

Chairman's Message



Dr. S. Salivahanan
salivahanans@hotmail.com
salivahanans@ssn.edu.in
Mobile: 94441 89433

Dear Friends,

I am happy that a Special Executive Committee Meeting of IEEE Madras Section was held on May 31, 2008. The Execom members suggested that the Section can conduct Internship for IEEE student members, symposium for research scholars, programmes for employees of textile industries, annual technical competitions, creation of data base of non-IEEE members and sponsorship of projects for final year B.E./B.Tech. students for membership development.

The IEEE Madras Section celebrated the "40th World's Telecommunication and Information Day" jointly with All India Radio and Doordarshan, IETE and CSE Societies at Chennai on May 17, 2008. Dr. V. Ramachandran, Vice Chancellor, Anna Univesity Thiruchirapalli was the Chief Guest and delivered the inaugural address and the Chairman of IEEE Madras Section Dr. S. Salivahanan felicitated the function.

I would like to inform that Prof. Ranga Kasturi, President of IEEE Computer Society 2008 and Chair of Adhoc Committee for India Focus and his team members Dr. Matt Loeb, CAE, Staff Director, Ms. Angela R. Burgess, Executive Director, IEEE Computer Society and Ms. Providence More, Manager, Strategic Planning & Competitive Intelligence of IEEE visited five IEEE Sections in India for a "Needs Assessment" of India Focus at Chennai, Delhi, Hyderabad, Bangalore and Mumbai.

The meet at Chennai was held on June 4 & 5, 2008 at Hotel Le Royal Meridian in which the Execom members of IEEE Madras Section, Kerala Section and India Council including Mr. N.T. Nair, Chairman, India Council and Mr. Satheesh Kumar, Secretary, India Council were present. The basic issues of concern like Membership Development, organizing international events in India, membership dues / concessions, IEEE benefits, payment of dues in Indian Rupees etc. were discussed. Later about 50 participants from various fields of Industry and Academics attended the talk on "IEEE Focus on India" delivered by Prof. Ranga Kasturi followed by a dinner. The talk was very informative and provided a very good platform for interaction and clarifications on several issues especially on low growth of membership in India, Corporate memberships and benefits, organization of International conferences in India on India specific issues and other technical activities, on line payment problems for dues or fresh membership, difficulties in accessing SAM IEEE, benefits provided by the IEEE like certification, branding, flagships, free download of a few papers with each basic membership etc.

The meeting was really productive and the following major points were put forward to the team members:

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Editorial Team

Mr. H.R. Mohan, Dr. S. Salivahanan, Dr. M. Ponnaivaikko,
Dr. P. Suresh Chander Pal, Mr. T.S. Rangarajan, Mrs. M. Ramalatha

From The Editor's Desk

H.R. Mohan
hrmohan@gmail.com



Dear Friends,

This issue of LINK features the visit of the IEEE delegation led by Dr. Kasturi Rangachar, the 2008 president of IEEE Computer Society and comprising of the IEEE staff director, the IEEE CS executive director and the IEEE manager, strategic planning & competitive intelligence to Chennai on "IEEE Focus on India Initiative" for a better understanding of the needs of the technology community in India, enhancing the presence of IEEE in India and increasing the participation of Indian technology professionals in IEEE activities. IEEE Madras Section EC members, Society Chapter Chairpersons, Senior members from Industry and Academia along with representatives from India Council were present in the reception hosted on the 4th of June 2008 at Chennai.

Brief proceedings on the World Telecommunication Day & National Technology Day along with the Faculty Development Programme conducted by Valliammal Engg College, placement training activity held at Coimbatore Inst. of Engg and Info Tech and the workshop on advances in modern antennas held at Sri Venkateswara College of Engg appear in this issue.

The new column, Info Contest, an ICT quiz started from the May issue of LINK had a good participation. We congratulate the two winners – Mr. S. Vinayagapriyan of KLN College of Engg, Madurai and Mr. S. Santhosh Mahadevan of GCT, Coimbatore who will receive a prize of Rs. 500/= each sponsored by SRA Systems, Chennai. We request all our readers to participate in this contest which will be a regular column in LINK.

We wish to bring it to the notice of the members about the announcement relating to the call for papers and participation in the International Conf. on Web Intelligence Systems (Jan 2009), National Conf. on Wireless Networking and Security (Jul 2008), International Conf. on Emerging Trends in Computing (Jan 2009). Faculty members and researchers may utilize the opportunity.

Announcements from IEEE Computer Society relating to Mock Interview Programme, Workshop on eResources and Subject Gateways and Tutorials by Visiting Faculty appear in this issue. We request the HODs and Student Co-ordinators to utilize the opportunity for the benefit of students.

Activity reports from IEEE CS which include Carteblanche-08, an open source event, Open forum on Work Related Stress and CIO Focus on Enterprise Infrastructure are also published along with two informative articles – one on Urban Future and the other one on Brain Computer Interface.

We have featured a new column – Books in which two interesting books have been reviewed. We hope it will be of use to our members.

LINK wishes WIE MAG for an honorable mention in the 2007 WIE Affinity Group of the Year Award.



National Technology Day

The Tamilnadu State Centre of the Institution of Engineers (India) observed the National Technology Day on Monday the 12th May 2008.

This program was organized in association with Federation of Science Clubs of Tamilnadu (FSCT), Indian Institute of Plant Engineers, Institution of Mechanical Engineers (India), Institute of Marine Engineers (India), Institution of Automotive Engineers, Institution of Engineering & Technology, Institute of Electrical & Electronics Engineers, Institution of Electronics & Telecommunications Engineers, Association of Consulting Civil Engineers and Tamilnadu Electrical Installation Engineers' Association 'A' Grade.

The National Technology Day was conducted in two sessions. In the First Session, Solar Energy Operated Pump for Irrigation was exhibited by members of Uthangarai Science Club (FSCT) and at the Second Session, there was a Thematic Address by Shri M P Janawadker, Scientific Officer, Superconductivity Research and Applications Section, Indira Gandhi Centre for Atomic Research, Kalpakkam. In his address, he explained about the Super Conducting Devices.

The abstract of the talk: Superconductivity has fascinated generations of physicists over the last century. It was first discovered by Kammerlingh Onnes in 1911, when he found that mercury passed into a state with zero resistance when cooled below 4.15K. Potential of superconducting materials such as NbTi alloys has been explored for several large scale applications such as superconducting magnets to produce large magnetic fields, superconducting motors and generators, magnetically levitated trains with speeds greater than 500km/hour etc. The phenomenon has also been used to design SQUID sensors, which are the world's most sensitive detectors of magnetic flux changes with a sensitivity of 10 femtoTesla. As a result of sustained effort at IGCAR, SQUID sensors with characteristics comparable to the international benchmarks have been developed. SQUID based measurement systems such as SQUID magnetometer, SQUID based set-up for NDE etc. have been developed at IGCAR and are currently being used for research in frontier areas. A programme aimed at measuring biomagnetic fields using SQUID sensors has also been taken up recently. Since the biomagnetic fields are extremely small, a magnetically shielded room has been set up in IGCAR to house the facilities for Magnetoencephalography (MEG). Since the magnetic fields are less distorted by conductivity variations in the intervening tissues, MEG has distinct advantages in tracking the location of cortical activity compared to EEG. Applications of superconductivity are expected to herald a new technological revolution in years to come.

Er. R. Nagalingam, Chairman, welcomed the gathering. Dr. D. Thirunakarasu, Convener of this program highlighted the theme.

Er. K. Varatharajan, Honorary General Secretary, FASCT introduced the Chief Guest. He also briefed about the activities of FASCT in propagating the Science and Technology among the school children in rural areas.

The winners of Science and Technology Award (NTD-2008) were awarded at this function. The program concluded with a vote of thanks proposed by Er. K. Sivaprakasam, Honorary Secretary. About 85 persons including students took part in this celebration.

Mock Interview Programme

IEEE CS Madras Chapter proposes to conduct Mock Interview Programmes (MIP) at various institutions where IEEE Student Branches are active. The targeted participants would be the final and pre-final year students.

A Mock Interview is a simulation of a real-life interview, where the student is grilled with questions, so that with this exposure, when he is faced with the real-life interviews, he is prepared and comes out with flying colours. The Mock Interview usually has two parts: Technical Interview and HR Interview.

The benefits of MIP include: Increased self-confidence/self-worth/self-esteem; Candidate knows his or her strength/weakness in the feedback rating provided; Enhanced success rate in realtime interviews; Feedback on technical / hr /personal evaluation; Preparing to get dream job and Building a life long skill in interviews.

The organisers of the MIP (supporting the IEEE CS) have hand-picked a network of panelists in verticals such as: IT, Core Engineering and Management disciplines.

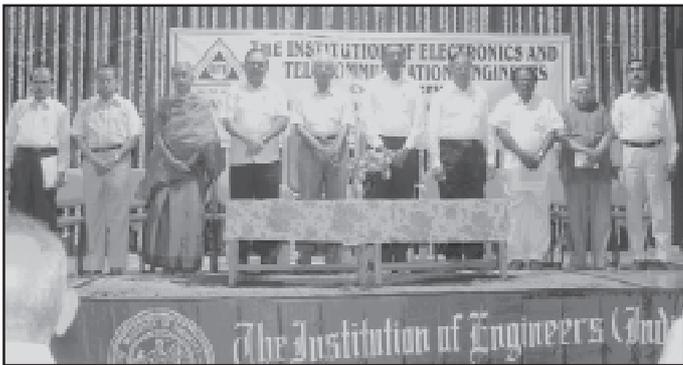
A Pre MIP Briefing on the previous day to the MIP will cover employability skills / soft skills / resume writing / group discussion / aptitude tests. A Career Skills Workbook of about 30 pages will also be provided to each participant student.

A nominal fee is being proposed and will be collected from each student to meet the expenses involved.

It is expected that the host institution will make the required facilities (such as rooms, lunch to the panelists etc.,) available. The IEEE Student Branch office bearers may volunteer in organizing the MIPs. The dates of MIP can be mutually worked out. The HODs / Student Branch Co-ordinators / Office Bearers may pl. contact ieeecsmds@gmail.com for further details.

Chairman message continued...

- Starting an account in bank in India to enable members including students to make payments in Indian currency for various IEEE services. Any new member or existing member can walk into a branch of this bank anywhere in India and easily make a payment to IEEE, putting an end to the hardships faced by Indian IEEE members all these years.
- Broadbasing the Life Member status by allowing all those with more than 25 years of standing in IEEE to enjoy this benefit.
- To start a Tele-engineering activity, similar to Telemedicine, to allow public as well as IEEE members to seek solutions for complex engineering problems from the IEEE experts.
- Digital Library facility to student branches, at attractive terms, linked to total membership.
- To enhance the reach of IEEE standards at the country level by interactions with the standards body, say, Bureau of Indian Standards (BIS) of Indian Government.
- The National Distinguished Lecturer Programme (NDLP) approved by NIC of HQ with funding and IEEE member sticker scheme to foster networking among existing members.



World Telecommunication Day 2008

World Telecommunication & Information Society Day 2008 was celebrated in Chennai under the auspices of Institution of Electronics and Telecommunication Engineers Chennai Centre on 17th May 2008. All Engineering fraternity and professional bodies like IEEE, IET, IE (I), CSI & BES in the city were represented by respective President / Chairman in this celebration.

Gathering of around 200 people from various walks of life in the venue of the meeting at Multi – Track Auditorium of All India Radio Station Kamarajar Salai Mylapore, Chennai was an encouragement to the organizers. Shri A Ganesan, Chairman, IETE welcomed the gathering.

The theme of the year “**Connecting Persons with Disabilities: ICT Opportunities for All**” was explained to the audience by Shri V. Appakutty Zonal Co-ordinator (South) IETE. Dr V Ramachandran Vice Chancellor Anna University Trichy was the Chief Guest and he gave an informative and inspiring inaugural address. The Vice Chancellor told that the technology development should come to help the disabled persons in a more suitable way. Shri Mohan Sundara Rajan, Science Writer and former Columnist, Asian Development Bank, Bangalore delivered the keynote address. In his address he expressed the hope that Chennai will be the first city to have a blanket Wireless Internet coverage (WiFi) with in a year.

Other eminent personalities who delivered the talk include: Prof Dr. V. Velayutham, Director, Regional Institute of Ophthalmology, Govt. Eye Hospital, Chennai and Smt Jaya Krishnaswamy, Director, Madhuram Narayanan Centre for Exceptional Children, Chennai. They spoke on the theme and highlighted the necessity for helping the disabled using technology.

Er P. Mohandass, Retd Chief Engineer All India Radio & Doordarshan and EC Member proposed the vote of thanks.

Report by Er. A. Ganesan, Chairman, IETE, Chennai Centre

Faculty Development Programme at Valliammai Engineering College

A Faculty development programme on “Electromagnetic Theory” was conducted by the Department of Electrical and Electronics Engineering (EEE), Valliammai Engineering College, Kattankulathur in association with IEEE Valliammai Student Branch on 25th of April 2008.

The FDP was inaugurated by Dr. P. Danajayan, Professor and Head, Dept. of ECE, Pondicherry Engineering College. Prof. D. Padma Subramanian, Head, EEE welcomed the gathering.

The first session was handled by Dr. R. Nakkeeran, Asst. Prof. Dept. of ECE, Pondicherry Engineering College. Dr. Nakkeeran mesmerized the participants by his lucid way of explaining the concepts of electromagnetic theory. He explained the details of the sources of electromagnetic field, fundamentals of vector algebra, coordinate system, Stoke’s theorem and Divergence theorem. He went on to electromagnetic theory with Coulomb’s law, electric field intensity, types of charge distributions, field due to charge distribution, electric flux, flux density, Gauss law, potential due to point charge, dielectric polarisation, boundary conditions between conductor and free space and conductor and dielectric, Poisson’s and Laplace’s equation, capacitance effect, energy density and dielectric strength. Morning session also saw explanations on magnetic field intensity, Biot-Savart law, Amperes law, magnetic materials, scalar and vector magnetic potential. He stressed on to the physical implications of various fundamental rules of electromagnetism along with mathematical derivations.

In the post lunch session, Dr. Dananjayan discussed about Faraday’s laws, Maxwell’s equations, induced emf, displacement current and relation between field theory and circuit theory. Details of electromagnetic waves, electromagnetic wave equations in lossless medium, conducting medium, perfect and lossy dielectric and numerical problems based on the entire syllabus were also discussed. This was followed by a discussion session in which participants actively involved themselves in clearing their specific doubts. Both the speakers encouraged the participants to ask their doubts through emails in future. The participants expressed that programmes of such nature needs to be conducted with a minimum duration of three days to derive maximum benefits.

The programme concluded with the valedictory function presided over by Dr. M. Balasubramanian, Principal, Valliammai Engineering College. In his valedictory address, he lauded the efforts of the Dept. of ECE for choosing an apt subject like Electromagnetic Theory for the faculty development programme and expressed the desire of having more of such programmes. Dr. P. Dananjayan distributed the certificates to the participants. The programme was concluded with a vote of thanks by Ms. J. Rathi Barathi, co-coordinator and Asst. Prof. of EEE followed by national anthem.

Section Membership as on 15th June 2008

Life Senior	-	6
Life Fellow	-	1
Life Member	-	3
Senior Member	-	74
Member	-	724
Affiliate	-	24
Associate	-	83
Graduate Student Member	-	670
Student Member	-	3246
Total	-	4,831

Visit the EM Society Chapter at

<http://ewh.ieee.org/r10/madras/ems/EMS-chapter-homepage.htm>

Visit the Gold Affinity Group at

<http://www.ewh.ieee.org/r10/madras/gold/index.html>



Workshop on Advances in Modern Antennas at SVCE

A workshop on “Advances in Modern Antennas” was organised by Dept. of Electronics and Communication Engineering, Sri Venkateswara College of Engineering (SVCE), Sriperumbudur, in association with IEEE Madras Section during 28 – 30, May 2008. The workshop was sponsored by HCL Technologies, Chennai.

The workshop was inaugurated by Dr.R.Ramachandran, Principal, SVCE, followed by a welcome address by Prof. R. Narayanan, HOD, ECE .

On the first day, a lecture on ‘Reconfigurable Antennas’ was delivered by Dr. P. Hanumath Rao Patnam, Scientist from SAMEER, Chennai. In the afternoon, an industrial visit was arranged to the RF and antenna testing facilities of HCL Technologies in Ambattur, Chennai.

On the second day, a lecture on ‘GSM mobile Antennas’ was delivered by Mr. Chayan Roy of

HCL Technologies. A demo on IE3D software was made by Tessolve Systems, Bangalore. In the afternoon an industrial visit was arranged to SAMEER, Taramani, Chennai.

On the third day a lecture on ‘Antennas for Aircraft’ was delivered by Mr. V. Senthil Kumar, Scientist, Communication Systems Group, ISRO, Bangalore. A demo on FIECKO software was made by Ni2 logic, Pune in the afternoon session.

The valedictory function was presided by Dr. R. Ramachandran, Principal, SVCE. Mr. S. Sathya Prakash, Manager-Campus Relations, HCL Technologies distributed the certificates to the participants. Prof. R. Narayanan, HOD, ECE proposed the vote of thanks.

Mr. D. Dhanasekaran, Mr. G. A. Sathishkumar and Mr. P. Muthukannan, Asst. Professors in the Dept. of ECE were the co-ordinators for this work. 20 staff members from various engineering colleges across the state took part in the workshop.



Open Forum on Work Related Stress

With the increase in employment in IT and BPO related sectors, work-related stress has also increased. Be it meeting deadlines, spending most of the time in front of a computer screen, handling your short-tempered boss or managing a team of newcomers and even trying hard to reunite with your wife/husband; stress is everywhere and anywhere.

In this context, an open forum on Work Related Stress was organized by the This was the topic of discussion at a lecture organised by the Neurosciences India Group and the Neuropsychiatry Institute in association with St Isabel Hospital on 5th Jun 2008. IEEE Computer Society, Madras Chapter enabled the participation of IEEE, IEEE CS and CSI members as the topic of the programme was highly relevant to the members and IT professionals.

In this open forum experts from across disciplines shared their perspectives on work-place stress: how to recognise it and how to manage it better.

The lead speaker was Dr EA Campbell President, British Psychological Society, Head of Section of Psychological Medicine Division of Community Based Sciences, University of Glasgow Gartnavel Royal Hospital, Glasgow. While she analyzed the understanding work related stress, she referred to the study on ‘Health and Safety Executive UK 2002’ which had established that while simple categorisation was not possible, had shown that one out of every five workers reported high levels of stress. It also highlighted that teachers, nurses and managers reported a high level of stress.

Ms. Saundarya Rajesh, Chief Executive, Avtar Career Creators spoke work-related stress and attrition in new economy industries such as IT, ITES and BPOs - with specific focus on women professionals.

Prof. E.S. Krishnamoorthy, Director Neurosciences India Group (NSIG), Neurologist & Neuropsychiatrist at St. Isabel’s Hospital gave a lucid talk on stress, what causes stress and how to manage it.

Nithya H.M, clinical psychologist, Institute of Neurological Sciences, Voluntary Health Association, and Thadeus Alphonso, clinical social worker, presented case histories of how stress at the workplace spilled into the home sphere and affected relationships.

SANGOSHTHI - 2008

Conference on

Role of IT - Enabled Knowledge Management in Growth of India

24-26, Jul 2008 at IGCAR, Kalpakkam

For details : <http://www.lisps-india.org/sangoshthi/>

LINK congratulates Mr. R. Chellappan, Chairman, IEEE Power Electronics Society, Madras Chapter for becoming a Senior Member of IEEE.



CIO Focus on Enterprise Infrastructure

IEEE Computer Society, Madras Chapter & the CIO Forum of CSI Chennai Chapter had joined the CIO Magazine in organizing the event “CIO Focus Storage” on Wednesday, 21st May 2008.

Mr. Rahul Neel Mani, Resident Editor, CIO Magazine welcomed the gathering and provided the highlights of the day’s event which included two presentations and a panel discussion. In the first presentation, Mr. Prasad Surana, Technical Consultant from HP spoke on Business Service Management (BSM) for Business Agility and Effective IT Management and in the second presentation Mr. Sathya Venkatraman, Managing Consultant, It Strategy & Architecture Services spoke on IBM Vision for the new enterprise data centers.

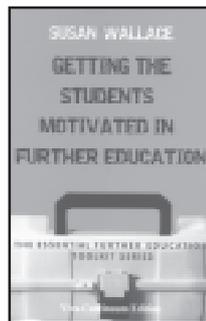
Every innovation, every business process improvement, comes with an IT complexity tax that must be paid by CIOs in time, money and sweat. Why is it a tax? Because IT complexity erodes IT value. Only those organizations that have managed complexity out of their environments that are reaping the value from their IT spends. Complexity is thus a disease that robs an organization of its energy and agility — plus, it costs a lot and is hard to manage. Also, each new gadget, each new application, each new product, process or function adds complexity that stresses the legacy system and strains a CIO’s carefully constructed architecture—and his scarce resources.

The highlight of this CIO Focus would be a panel discussion in which the panelists analysed and tried to answer to “Can CIOs stop paying the IT complexity tax”? Mr. Ananthkrishnan, CTO, TCS, Mr. Jayaram Iyer, EDS and Mr. Satish Das, CSO, Cognizant were the panelists and Mr. Rahul neel Mani, Resident Editor, CIO Magazine moderated the panel.

An informative Black Book on Enterprise Infrastructure was released at the end of thin CIO Focus meeting and a copy was presented to each participant.

NCWNS - 2008
NATIONAL CONFERENCE ON
WIRELESS NETWORKS AND SECURITY
 23rd – 25th JULY, 2008
Organised by
 Sri Venkateswara College of Engineering
 Pennalur, Sriperumbudur,
 Tamil Nadu – 602 105.
in association with
IEEE Madras Section
 For details visit <http://www.svce.ac.in/ncwns>

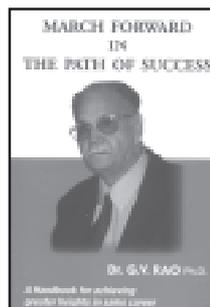
Books



Getting the students motivated in further education

By: Susan Wallace
 166 pp; Rs. 175/-
 Viva-Continuum Edition 2008
 Distributed by: Viva Books Pvt Ltd.
www.vivagroupindia.com

This book, published under the essential further education toolkit series, is a survival guide to the teaching community to bearing bad behaviour and motivating students in higher education. The author provides a range of strategies for turning around lessons to ensure that even the least motivated learners achieve more. This book written in a lucid manner identifies the most common barriers to motivation such as Fear, Boredom, Previous Negative Experience & Loss of Hope and looks at strategies and tactics to overcome each of them by different approaches with examples. It also addresses at ways to motivate Individuals, Groups of 14-16 years old and Adults. It looks at how to give effective instructions, use of appropriate language including body language which play a significant role in motivating learners. One full chapter is devoted for testing oneself with different scenarios. The postscript looks at ways that the teacher can keep himself motivated. Overall, this book is an essential reading by all the teachers who are interested in bringing out the talents of their students. It is a worth addition in all the educational institution libraries for wider readership.



March Forward in the Path of Success

By: Dr. G.V.Rao
 104 pp; Rs. 100/-
 Published by: Dr. G.V. Rao, 260/1, Royapettah
 High Road, Mylapore, Chennai – 600004.

In this book, the author, Senior Member of IEEE and Chairman, IEEE IAS Madras Chapter has shared his vast experience and lessons learnt over a period of four decades of his long journey in the filed of sales and marketing for the benefit of youngsters choosing the sales as their career to help them to achieve their goals, excel in their performance and grow fast in their professional career. When we start reading this book, we do not feel like stopping it since the modular presentation makes it reading like a novel with each chapter presenting a valuable piece of advice and prompting to read further. He says that sales career is the special career and the sales person must posses the ability and perseverance to sell a refrigerator to an Eskimo. A no. of punch lines reinforces and characterizes the sales person. He stresses the importance of aiming and thinking high, improving memory power, communicating with clarity, managing relationships, creative thinking, sense of timing, planning, courage and self confidence, positive thinking, essential reporting, grievances handling, ability to demonstrate, being self, probing and questioning ability etc., Having read this book in full, I am of the opinion that the author need not worry about his conclusion - “My real success will be the success of those who can step up their degrees of success by reading this book”. It is a must read for those who want to advance in their career which need not only sales and marketing as the content is applicable for all. If the author permits, we may like to extract few points and present them in the newsletter IEEE MAS LINK – which I hope will not be an issue.

Reviews by Mr. H.R. Mohan, Editor, IEEE MAS Link

Urban Future



Dr. S. Thiruvengadam
Dean (Student Affairs)

Sri Venkateswara College of Engineering

By 2010 more than fifty percent of world's population are likely to be city dwellers. As world's cities multiply, serious social, political and engineering challenges have to be tackled.

Some of the serious challenges:

1. Models have to be developed to reduce, reuse and recycle materials/energy.
2. Evolve a suitable mass transportation system, with the aid of advanced technologies to prevent urban areas from being polluted by conventional automobiles.
3. To keep the electric power grids running and also developing systems to satisfy the insatiable thirst for power by the cities in the long run.
4. To install systems that will help future cities to prevent catastrophic loss of life during disasters like earthquakes, floods, etc.
5. To free cities of organized crime.

In summary, urban areas should be made peaceful, clean and safe for community life.

ECOCITY:

One of the concepts worth considering, in the above context, is developing an "Eco City". Such a city will ban all polluting cars, canals will be used as transport waterways. The streets will be populated by cyclists, hybrid motorists and pedestrians. The transportation system will be built independent of automobiles.

Waste recycling will be one of the major thirst areas here. The city will tap all its needed energy from wind, sun and by burning human and animal wastes. Even building materials will be made from ash. In this city, application of the combination of technologies will be attempted. This city will avoid sky scrapers. The building will have a maximum of ten storeys. Windows of buildings will be so designed that they automatically let in sun light in winter and provide shade in summer. Roof top solar panels provide heating energy since buildings are of low rise types. A system of geothermal pipes is one of the important features of this city. This system makes use of the that earth's air temperature is cool in summer and hot in winter. This city will restrict consumption of water to about 170 liters / person / day. This is achieved by capturing water from offices and houses and segregating it as gray water and black water. Black water contains human waste; gray water everything else. Gray water, some of it can be sent to wet lands; but a large share can be purified and piped back into houses. The black water will be treated to a steaming process and toilet wastes separated and used as biomass to generate energy. Animal wastes also will be used as a source of energy. Eco farms will be developed around such cities to be able to use solid and liquid wastes on the farms. Movement of food from farm to house can then be minimized.

TO EVOLVE FIGURES OF MERIT FOR ECO CITIES:

Any city can be likened to a living organism. Each year a city will

consume food in millions of tons, drink water in millions of litres. It will breathe giving of Co₂. It generates millions of tones of garbage. It grows using cement, glass and other constructional materials. It also decays generating millions of tons of debris through demolition of buildings and other such activities.

For a city like London, these following figures are relevant in this context (Annual values).

Food intake	:	7 million tonnes
Water	:	94 million litres
Breathe out	:	41 million metric tons of CO ₂
Garbage generated	:	26 million metric tons
Building materials used	:	28 million metric tons
Debris generated	:	15 million metric tons

But only a minor portion of what builds and sustains a mega city come from the city itself. Not even a fraction of waste generated is absorbed in the city itself. Actually, any city needs the product of thousands of squares of kilometers outside the city limits for its sustenance and thousands of kilometers more to absorb its garbage. For assessing this, the flow of materials and energy in and out of an area is examined. Then it is determined how much productive land and water is needed to supply the renewable sources involved, including energy to process them and to deal with waste generated, to deal with carbon-dioxide generated. This analysis is called ecological foot print study.

Cities can thus be classified or rated as ecologically benign and efficient or not by comparison of them ecological footprints. Such a study about London yielded the values of 49 millions global hectares, about 300 times its geographical area. On a per person basis, Londoners occupied 6.6 global hectares more than three times as much as what earth can afford to yield.

One other major concern in the building a sustainable city is the problem of making available affordable and reliable electric power. Basically, in the power delivery system in every city, the demand exceeds the generation capacity. Hundreds of millions of dollars have to be invested to build the needed infrastructure like generation, transmission and distribution. But many short term measures like tapping renewable, non-conventional sources and stringent energy conservation measures will go a long way in mitigating the sudden, shock due to blackouts and brownouts. Some of the common sense driven measures are turning off electrical equipment when it is not required, running large appliances like washing machines at off peak hours, minimizing the use of AC at peak times, replace fluorescent lamps by CFL and switching of power to large advertisement hoardings during evening hours. (It is estimated that in a city, the ad-hoardings consume the equivalent that can light up 20000 average house holds).

This article had just touched upon the surface of the problem of designing and sustaining a perfect city. For this, a systems approach is a must.

References:

1. http://www.spectrum.ieee.org/jun07/more_megacity
2. http://www.spectrum.ieee.org/jun07/more_metabolism
3. http://www.spectrum.ieee.org/jun07/more_mumbai

CARTEBLANCHE - 08 - Open Source Event

Computer Society of MIT conducted the “CARTEBLANCHE 08” the Open Source Event during 1-2, Mar 2008. This is the fourth year in succession the event has been organized with the support of by the IEEE Computer Society, Indian Linux Users Group, Chennai (ILUGC), National Resource Centre for FOSS, Computer Society of India (CSI) and AU-KBC Research Centre.

The events held included the following:

Paper Presentation: Keystroke analysis of free text (System Security); Instant Messenger security against the threat of instant messengers (Network Security); Keyword searching in Database; Hierarchical structure for Image Retrieval; A fully distributed proactively secure threshold multi signature scheme; New Techniques for face image recognition identification and labeling; Enhanced security of blowfish algorithm using bitmap image pixel plotting; Distributed web crawler; Tele-ENT using Biometrics.

Lectures by Collabnet & Aricent

General: Hanging Quiz; Linux Quiz: Open Arena – Open source gaming

Technical: Debugging; Programming; Configure IT; Treasure Hunt

Deign : Electrowiz — Anadigix is a platform for all electronics enthusiasts to exhibit their skills against the best of the best in this specialization.; Mechwiz — This event tests ones knowledge, ability to apply common sense, 3-D perception and enterprise in designing and optimization.

Online: Programming, Debugging; ZOnex

Demos on various open source packages.

Workshop on eResources and Subject Gateways

With the advent of Internet, a lot of reference materials are made available on the Net. However, landing on focused information is a Herculean task and one wastes a lot of time in this process. Library and Information Scientists help both professionals' students and faculty members in identifying meaningful resources.

In this context, IEEE CS proposes to organize workshops of 3 hours duration at various institutions (where IEEE chapters are active) in accessing eResources and Subject Gateways which will enhance the reference reading and will be useful in their career.

In these workshops, we can address 100 to 150 participants in one go with demos (if Internet facility is provided by the host institutions). Experienced librarians and subject specialists would handle the sessions. A nominal fee will be applicable. HODs / Student Brnach Co-ordinators / Office Bearers interested in organizing such workshops in their institutions may pl. contact ieecsms@gmail.com for further details.

LINK congratulates IEEE WIE Madras Affinity Group for having been selected to receive an honorable mention in the 2007 WIE Affinity Group of the Year Award and eligible to receive US\$100 to support future activities. Congrats to Ms. M. Ramalatha for her leadership.



Activities at CIEIT, Coimbatore

IEEE student branch of Coimbatore Institute of Engineering and Information Technology (CIEIT) conducted a 10 days placement training programme for the third year students from 15th May to 25th may 2008. Expert resource persons were involved in the programme from various institutions to train the students. Training constituted of three phases - namely general mathematical aptitude, technical and confident building measure.

Initial Phase – Mathematical aptitude test was conducted and evaluated feedback was given to students with the areas to improve on.

Second Phase – C, C++ Languages and SQL Queries were discussed with respect to technical aptitude. Networking, Software Engineering, VLSI and Operating System topics were also covered.

Final Phase - Eminent speakers conducted confidence-building classes for personal and human resources interview.

Tutorials by visiting faculty

Dr. Prabhakar Mateti from the Dept. of CSE, Wright Univ. USA is on a visit to India (from Jul 2 to Aug 29) on sabbatical. His interests are in the areas of Internet Security, Distributed Computing, Operating Systems and Software Engineering.

Dr. Prabhakar has volunteered to run few tutorials and deliver talks for the benefit of student community and professionals.

IEEE CS Madras Chapter and CSI are jointly proposing to make use of his visit and conduct three/four half day tutorials & one public talk.

While a no. of Chennai based colleges have shown interest in organising the tutorials by Dr. Prabhakar, we are exploring whether we can have his programmes at institutions situated outside Chennai also.

The following is the short list of four half-a-day tutorials identified: Building an Internet Firewall Based on Linux; Software without Security Holes; Distributed Computing Principles and Systems; Cluster Computing with Linux. According to Dr. Prabhakar, these are best done hands-on assuming that a lab of PCs is available. We can make use of “live CD/ DVDs” to run the Linux software. With 1 GB thumb drive, we can enable students, in the half-a-day session, to turn the USB drive into a bootable Linux capable of supporting the above.

The following is the list of 75-minute talks: Everything you should know about Linux; Hacking Techniques in Wireless Networks; Personal Security and Privacy on the Web; Explaining System Security to Computer Professionals.

While there is no. fee for the tutorial programmes, we need to take care of the speaker's local hospitality, travel etc.,

HODs / Student Brnach Co-ordinators / Office Bearers interested in organizing tutorials / talks by Dr. Prabhakar in their institutions may pl. contact ieecsms@gmail.com for further details.



IEEE MAS LINK – SRA Systems Info Contest

H.R. Mohan

Chairman, IEEE CS, Madras Chapter

Editor, IEEE MAS LINK

AVP (Systems), the Hindu, Chennai

This is the second contest under Info Contest – an ICT quiz, a regular column in our newsletter LINK. The members are encouraged to participate in the contest and win a prize. Answers to the contest questions can ONLY be sent by email following the guidelines provided at the end of the questions. TWO lucky winners who answer early and to maximum no. of questions (selected by lot if multiple entries qualify) will receive an award of Rs. 500/= each, sponsored by SRA Systems.

Info Contest – 0806

This contest has four sections A, B, C & D having five questions each.

A. Identify the terms which are defined below.

- A1. Real-time text-based communication in a virtual environment.
- A2. Information stored on a user's computer after he or she visits a Website.
- A3. The nebulous "place" where humans interact over computer networks.
- A4. An electrical signal that varies in discrete steps in voltage, frequency, amplitude, locations, and so forth.
- A5. Design principles relating to the comfort, efficiency, and safety of users.

B. Identify the Company from the Tag Line.

- B1. Connecting People.
- B2. Invent.
- B3. Networking the World.
- B4. Agile. Capable. Reliable.
- B5. Leap ahead.

C. Provide the Answer.

- C1. Name the IT Company which is the largest private sector employer.
- C2. Name the IT supplement published on Mondays along with the financial daily Business Line
- C3. The term "information Superhighway" was popularized by whom.
- C4. Name the first popular graphical browser for the world wide web released to the public in 1993.
- C5. Which semiconductor company has signed on the Chess grandmaster Vishwanathan Anand as their brand ambassador?

D. Fill in the blanks.

- D1. Sony : Blu-ray = Toshiba : _____

D2. A : 65 = a : _____

D3. Notebook : Ideapad = Desktop : _____

D4. National Inst. For Smart Government (NSIG) is located in New Delhi. State True or False.

D5. Which city is likely to get / setup India's first nano park?

Guidelines to submit the answers to the Info Contest by email.

In the Subject,

- Write the Contest No. (Info Contest – 0806) in the subject line.

In the body of the mail,

- In the first line, write the contest No: Info Contest – 0806
- In the second line, write your membership no.
- In the third line, write your email id.
- In the fourth line, write your name.
- In the fifth line, write the answers to the five questions of Section A, separated by comma.
- In the sixth line, write the answers to the five questions of Section B, separated by comma.
- In the seventh line, write the answers to the five questions of Section C, separated by comma.
- In the eighth line, write the answers to the five questions of Section D, separated by comma.

As the evaluation of the entries is automated, pl. ensure the above guidelines are followed.

Email the answers to: hrmohan.infocontest@gmail.com

The last date to receive the answers by email is 10th Jul 2008.

Info Contest – 0805 : Answers & Winners

Answers:

Avatar, Baud, Bluetooth, Bridge, Byte
BSNL, Wipro, Sandisk, Philips, DELL
EDS, DVT, MiLeap, BOSS, Vista
Zune, Lifebook, PowerShot, Tidel, Giga

Winners:



S. Vinayagapriyan

Final Year, BE (EEE)

KLN Engg. College, Madurai

Mem No: 90305461

Email: vin_priyan@yahoo.com

S. Santhosh Mahadevan

Final Year EEE

Govt. College of Technology, Coimbatore

Mem No. 80668345

Email: santhosh_mahadevans@rediffmail.com

Both the above will be awarded a prize of Rs. 500/= each. LINK acknowledges with thanks the sponsorship of the awards by SRA Systems (www.srasystems.com).

Brain Computer Interface (BCI) - A Tryst With Future



V. Arun, Final EEE,
Govt. College of Technology, Coimbatore

In just 50 years, the computer has revolutionized our lives, and our futures. But one problem remains: the interface between computer and mind. This is the Big Barrier, and it is almost as impenetrable today as it was in those early days when we punched paper tape.

The race is on to breach the Big Barrier. Researchers in industry and academia are seeking new, more expressive ways to communicate with machines. One exciting field is Virtual Reality, where the goal is to make human and machine occupy the same conceptual space. Done properly, the illusion can be compelling. The approaches include natural speech recognition, gaze tracking, and gesture recognition, where neural networks interpret hand, body and face gestures. All of these methods, however, share one unhelpful and ultimately limiting feature. They're all based on the user's muscular movement. Imagine if we could communicate with the computer *just by thinking*. We can...!!

This idea isn't particularly new. In 1967, researchers have described the experiments using subjects wired to an Electroencephalograph (EEG), which records and graphs the electrical activity of the brain. With practice, the subjects were able to reduce the amplitude of their brains' alpha rhythms, to transmit Morse code to a teleprinter.

The United States Department of Defense saw the promise of fighter pilots using their minds to directly control their planes. Though the program failed, the groundwork was laid for a field of research now growing rapidly. A major motivation has been to help patients suffering from conditions such as cerebral palsy, or spinal injuries, which inhibit physical control, but which leave intellectual faculties intact. The famous British Physicist Stephen Hawking is leading his life, thanks to the eye computer interface (ECI).

A successful BCI must be bi-directional. Getting information into the brain is relatively easy, using the normal sensory channels. But getting the information out of the brain by studying its electrical signature is a much harder problem. The sheer complexity of the brain's measurable activity produces EEG traces which present a formidable problem of interpretation. However, by focusing on very specific areas of brain activity, such as motor function, it is possible to analyse EEG data using filters, Fourier transforms, and neural networks, to extract some useful signal from the noise. Using this, researchers have trained subjects to control a "thought typewriter", which displays their chosen letters and words on a screen.

But one's feet should stay firmly on the ground, at least for now. Although the principles of EEG-based control sound simple, the extractions of meaningful data from an EEG trace remains at an extremely fundamental level.

An alternative to EEG analysis is to implant electrodes into the brain matter itself, and stimulate brain-cells directly. Stimulating individual nerve cells has been a problem due to the toxic effects of the metal leads, but recently researchers have created a "silicon to neuron junction", which can directly stimulate a nerve cell without damaging it. This technology also paves the way for two-way communication. The dangers

of inserting electrodes into brains, of course, remain.

BCI research is red-hot. Although still at an exploratory stage, the implications of recent research results are phenomenally exciting. Perhaps one day, the human-computer interface, the Big Barrier, will simply disappear altogether. And on that day I don't have to write my exams nor type anything to my PC. I merely have to *think* it.

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Last date for Paper Submission: 31st Aug 2008

For Further details Contact:

Er. N. Saravana Selvam
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Report on the “IEEE Focus on India” Visit

Dr. Rangachar Kasturi, 2008 IEEE Computer Society President, who has been nominated by Dr. Lewis Terman, IEEE President as the Adhoc Chairman, “IEEE Focus on India” visited five Sections in India (Bombay, Bangalore, Delhi, Hyderabad and Madras) to hear the views and suggestions from members in Sections and Society Chapters for better understanding of the needs of the technology community in India, enhancing the presence of IEEE and increasing the participation of Indian technology professionals in IEEE activities.

Our Members welcomed and greeted Dr. Kasturi, Dr. Matt Loeb, Staff Director, Ms. Angela R. Burgess, Executive Director, Computer Society (Washington) and Ms. Providence More, Manager of Strategic Planning & Competitive Intelligence (Washington) at the meeting held on the evening of 4th June at Hotel Le Royal Meridian, Chennai which was followed by a reception and dinner.

Mr. N. T. Nair, IEEE India Council Chair, Prof. Satheesh Kumar, Secretary, Dr. V. K. Damodharan, Former Executive Vice-Chair and Kerala Section, Mr. Amarnath Raja and Mr. Satheesh Babu also joined us.

An over view of IEEE and Focus on India, was presented by Dr. Kasturi and there was a very interesting interactive session with the participants. He invited members to identify (1) two things that IEEE does very well, (2) two things that IEEE can do much better and (3) two new things that IEEE should do.

The members of the visiting team, listened to all our views and suggestions, -some of the related issues, are listed below:

- Organising international events of IEEE in India
- Reduction of membership fees & charges for access to digital library
- Attention to core engineers(non IT) at junior level
- Payment of dues in Indian Rupees, Membership Dues and Concessions
- Linking Indian Industrial Systems
- Inviting Distinguished Lecturers from IEEE
- Easy, simple and direct access to technical information
- Using Credit Card for online payments
- Brochure, publicity material, forms etc, to be made available with the Sections/Society Chapters

- IEEE Office support to be established in India, considering the huge volume of transactions and membership (as in Singapore and China)
- Reducing administration costs by switching over to electronic version
- Bringing low cost publication/digest of articles & papers, published by IEEE, on selected topics, for which no standard text book or reference material is available
- Interest of large no. of Indian Students to become members of CS, without becoming member of IEEE
- IEEE Pins at less cost
- IEEE Benefits –Global/Updated/Recognised and it should be affordable for Indian Students and Members, Membership fee high when compared to other Societies/Organisations. Membership development not sustained etc.,
- Social networking in IEEE including non-members
- Using the Webex platform for presentations to cover large areas

In India, 4,50,000 engineering students are graduating annually and they need to be trained for taking various roles, such as design, operation & maintenance engineers, production managers, marketing executives, scientists, entrepreneurs and so on, each demanding diverse skills and expertise. IEEE can help in developing the confidence of self-learning in students even when they are under the tutelage of good teachers. Madras Section has the highest no. of Student Branches, viz, 129 and we have 3086 student members, out of the total of 4639 members, as of 15th May’08. We have formed 10 Hub centres, under the R10 GINI Section programme, to increase no. of Student Branches and student activities and to extend to unserved areas. We are on the forefront, in leading the rest of the world, in GOLD Affinity group (Computing for assessment of extent of disability in children affected by autism) and WIE Affinity group activities (taking technology to girl-students in schools in rural/semi-urban areas).

The visiting team was overwhelmed with the performance of the Section and seemed quite impressed with the initiatives taken by India Council in NDLP and other programs. Kerala Section has also done well in undertaking socially relevant projects, viz, (Building resilience in communities against climate change and natural disasters-Indian Ocean Tsunami) and InSight, which is an initiative for bridging the digital divide for the visually challenged. There was another meeting with the visiting team, on 5th June’08 fore-noon, on behalf of IEEE India Council, for a recapitulation of the happenings at the five sections, seeing India in a holistic way, to facilitate consolidating/summarizing the observations, for submission to IEEE HQ. The following major points were put forward by IC in this context:

- Starting an account in a bank in India to enable members including students to make payments in Indian currency for various IEEE services. Any new member or existing member can walk into a branch of this bank anywhere in India and easily make a payment to IEEE, putting an end to the hardships faced by Indian IEEE members all these years.
- Broadbasing the Life Member status by allowing all those with more than 25 years of standing in IEEE to enjoy this benefit. One



point which was not discussed in our meeting of 5th but very valid is a suggestion that a weightage for IEEE volunteerism may also be linked to this. i.e., to stipulate that in addition to the 25 years condition, few years of volunteer work in IEEE

movement, say as office bearer of local IEEE entity or Region or HQ level should also be there. This will ensure that more members will come forward to play active roles in IEEE.

- A second category of Life Membership may also be considered for those with minimum 15 years of membership, but ready to pay a bulk amount, to be decided after considering the economics.
- To open corporate membership category
- To start a Tele-engineering activity, similar to Telemedicine, to allow public as well as IEEE members to seek solutions for complex engineering problems from the IEEE experts. This would go a long way in bringing more societal approval for our movement, one of our aims.
- To include few representatives of IEEE Sections in India and also India Council in the HQ team working on India Initiative of Lewis Terman, President.
- To institute more incentives for members completing 5, 10, 15... years of membership
- To prevent the present massive exodus from IEEE by graduating students, an one time attractive incentive to be offered, which can not availed any time later.
- Digital Library facility to student branches, at attractive terms, linked to total membership
- A single IEEE outfit under HQ to which any kind of issues faced by members, sections, student branches could be referred, who in turn will refer it to the appropriate agency within IEEE for urgent action
- To enhance the reach of IEEE standards at the country level by interactions with the standards body, say, Bureau of Indian Standards (BIS) of India Govt. India Council has already initiated steps for this and would need to be supplemented with appropriate support from IEEE HQ. The offer from Mr Matt is well received in this context.
- Finally, the status of Council needs to be elevated with budgetary support from HQ. It is all the more important, because IEEE



Council, the Apex body in a country will only be able to address the needs of the members in the whole geographic region, including encouraging growth of IEEE in Tier-2 cities where few members may be there but with no mainline activity of a Section. In due course a new sub-section could be formed in such places. India has a great potential in this way.

- The recent initiatives of India Council like National Distinguished Lecturer programme (NDLP) approved by NIC of HQ with funding and IEEE member sticker scheme to foster networking among existing members were also highlighted during the meeting. We thank Dr. Rangachar Kasturi and the other distinguished members of his team, for their visit to Chennai to meet our Section and India Council members on 4th & 5th June'08 and also for their generous hospitality and gifts. We offer our sincere appreciation and salutations to Dr. Lewis Terman, IEEE President for his initiative on "IEEE Focus on India".

We now look forward to the implementation of the programme at the earliest.

*Report by Dr .P. Suresh Chander Pal,
Student Activity Chair & Past Chair, IEEE Madras Section &
Vice-Chair (Student Activity), IEEE India Council.*

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Last date for the submission of Extended Abstract: July 30, 2008

For further details

Website: <http://www.rajalakshmi.org/icwis09>

Email: icwis09@rajalakshmi.org



2008 President,
IEEE Computer Society
& IEEE Focus on India
AdHoc Chair
Reception on 4th June 2008
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Chennai 600 025

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Fax : +91 44 2442 3939
Email : ieeemas@eth.net, ieeemas@gmail.com

TO: