrishnan said.

"This would benefit the areas of space transport system and communication technology."

The Isro chief said that by the year 2014, about 500 communication transponders would be ready with advanced levels of capacity.

“The remote sensing sector had revolutionised the telemedicine area,” he said.

Coming to the ocean-surface, as many as 26 essential climate variables were put to study. Earlier, speaking to reporters, Dr Radhakrishnan said that the G-Sat 8 and G-Sat 10 would be operational in the coming phases with thrust areas being the air-

‘इलेक्ट्रॉनिक, कंप्यूटर एवं कम्युनिकेशन’ विषय पर कॉन्फ्रेंस

म्याक्सवेल आज का हमारा पूरा जीवन मशीनों व टेक्नोलॉजी पर आधारित हो गया है। सुनहल उपन स लेक्टर रात को विश्राम करने तक हम टेक्नोलॉजी हो गए हैं। कंप्यूटर, एटीएम, कॉफी मशीन स लेक्टर एसी, टीवी, मोबाइल आदि सभी मशीनों स डेल्ड-गर्द ही हमारी जिंदगी घुमती है। यह बात डीआरडीई म्याक्सवेल के डायरेक्टर डॉ. आर. किशोरामन ने एक कॉन्फ्रेंस में अध्यक्ष के रूप में कही।

शनिवार को डीआरडीआई ऑडिटोरियम में 'इलेक्ट्रॉनिक, कंप्यूटर एवं कम्युनिकेशन' विषय पर एक कॉन्फ्रेंस आयोजित की गई। इसमें अलग-अलग क्षेत्रों से आए वैज्ञानिकों ने सिसं के पेपर पढ़े। कॉन्फ्रेंस इंस्टीट्यूशन ऑफ इलेक्ट्रॉनिक एंड टेली कम्युनिकेशन इंजीनियरिंग एवं कंप्यूटर



सोसाइटी ऑफ इंडिया के संयुक्त तत्त्वधान में आयोजित की गई कार्यक्रम में मुख्य अतिथि की हैसियत से प्रो. आर.ए.ए. तोमर ने कहा कि स्थानीय राष्ट्र की शक्ति है और हर क्षेत्र की तरफ लक्ष्य व रिसर्च के क्षेत्र में भी युवा वैज्ञानिक अपने विवेक प्रोजेक्ट के जरिए क्रांतिकारी बदलाव लाने की कोशिश कर रहे हैं। आइए इसे वास्तविक के बेचैयमी दिवाकर पांडे ने आतंकवाद और विज्ञान के संबंध में अपने विचार रखते हुए कहा कि केमिकल और परमाणु हथियारों की सुरक्षा हर देश के लिए चिंता का विषय है। इन हथियारों

के गलत हाथों में पहुँचने से मानव सभ्यता को काफी सुखान पड़ चुक सकता है। इन हथियारों के दुरुपयोग मानव इराक, अपमानप्रधान व द्वितीय विश्वयुद्ध में जापान के नागासाकी हिरोशिमा में देख चुके हैं। अगर हमारे हथियार अंतकालीन हैं तो आप समझें पड़ेंगे कि दुनिया पलभर में नष्ट हो सकती है। सौंप्रसारण मालविर के चेरामैन संजय भूषि ने वर्तमान जिनशीली के संर्ष में कंप्यूटर साई की उपयोगिता पर प्रकाश डाला। वत कि दो दिवसीय अंत क्रॉसफै में 80 वैज्ञानिक अपने-अपने रिसर्च पर पढ़ेंगे। ये वैज्ञानिक गोवा, प्नानी वेंगलुरु, दिल्ली, आगरा व म्वालयिर से इस क्रॉसफै में शामिल होने के लिए आए हैं। इस अवसर पर डॉ. विमल शिंदे, आर.के. खेतन, जे.एस. भिंदे सुदीप गर्ग, आर.के. सिन्हा, प्रो. जी.एस. तोमर सहित टीआरडी म्वालयिर के समस्त विभागों के वैज्ञानिक उपस्थित थे। रविवार शाम बजे क्रॉसफै का समापन समारोह हुआ।

Special Correspondent

TIRUPATI: Chairman of the Indian Space Research Organisation (ISRO) K. Radhakrishnan has said the organisation is focusing on applying the benefits of IT revolution to change the face of rural India and its populace.

Dr. Radhakrishnan was participating as the chief guest at the inaugural of the 41st mid-term symposium on 'Taking Telecom & IT Revolution to Rural India--Bridging the Digital Divide'.

The symposium was organised under the aegis of the Tirupati Chapter of the Institution of Electronics and Telecommunication Engineers (IETE) in SVU here on Friday.

The ISRO chief was of the view that unless other allied infrastructure facilities like quality power, effective communication system, road and

LOOKING AHEAD: ISRO chief K. Radhakrishnan releasing a souvenir at a symposium in Tirupati on Friday. — PHOTO: K.V. POORNACHANDRA KUMAR

marketing network were further augmented in the villages, it would be difficult to take the benefits of Information Technology and space technology to rural India and help people achieve economic and social development.

which was among the few world nations which carved a niche for itself especially in the realm of remote sensing satellite technology, had set a target for itself to put in space as many as 500 communication transponders by the year 2040.

S. Ramakrishnan, Director (Projects), VSSC, ISRO, Thiruvananthapuram delivered the 37th Vikram Sarabai Memorial Lecture on 'Access to Space Through Indian Launch Vehicles--Current Capabilities and Future Perspective'.

SVU Vice-Chancellor N. Prabhakara Rao and TTD Executive Officer I.Y.R.Krishna Rao were among the guests of honour.

Earlier, D. Narayana Rao, IETE council member introduced the chief guest.

S. Vijaya Bhaskara Rao, chairman, IETE Tirupati Centre welcomed the delegates.

Highlights of 41st Mid-Term Symposium (MTS), at Tirupati on 9-10 April, 2010



Dr K Radhakrishnan, Chairman ISRO, Secretary Dept of Space, Bangalore (left), inaugurating 41st Mid-Term Symposium at Tirupati on April 09, 2010.



Dr S Vijaya Bhaskara Rao, Convener, 41st MTS & Chairman IETE Tirupati Centre, delivering welcome address.



Lt Gen Ashok Agarwal, PVSM (Retd), President IETE, delivering the Presidential address.



A view of the audience during the inaugural session.



Dr K Radhakrishnan, Chairman ISRO, receiving IETE memento from Lt Gen Ashok Agarwal, PVSM (Retd), IETE President.



Participants of cultural programme with President IETE.

Note : The Institution of Electronics and Telecommunication Engineers (IETE) assumes no responsibility for the statements and opinion expressed by speaker(s) and contributor(s).

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