

## Chairman's Message



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

Dear friends,

I am happy to mention that IEEE is celebrating its 125th Anniversary all over the world, starting from 13th May '09, with a variety of activities. The IEEE Madras Section, being the largest Section in terms of member strength and student branches, has planned to celebrate the IEEE 125th Anniversary by recognizing its past and present IEEE volunteers, whose selfless contributions have made it possible to achieve this milestone. Being the most vibrant and active Section at Region 10 level (Asia Pacific), has many achievements to its credit in terms of national and international conferences, technical and non-technical workshops, technical lectures, faculty development programs and student congresses.

The Execom of IEEE Madras Section has tentatively proposed to celebrate the occasion of 125th Anniversary on August 08, 2009 at Chennai (venue will be decided in due course of time) with a series of activities like.

- Distinguished lecture programs
- Student centric programs
- Felicitations to Dr. Ashok Jhunjunwala, Professor, IIT Madras for being elevated to Fellowship of IEEE
- Awards and felicitations to past Section Chairs, current execom office bearers and members, office bearers of society chapters, affinity groups, present branch counselors for their valuable contributions
- Awards and felicitations to the most active student branches and society chapters
- Cultural program in the evening

By celebrating this milestone anniversary, we honour the countless contributions that IEEE members and the technology professionals have made which have changed the world, and support the development of future technologies that will benefit humanity.

The IEEE 125th Anniversary R10 student congress 2009 to be held at National University of Singapore (NUS) during July 16-19, 2009 organized by NUS on the theme "Sculpturing Student Leaders to Pioneer Sustainable Development" intends to bring together the best IEEE student volunteers from Region 10 to meet, innovate, integrate, network and share ground breaking ideas. The IEEE student branches shall motivate and support the student members to actively participate in this student congress.

It gives me great pleasure to have inaugurated IEEE student branch activities at Anand Institute of Higher Technology, Padur on February 17, 2009, and SRM University, Kattankulathur on February 19, 2009.

As the Chairman of IEEE Madras Section, I attended the IEEE Region 10 Meet 2009 at Melia Hanoi Hotel & Convention Centre, Hanoi, Vietnam on February 28 and March 01, 2009. A brief report has been published in this issue of LINK.

## From The Editor's Desk

**H.R. Mohan**  
hrmohan@gmail.com



Dear Friends,

As informed earlier, in this issue of LINK, we have published the details of the various society chapters and affinity groups for reference.

The Section Chairman, in his message, has outlined the activities planned for the celebration of the 125th Anniversary. More updates will be carried out in future issues. In this context, LINK is pleased to inform that the most active student branches will be short listed based on their activities reported in the pages of LINK.

The Computer Society had organized two CIO Meets on current interest topics namely "Leveraging IT investments" and "Open Source Solutions for better ROI". Both of them were sponsored events and the proceedings of these well attended meets appear in this issue. A forum relating to Open Source Software & Products Development was formally launched by IEEE CS & CSI Chennai and an orientation programme to familiarize with the open source development processes and methodologies was organized. The community platform on EssentiaForge has also been setup for the teams to start working. The outcome of this project will have an impact in our contributions to Open Source.

The proceedings of the Feb month technical meeting of the IEEE Madras Section jointly organized with IEEE CS, IEEE TMC and CSI Chennai Chapter on "Developing Service Oriented Solution Using Industry Standards & Models" appears in this issue.

LINK reports the Sangamam Project of Kumaraguru College of Technology, Service Learning Program & Blood Donation Camp at Velalar College of Engineering & Technology, National Conf. on Embedded Systems at Kalasilingam University, Technical Awareness Programme by Jeppiaar Engineering College, Computer Training for Rural Girls Students by Coimbatore Inst. of Engineering & Technology, Career Guidance Programme by Sri Muthukumaran Inst. of Tech along with a brief report on the inauguration of IEEE student branch activities at SRM University.

Short reports by the Chairman and WIE Coordinator on the IEEE Region 10 Meet which they have attended as the reps from Madras Section appear in this issue along with two short articles – one on Green Power by Prof. Thiruvengadam of SVCE and the other one on Autopilot by two student members – Amrutha and Punitha from Sakthi Mariamman Engineering College.

LINK congratulates Mr. S. Pugazharasan of Sri Venkateswara College of Engineering and Mr. S. Subramanian of BITS, Pilani, the winners of Info Contest 0902 who will receive a prize of Rs. 500/= each sponsored by SRA Systems. We encourage other members to actively participate in the forthcoming Info Contests.

From this issue onwards, LINK will list the additions to the IEEE Madras Section Library which will be available for member's reference. An announcement inviting members to join the IT History Society — which provides the glimpses of the past, also appears in this issue.

### Editorial Team

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

## Technical Meeting on Developing Service Oriented Solutions Using Industry Standards & Models



A technical meeting on the topic “Developing Service Oriented Solutions Using Industry Standards & Models” by Mr. K. Lakshminarayanan, Software Architect, IBM Software Group, Austin, Texas, USA was organized jointly by the IEEE Madras Section, IEEE Computer Society, Madras Chapter and Computer Society of India Chennai Chapter on 16<sup>th</sup> Feb 2009.

Mr. T.S. Rangarajan, Execom Member, IEEE Madras Section welcomed the gathering. Mr. H.R. Mohan, Chairman, IEEE Computer Society of India, Madras Chapter briefed on the interaction with the speaker, an IEEE member from US in organising this event on SOA, a most widely talked about subject and then formally introduced the speaker to the audience.

The speaker, Mr. Lakshminarayanan (LN), started his presentation by explaining about SOA which is an architectural style based on principles of Loose Coupling, Reusability, Statelessness and Discoverability etc.,. He went on defining “Service Oriented” as — the means of separating things into logical and independent units called services and clarified that SOA is not a programming language.

Some of the common pain points in service development that industry content can help include: Lack of a framework leads to duplicated investments and increased maintenance and integration costs; Long analysis and design cycles to properly decompose the business into functional areas and specify services which leads to higher cost and risk with each new application and Integration of legacy applications is a constant challenge for most, if not all, enterprises.

He explained about Industry Content which is reusable, industry specific assets derived from a standard industry model and used to design and implement a SOA solution such as Models (process, service, data, etc.),



Patterns, Templates, Message Specifications, Data Dictionaries or Vocabularies, Common Reusable Services and Policies / Rules / Semantic Models. Industry Content is valuable because they drive consistency in composite application assembly, reduce time to market and foster alignment of services with industry standards. He tipped on the Service Development using Industry Content in which Industry Content should always be the accelerator, the end result, or both and it should be easy for end users to generate their own industry content.

He touched upon Industry Standard Models – formats which include: Schema Definitions (.XSD), EDI Messages (EDI), Spreadsheets (.XLS), UML Models, Word Documents and PDFs. He then introduced few industry standard landscapes such as tmforum, OMG, Health Level Seven, Open Application Group, ACORD, ISO, eEG7, ASCX12 and VDA.

Mr. LN, spoke on achieving consistency using a common business glossary (Common Lingua Franca) and Enhancing the SOA Lifecycle with Industry Content. He explained the steps in modeling and assembling a solution which

include: Using Requirements, analyze the gaps in the Industry Content and identify points of extension (*Example : Business Processes*); Identify the right kind and set of assets required for the solution from the Industry Content (*Example : Glossary, Message Specifications*); Identify Database requirements using the Industry Content (*Example : Data Model*); Define business policies, and operational capabilities for various service implementations or end points. (*Example : Business Glossary*); Implement Services that are Atomic or Composite using a programming model like SCA or J2EE or Web Services (*Example : Templates, Libraries etc., Common Reusable Services*).

Mr. LN then presented a Reference Model to develop Industry Content. The Industry Content Reference Model enables a governing architecture for building SOA solutions — Best practices, reference implementations, other guidance which form the basis of a governance model for SOA solutions; Aligned to industry and technical standards is explicitly addressed by the reference model; Provides a taxonomy of reusable SOA solution assets that are aligned with SOA reference architecture. He took the example of Telecom Industry and explained the various aspects of developing SOA solution.

The presentation was highly interactive with questions raised by the participants clarified as the presentation progressed. The meeting went on for close to two hours, the longest for a technical meeting .

After the talk, General A. Balasubramanyam, Fellow and Founder Secretary of CSI presented a memento to the speaker Mr. Lakshminarayanan.

## Sangamam Project by Kumaraguru College of Technology

IEEE – KCT Student Chapter, Women In Engineering Affinity group organized and conducted the first Sangamam Project – “Hands on Basic Computer Training to Rural School Students” in the Simulation Lab, EEE, KCT on 21<sup>st</sup> Feb 2009.

30 students from V.C.V. Govt. Higher Secondary School, Vellakkinar, Coimbatore participated in this program. KCT staff members conducted the training session and the WIE affinity group members assisted in providing hands on training to the students. IEEE – KCT Counselor Prof. K. Regupathy



Subramanian distributed the certificate of participation.

The students were very enthusiastic in learning and expressed that the training session was very useful to them.

## CIO Meet on leveraging IT investments



IEEE Computer Society, Madras Chapter & the CIO Forum of CSI Chennai joined Clover Infotech (a leading Oracle Technology Solutions & services provider) and Oracle in organizing a CIO forum meet on “Leveraging your IT investments in the turbulent times” on 18<sup>th</sup> Feb 2009.

Information technology has grown in power and ubiquity. Companies view it as ever more critical to their success. Heavy spending on hardware and software in the past clearly sums it up. Chief Executives routinely talk about Information Technology’s strategic value, and about how they can use IT to gain a competitive edge. However in today’s turbulent times, companies need to manage IT costs more aggressively to avoid “the cost disadvantage”. CIOs need to explore new avenues to extend existing technology to achieve competitive advantage. This evening meet was organized to address these issues.

The first half of the session was addressed by two speakers from Oracle Mr. Datathirri Srinivasan, Senior Solution Manager – Technologies & Mr. Ramasubramanian Athmanathan, Principal Consultant – Database Technologies. These speakers gave insight on various cost effective technology options Oracle provides to improve security & performance.

The second half of the session was addressed by Mr. Amit Boraskar, Director – Linux & Open Source, Oracle. He presented a value proposition of Oracle Enterprise Linux and seamless migration process from Redhat Enterprise Linux. He also touched upon Oracle’s offer on Virtualisation in some detail which was of great interest to the gathering.

The meet, whose objective was to educate the users to make IT decisions that are appropriate with longer lifecycles, was attended by nearly 85 IT Managers.

## CIO Meet on Open Source Solutions for better ROI.



IEEE Computer Society, Madras Chapter & the CIO Forum of CSI Chennai in association with Red Hat India Pvt. Ltd had organized a CIO meet on “Carve Out Cost: The answer lies in the Open” focusing on Open Source Solutions for better ROI on 13<sup>th</sup> Feb 2009.

Mr. H.R. Mohan, Chairman, IEEE CS & the Convener of the CIO Forum of CSI Chennai welcomed the gathering and highlighted how open source software have gained importance over the period as the organizations are looking at reducing the cost in the period of global meltdown. He had also pointed out that the open source offers solutions for almost all types of applications apart from the initial offerings of operating systems. Further, the community around the OSS makes the support an ongoing feature and OSS literally eliminates the vendor lockin.

Mr. Udayarangan Singlachar, Regional Manager - Enterprise Sales of Red Hat gave an overview of the company Red Hat which is a pioneer in open source and contributed to a no. of open standards. He had briefly touched up on the various service offerings from Red Hat for the enterprise customers.

In the first technical presentation, Mr. Sukanta Bask, Sr. Solution Architect, Red Hat outlined why OSS have become popular and gave a detailed presentation on the features of the Fedora based Red Hat Enterprise Linux 5



which include: Virtualisation, Security, Auditing, MS Windows Interoperability, Product Packaging, Manageability, Distributed System Enhancements, Performance, File Systems, Development Tools, Desktop Environment and options etc., He had also illustrated few case studies on how the Enterprise Linux is used by major organizations for high demanding applications such as Blackboard, an e-learning solution running on 1800+ Dell Servers with 500TB of storage.

The second presentation was focused on JBoss Enterprise Middleware, a comprehensive line of middleware products to accelerate the ability to develop, deploy, integrate and manage applications across the extended enterprise. Mr. Sandesh Kortikar, Solution Architect, JBoss explained how seamlessly the middleware products such as JBoss Developer Studio, Metamatrix Designer, JBoss Portal & Application Platforms, SOA Platfor, Data Services Platform and JBoss Operations Network are integrated to offer a powerful middleware solution to enterprises.

The meet which had attracted over 90 participants from corporate organizations, academia was co-ordinated by Mr. Hiren Shah, the Past Chairman of CSI Chennai, Mr. Lakshmi Narayanan, Manager – Enterprise Sales, Red Hat and Mr. Muralidhar Kannan, Channel Sales Manager – South, Red Hat.

## IEEE Inauguration 2009 at SRM University



On February 19<sup>th</sup>, SRM University hoisted its IEEE banner for the year 2009. IEEE, an institution aiming to connect people and change the world with its fostering excogitation has made an embankment of excellence, benefits and confluence in the university. On the occasion of 25<sup>th</sup> jubilee year for SRM, it has peaked to an exhilarating 150 student membership.

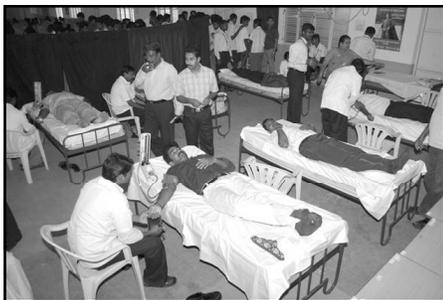
To bless SRM and IEEE, inauguration started with a prayer recited by Ms. Rukmani. After the prayer, the programme was anchored by Anuparna Varma and Pushpaak (student members).

The inauguration was blessed with the presence of Dr. S. Salivahanan (Chief Guest, Chairman IEEE, Madras Section), Dr. R. Ramaswami (HOD, Dept. of Electrical and Electronics), Dr. Vidyacharan Bhaskar (Associate Dean), Dr. T.P. Ganeshan (pro-vice chancellor, SRM university), Dr. S.S. Dash (Professor, Dept. of Electrical and Electronics) and Mr. C.Vaithilingam (IEEE student branch counsellor). Dr. R. Ramaswami, a member of IEEE, in his speech highlighted the benefits of IEEE specifically for the students and explained how the teachers can contribute to IEEE. Dr. Vidyacharan Bhaskar introduced the chief guest Dr. Salivahanan. Dr. Salivahanan started

his speech by congratulating the university on its 25<sup>th</sup> jubilee year and then apprised the participants with countless IEEE events that can be organised in the campus, also various awards related to work done in IEEE. He told about the benefits of IEEE conferences, internships and awareness programmes specially for the students who are interested in research. Dr. T.P. Ganeshan, presented a memento to the chief guest expressing his gratitude and gave an assurance to follow his advice for enhancing SRM-IEEE.

Dr. S.S. Dash also added his consent and full contribution in heightening SRM-IEEE. Last but not the least Mr. C.Vaithilingam expressed his thanks to all the dignitaries and students for contributing their time. Lastly, everyone arose to recite the national anthem. In a nutshell, February 19<sup>th</sup> (11:30 am) was the end of IEEE-2009 inauguration but also the successful beginning of IEEE in the year 2009.

## Service Learning Program & Blood Donation Camp at Velalar College of Engineering & Technology, Erode.



The IEEE Students Branch of Velalar College of Engineering & Technology (VCET), Erode in association with BIONIKX, the students association of Biomedical Engineering of VCET, Lions Club of Erode Fort, Kongu Blood Bank & Components Centre, Erode, Erode Cancer Centre and Rotaract Club of VCET, organised a Service Learning Program & a Blood Donation camp On 26.02.09.

As a part of this programme, the IEEE-EMBS Student members of VCET are trained on various procedures and techniques followed in a blood bank. After learning the techniques they are allowed to participate in a blood donation camp joining hands with Kongu blood bank & Components Centre at the college premises.

The function Started at 11:00 am on

26.02.09 at the conference hall of VCET with the welcome address given by Mr. B. Arumugam, Chair, IEEE SB of VCET, following him Mr. N. Raghu, Joint Treasurer of BIONIKX, presented the introduction to BIONIKX.

Ms. S Deepa, Execom Member of IEEE SB of VCET & Coordinator of blood donation camp explained the structure of the programme. Following her, the Principal Dr. K. Palaniswamy gave the presidential address.

Mr. K. Kaliyannan, Retd. Joint Director of Tamilnadu Drugs Control Department gave a talk on "Importance of Blood donation". Following him, Dr. Jeevanandham, President, Erode Cancer Centre, gave a talk on "Blood donation – A Service to Mankind". Next to him, Dr. K. Velavan, Director, Erode Cancer gave a talk on "Blood Donation and its role in Eradication of Cancer".

The guests gave away the certificates to the student members of IEEE-EMBS who actively participated in the training program conducted at Kongu Blood Bank & Components Centre, Erode.

Mr. P. Ravikumar, Chair, IEEE-Control System Society, presented the activities of IEEE and its part in this programme. Following him Ms. Mohana, President of Rotaract Club of

VCET, showcased the service rendered by Rotaract club of VCET to the local people.

Ln. P. Karunanithi, Region Chairman, Lions Club of Erode, briefed out the service rendered by Ln. Vijayarani Rajendran, President of Lions club, Erode Fort to the society. Following him Dr. N. Jeyasanthi, Association Coordinator of BIONIKX felicitated the function. The forenoon session came to an end by the thanking note delivered by Ms. Praseetha Grace Paul, Student member of IEEE-EMBS.

The afternoon session started with presentations by IEEE-EMBS student members (Trained by Kongu Blood Bank & Components Centre, Erode. ) on topics "Components of Blood", "Blood Donation and Safety", "Safe Blood Transfusions", etc.,

Following the presentations the Blood Donation Camp lead by Mr. K. Muthusamy & his team of Kongu Blood Bank along with the participation of trained students took place. 100 units of blood were collected from the students of VCET. The function came to an end with national anthem at 05:00 pm.

Report by: M. Arunraja, Secretary, IEEE-SB of VCET. E-mail: arunraja@ieee.org

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## 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 ELEVENTH 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 to maximum no. of questions and early (selected by lot if multiple entries qualify) will receive an award of Rs. 500/= each, sponsored by SRA Systems.

#### Info Contest – 0903

This contest has four sections A, B, C & D having five questions each. The number in bracket at the end of the questions denotes the no. of characters in the answer string.

#### A. In the following acronyms/ abbreviations “M” stands for what.

- A1. BPM
- A2. WiMax
- A3. MFD
- A4. MID
- A5. CDMA

#### B. Identify the company / product / magazine / service from the Tag Line.

- B1. The power of simplicity
- B2. Simplifying Complexities
- B3. See: Performance
- B4. Your eyeball view. Our technology new.
- B5. A Business Minded Computer Magazine

#### C. Provide the Answer.

- C1. “Lynx” is a CLI based browser. State True or False
- C2. IPTV follows the principles of Broadcast. State True or False

C3. BOSS, the GNU/Linux distribution from CDAC is based on \_\_\_\_\_

C4. What is common: Moodle, Sakai, ATutor

C5. OSI Tech Days 2009, recently held at Chennai was previously known as \_\_\_\_\_

#### D. Fill in the blanks / Provide the answer.

D1. India : in China : \_\_\_\_\_

D2. MS Office : PowerPoint = Open Office : \_\_\_\_\_

D3. Which Google feature lets cell phone users share their location with others?

D4. Microsoft often named its projects (in particular, versions of MS Windows) after \_\_\_\_\_

D5. ELCINA is the association of \_\_\_\_\_

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

In the Subject,

- Write the Contest No. (Info Contest – 0903) in the subject line.

In the body of the mail,

- In the first line, write the contest No: Info Contest – 0903
- 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](mailto:hrmohan.infocontest@gmail.com)

**The last date to receive the answers by email is 5<sup>th</sup> Apr 2009.**

#### Info Contest – 0902 Answers & Winners

##### Answers:

False, True, True, False, False  
Satyam Computers, ezone, Novell,  
yatra.com, Express Intelligent Enterprise  
Spam, 3i Infotech, Chetan Bhagat, Open  
Source ERPPackages, Mouse  
GOOG, Excel, VisiCalc, Cats, Cellular  
Operators

##### Winners:



**Mr. Pugazharasan  
Selvanathan**

Sri Venkateswara College of  
Engineering  
Mem No. : 90238454  
Email : pugazharasan@gmail.com



**Mr. S. Subramanian**

Birla Institute of Technology  
and Science, Pilani  
Mem No. 90533732  
Email: subramanian.s88@gmail.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](http://www.srasystems.com)).

#### Section Membership as on 15th March 2009

Life Senior	-	5
Fellow	-	1
Life Fellow	-	1
Life Member	-	3
Senior Member	-	68
Member	-	687
Affiliate	-	26
Associate	-	29
Graduate Student Member	-	675
Student Member	-	3529
<b>Total</b>	-	<b>5,024</b>

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[www.ewh.ieee.org/r10/madras](http://www.ewh.ieee.org/r10/madras)

## EMCON'09: National Conference on Embedded Systems



The IEEE Student Branch of Kalasalingam University, Krishnankoil organized the 3<sup>rd</sup> National Conference on Embedded Systems EMCON'09 on 19<sup>th</sup> & 20<sup>th</sup> February 2009.

The conference was preceded by a pre-conference tutorial on the topic of “Real Time Operating Systems” by Dr. Rajkamal, Professor, Devi Ahilya Vishwavidyalaya- Indore on 18<sup>th</sup> FEB 2009. Dr. S. Radhakrishnan, Director, Admission, Kalasalingam University inaugurated the pre-conference tutorial and seventy five participants attended the one – day tutorial.

The inauguration of the conference was held at 9.30 A.M on 19.2.09 Dr. D. Devaraj, Organizing Secretary – EMCON'09 welcomed the gathering and gave an overview of the conference. Mr. Ravindra Kumar, Director, VLSI Design Centre, CDAC, Thiruvananthapuram inaugurated the conference and delivered the inaugural address.

In his inaugural address, Mr. Ravindra Kumar mentioned that Embedded System is playing a significant role in every day life today. The prices of mobile phones have come down drastically, because of the advancement in Embedded System field. He highlighted the role played by Embedded Devices in the medical field. He advised the students to learn the latest developments in the field.

The Conference proceeding was released by Dr. Suresh Chander Pal, Student Activity Chair, IEEE Madras Section & Executive Vice-Chair, IEEE India Council. In his address, Dr. Pal appreciated the efforts of Kalasalingam University IEEE student branch in organizing various activities for the benefits of students and faculty members. He explained the activities of IEEE and motivated the students to become the member of IEEE.

Dr. Rajkamal, Professor, Devi Ahilya Vishwavidyalaya in his key note address on “Embedded System Hardware and Software”, said that the Embedded Systems are needed by every one and added that the children need them to play smart video games and to operate automatic chocolate – vending machine! Young people need it to borrow smart cards from parents to see the movies. The driver needs it for automatic cruise control of car. Housewives need them for Internet compliant microwave, TV, music system and other home appliances etc.,

In the two days conference 70 papers were presented by research scholars, P.G. students and faculty members from various institutions. Apart from the paper presentations the conference had the following invited talk also:

- “Digital Signal Processors” by Dr. Rajasekar, Professor, Karunya University.
- “Design and development of Embedded System”, by Dr. Vijayanath, Professor, BIT Mesra, Ranchi
- “Digital Control of Power Electronic Converters” by Dr. G. Narayanan, Professor, IISc, Bangalore.
- “Radar Systems” by H. S. Bhatia K.N.S Institute of Technology, Bangalore

The valedictory function of the conference took place on 19<sup>th</sup> February evening. Mr. Dhanabal, Academics Manager; NI Systems delivered the valedictory address. Dr. C. Thangaraj, Vice-chancellor, Kalasalingam University distributed certificates and the best paper award to A. Kumar, BIT for the paper on “Design of High Fan- In Dynamic CMOS Comparators with low transistor count in VLSI”. The programme ended with the vote of thanks proposed by Mr. Nelson Daniel, student chairman.

*Report by: Dr. D. Devaraj,  
Branch Counselor, KLU*

## First R10 Distinguished Seminar at Hanoi University of Technology, Vietnam



Mrs Ramalatha Marimuthu, R10 WIE Coordinator gave a talk on Women in Engineering and Technology for Human Welfare at Hanoi University of Technology, Hanoi, Vietnam, on 27.02.2009. The seminar was part of the first distinguished seminar on “Human Support Technologies from IEEE” organized by R10 Technical Activities Committee and Hanoi University of Technology. IEEE President Dr. John Vig, IEEE Past President Dr. Lewis Terman, the Region 10 section chairs, faculty and student members of Hanoi University of Technology, and many other dignitaries attended the seminar.

**Abstract of the talk:** Early developmental disorders and disabilities like dyslexia and autism are difficult to detect in early stages in children. Mr. Sampathkumar Veeraraghavan of Brahmam Research Forum and Women in Engineering Team, Madras Section have joined together in developing a screener software for the detection of disabilities and disorders and it has been donated to the government of Tamilnadu in late 2008. Now it has been installed in 22 districts and about 30 million people will be benefited because of that. Also the team is working on two remedial measures – Music Therapy and Vedic Mathematics, which can help the children with dyslexia. This has been tested in children with dyslexia and has been found successful.

**The other talks delivered at the seminar include:**

- Leadership skills in the IEEE by Joseph V.Lillie, Vice president, IEEE member and Geographic Activities

- E-science and Research & Educations Networks Development by Yong-jin Park, Director IEEE R10, Hanyang University, Korea
- Measurements of Complex and surface Resistance of Novel Low Loss materials for Future Technologies by Janina Mazierska, R10 Past Director, Massey University, Newzealand
- Artificial Intelligence and its Applications in Industry by Marzuki Khalid, R10 Conference Coordinator, Technical University of Malaysia, Malaysia
- Industrial automation: actual status and future trends by Ta Cao Minh, Chair, IEEE Vietnam Section, Hanoi University of Technology, Vietnam

Mrs. Ramalatha Marimuthu, also visited Chulalongkon University, Bangkok at the invitation of Dr. Proadpran Punyabukkana, a distinguished Professor from the Department of Software Engineering, Chulalongkon University.

## Technical Awareness Programme by Jeppiaar Engineering College



The students from IEEE student branch of Jeppiaar Engineering College, under the “WE CAN BRING THE CHANGE” campaign, carried out the technical awareness program at “Poongavanam”, a school for the child labour development cell, supported by the Hand in Hand Trust based in Sweden.

There were 30 students from 2nd and 3rd years EEE, who were divided into four teams, with each team preparing their own presentation, the whole crew of students were lead by our Branch Counsellor. We had complete support from our beloved directors Mr. N. Marie Wilson and Mrs. Regeena Wilson. and our principal Dr. Susil Lal Das.

The program was held on 21<sup>st</sup> February,

2009. The children who attended the program were between the age group of 9-16 years. Many of them were induced into hard jobs at a very early age. They were given very little family support due to their less fortunate circumstances. So these children are gathered from various districts of Tamilnadu and are given shelter, education, clothing, food by the well organized team under the Hand in Hand Trust.

Our job was to introduce these small children to a world of latest technology, history of scientific development, the life of great inventors and motivate them using the larger than life personalities who they consider as role models.

There were different topics which were presented in the form of video clippings, animations, pictures and photos. This knowledge was conveyed to them in the vernacular, which made it easier for them to understand and get involved. Along with the presentations, interactive sessions were included in between, which made them answer for the various questions posted. They were given prizes for every correct answer, which made them even happier.

Their talents were exhibited during this

program. Some of the students came forward to sing songs and dance for the tunes of the latest peppy numbers. Certain games were planned in outdoors, in which they participated and won prizes too. As the program progressed gradually, there was no barrier between the school and the engineering students. They started to closely relate to each other and they felt at home, within a short time.

The program was a runaway success, as we achieved a lot more than what we really expected. The smile in the face of the children when receiving prizes, their active cooperation in the events, their energy and enthusiasm throughout the program gave us an opportunity to learn important lessons in life. We understood how fortunate we are to reach this stage of life with so less effort, but these children had to face so many hardships within this short span of life.

We consider it is a beginning for our “WE CAN BRING THE CHANGE” campaign, as we are planning for many TAP and other programs in this coming year and we feel it is a small step towards our contribution to the society.

*Report by: F Felix, Student Chairman,  
IEEE Student Branch, JEC*

## IEEE Region 10 Meet at Vietnam



*Participants in IEEE R10 Meet 2009 at Hanoi, Vietnam*

As the Chairman of IEEE Madras Section, I attended the IEEE Region 10 Meet 2009 at Melia Hanoi Hotel & Convention Centre, Hanoi, Vietnam on February 28 and March 01, 2009.

I reached Hanoi on February 27, 2009 and attended the seminar on “Human Support Technologies for IEEE” at Hanoi University of Technology, Vietnam.

On February 28, 2009, Dr. John Vig - IEEE President, Dr. Lewis Terman - IEEE Past-President, Dr. Joseph Lillie - VP MGA, Prof. Yong-Jin Park - R10 Director, Prof. Kukjin Chun - R10 Secretary, Prof. Jozef Modelski -

R8 Director, Dr. Janina Mazierska - R10 Past Director, and Co-ordinators and Execom Members of R10 gave presentation of reports.

The India Council conducted a meeting with all Section Chairs of India and Indian delegates. The buffet dinner with cultural programme was arranged for all the guests and awards were presented to the achievers.

On March 01, 2009, the IEEE Sections who are planning to conduct TENCON in the next three years gave presentations.

Section Management Training Workshop was conducted by YW Liu, Akinori Nizhihara, Cecelia Jankowski and Fanny Su. Prof. Joseph Lillie gave a lecture on “Professional Activities”.

There was an Open Forum discussion with Professors John Vig, Lewis Terman, Joseph Lillie and Cecelia Jankowski before lunch.

In the afternoon, a city tour was arranged for all the participants. A casual dinner was arranged in Brother’s Café in the city of Hanoi.

On March 02, 2009, I visited Ha Long Bay which has 3000 limestone islands and Sung

Sot cave is on the same island with Trinh Nu cave.

On March 03, 2009, during my transit, I had an opportunity with the help of Prof. Proadpran Punyabukkana, IEEE R10 EAC Coordinator, to visit Chulalongkorn University, Grand Palace and Emerald Buddha Temple in Bangkok, Thailand.



*Indian Team at R10 Meet 2009, Hanoi, Vietnam*

**IEEE Computer Society Madras Chapter activities are featured in the IEEE CS web site under the “chapters” section. Read the article: “Madras Chapter Wraps Up Busy Year” at <http://www2.computer.org/portal/web/membership/chapters>**

## Computer Training for Rural Girls Students By CIET IEEE Student Branch & WIE



The Madras IEEE WIE and the WIE Affinity Group of CIET - IEEE Student Branch, Coimbatore organized a five day computer training programme for rural girls school students under SANGAMAM Project from 27<sup>th</sup> to 31<sup>st</sup> December 2008. This was supported by Asia Pacific Women in Engineering.

Prof. M. Ramalatha, Chair, WIE Affinity Group, IEEE Madras Section and Region 10 WIE Coordinator inaugurated the programme on 27<sup>th</sup> December 2008. She had close interaction with the school students and their teachers who were very grateful for the support IEEE was extending to further their education.

She assured the students that she would extend all possible support for their future growth.

The computer training covered the computer basics namely MS-Word, MS-Excel, MS-Power Point etc. The office bearers of WIE affinity group, CIET-IEEE student branch gave the training to the school students in their own language of study.

At the end of five days training, feedback was collected by Dr. K. Thanushkodi, Principal, CIET. He was delighted to note that the programme was very useful to the rural school students who had not even seen a real computer. The participation certificate to all the 30 girls students were distributed him.. The head mistress of the school thanked the WIE Affinity group for coming up with such wonderful idea under the name "SANGAMAM" project.

All the students participated in the programme were given the printed course material in Tamil language.

### International Conference on Electrical Energy Systems & Power Electronics in Emerging Economics (ICEESPEEE09)

April 16<sup>th</sup> & 17<sup>th</sup>, 2009

*Organised by*

Department of Electrical and  
Electronics Engineering  
Faculty of Engineering And Technology  
SRM University

*In association with*

IEEE Madras section

*Address for Correspondence:*

Dr. S.S. Dash, Convenor,  
Mr. K. Vijayakumar, Co-ordinator  
Mr. A. Rathinam, Co-ordinator  
ICEESPEEE09  
Department of Electrical & Electronics Engg.  
SRM University  
Kattankulathur – 603 203, Chennai, India  
Email: iceespee09@gmail.com

### FORM IV

Statement about ownership and other particulars about newspaper (IEEE-MAS LINK) to be published in the first issue every year after the last day of February

1. Place of publication IEEE Madras Section  
Room No.3, ISTE Professional Centre  
Gandhi Mandapam Road, Chennai 600 025.
2. Periodicity of its publication MONTHLY
3. Printer's Name Mr.R.RAVI  
Nationality INDIAN  
Address No.54, 55, V.S.V.Koil Street,  
Mylapore, Chennai 600 004.
4. Publisher's Name Dr. KRISHNA V. PRASAD  
Nationality INDIAN  
Address IEEE Madras Section  
Room No.3, ISTE Professional Centre  
Gandhi Mandapam Road, Chennai 600 025
5. Editor's Name Dr. KRISHNA V.PRASAD  
Nationality INDIAN  
Address IEEE Madras Section  
Room No.3, ISTE Professional Centre  
Gandhi Mandapam Road, Chennai 600 025.
6. Names and addresses of individuals who own the newspaper and partners or shareholders holding More than one per cent of the total capital: IEEE MADRAS SECTION

I, Dr. KRISHNA V. PRASAD, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Date: 15.03.2009

  
Signature of Publisher

## IT History Society

The recently formed "IT History Society" intends to help the process of creating and preserving the historical record, and understanding what it means for today and tomorrow, by acting as an international information point concerning IT history. It will track historical projects seeking funding, as well as projects underway and completed, to improve communication and efficiency and avoid duplication within the historical community. In addition, at the IT History Society is dedicated in informing the public and private sector of the numerous benefits of historical and archiving functions.

In addition to the work of tracking projects and building capacity in the community, ITHS will also be providing background information to those with an interest or potential interest in IT history. These include papers that provide expert advice on how to go about doing historical work or which convey the benefits of why historical activities can positively effect private sector organizations.

ITHS offers three kinds of membership: individual, corporate, and public sector. There is no cost to join ITHS for any of these categories of membership.

The principal tangible benefits of becoming a member, whether you are an institution or an individual, include eligibility:

- to have your current or past projects profiled on the Projects and Profiles section of the ITHS web site,
- to submit your projects to the ITHS archival or historical advisory for possible funding.

Those interested, may become a member of ITHS online at <http://www.ithistory.org/membership/member-form.php>

## GREEN POWER

**Dr. S. Thiruvengadam**

*Professor, Department of Electrical and  
Electronics Engineering,  
Sri Venkateswara College of Engineering,  
Sri Perumbudur - 602 05*

### DEFINITION OF GREEN ELECTRICITY

Electricity produced by a technology that does not involve the use of fossil or nuclear fuels. This definition may not be acceptable to all potential consumers. For example, some consumers may not accept the idea of municipal waste producing green electricity. However, incineration of waste produces some of the lowest cost green electricity and the consequence of excluding this technology would be to increase the average price.

A number of schemes have been developed around the world with the objective of selling green electricity; some have been successful, other less so. There are a number of key points that must be addressed in designing for the sale of such electricity.

1. What is being sold, electricity or greenness or both?
2. Who is the product being sold to?
3. Which generators will be involving in producing green electricity?
4. The value of green electricity?
5. The potential market size?
6. The quantity of the commercially viable green source?

In an integrated electrical net work, it is not possible to trace the flow of electricity from generation to consumer. However, it can be demonstrated by the use of meter readings that the generator has provided sufficient energy over a period to meet the energy demand of the consumer. The green pool does not aim to meet the instantaneous power demand of its consumers. Even a portfolio of green generators would be unable to exactly meet the instantaneous power demand of its consumers at energy instant, and as a result, the green pool will have to purchase top-up electricity when demand exceeds generation and conversely sell excess electricity when generation exceeds demand. If the consumer base is mainly in the domestic sector, then the periods at which top up electricity will be required will be those in which the price will be the highest and such electricity will be sold at periods when prices are low. Consequently, even if the number of

KWH generated over a year equal the demand, there will still be a cost associated with trading of spill and top up. This cost must be taken into account when considering the commercial viability of a new generating project.

In order to meet these criteria for the successful development of green electricity market, it is necessary to introduce a market mechanism that will:

1. clearly state the definition of technologies that are regarded as using green resources.
2. be open to all renewable energy generators.
3. offer a guarantee that over a year sufficient energy (KWH) will be generated to meet their demand or an agreed portion of that demand.
4. green electricity will be offered at a price that is attractive in comparison with other supply contracts.

### COST OF GENERATION

The final cost to the consumer is made up of several components, namely,

1. cost of generating electricity
2. cost of providing and operating the electrical net work
3. cost of supplying electricity - Which works out to be the cost of trading electricity, metering, invoicing, debt collection and reconciliation of meter readings of consumers and generators.
4. and taxes.

In defining a strategy for the successful development of a green electricity market, due regard must be devoted to:

- i) Existing generating plant
- ii) Growth of electrical demand
- iii) Financial and commercial conditions necessary to promote a green electricity market
- iv) Consumer attitudes to green electricity

### GREEN TARIFF

This approach offers customers the option to buy some or all of their energy requirements from their new renewable energy technologies. The green tariff might charge a little extra per KWH, or it might consist of a premium for 100 KWH purchased or a unit (perhaps 100 W) of capacity. In some cases, consumers may choose the amount of "green" energy capacity. (equivalent to 50,75,100 percent of consumption for example). The key feature of this approach is that the premium or incremental price that consumers pay is related to the amount of energy they purchase or use the income thus generated is used by the scheme operator to purchase a quantity of renewable energy supplies to match consumer commitments during the stated period.

### CONCLUSIONS

Development and delivery of green power is still at an early stage. There will be a significant number of such projects in the coming years on the global scale.

## Additions to the IEEE Madras Section Library

- **Hardcopy Proceedings of ICWIS09**— International Conference on Web Intelligent Systems, held during 8-10, Jan 2009. Organised by Rajalakshmi Engineering College in association with CSI Div II on Software & Chennai Chapter, IEEE Computer Society, Madras Chapter and IIITM, Kerala. Edited by Prof. B. Govindarajulu, Dr. Sheila Anand and Mr. P. Kumar. Published by Narosa. Pages 240 + XXX.
- **CDROM Proceedings of NCISE 2009**— National Conference on Information and Software Engineering, held during 13-14, Feb 2009. Organised by Aarupadai Veedu Institute of Technology in association with IEEE Madras Section, IEEE Computer Society, Madras Chapter

and CSI Div II on Software. The CD contains 40 full papers presented during the technical sessions of the conference.

- **User Presentations and Proceedings CD of COMSOL Conference** held at Boston & Hannover during 2008. The CD contains over 300 slideshows, animations, models and papers about Multiphysics Modeling.

All contributions to the library will be acknowledged through this column in the newsletter. All the organizers of the conferences supported by the IEEE Section and Society Chapters are requested to send a copy of the proceedings for adding into the library at the Section.

# AUTOPILOT

S.Amrutha, 3<sup>rd</sup> Year, IT  
 R.Punitha, 3<sup>rd</sup> Year, IT  
 Sakthi Mariamman Engineering College

## INTRODUCTION

An autopilot is a mechanical, electrical, or hydraulic system used to guide a vehicle without assistance from a human being. Most people understand an autopilot to refer specifically to aircraft, but self-steering gear for ships, boats, space craft and missiles is sometimes also called by this term

## FIRST AUTOPILOTS



An early autopilot system in an Avro 19 plane, circa 1947

In the early days of aviation, aircraft required the continuous attention of a pilot in order to fly safely. As aircraft range increased allowing flights of many hours, the

constant attention led to serious fatigue. An autopilot is designed to perform some of the tasks of the pilot.

The first aircraft autopilot was developed by Sperry Corporation in 1912. Lawrence Sperry (the son of famous inventor Elmer Sperry) demonstrated it two years later in 1914, and proved the credibility of the invention by flying the aircraft with his hands away from the controls and visible to onlookers.

The autopilot connected a gyroscopic Heading indicator and Attitude indicator to hydraulically operated elevators and rudder (ailerons were not connected as wing dihedral was counted upon to produce the necessary roll stability.) It permitted the aircraft to fly straight and level on a compass course without a pilot's attention, greatly reducing the pilot's workload. In the early 1920s, the Standard Oil tanker *J.A Moffet* became the first ship to use an autopilot

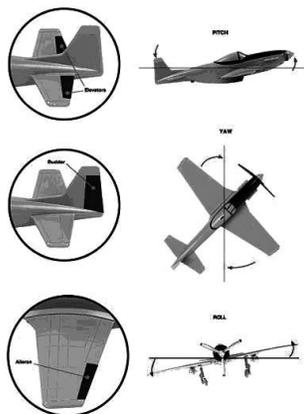
## MODERN AUTOPILOTS



Modern Autopilot Systems

Modern autopilots use computer software to control the aircraft. The software reads the aircraft's current position, and controls a Flight Control System to guide the aircraft. In such a system, besides classic flight controls, many autopilots incorporate thrust control capabilities that can control throttles to optimize the air-speed, and move fuel to different tanks to balance the aircraft in an optimal attitude in the air. Although autopilots handle new or dangerous situations inflexibly, they generally fly an aircraft with a lower fuel-consumption than a human pilot.

## HOW IT WORKS?



Automatic pilots, or autopilots, are devices for controlling spacecraft, aircraft, watercraft, missiles and vehicles without constant human intervention. Most people associate autopilots with aircraft, so that's what we'll emphasize in this article. The same principles, however, apply to autopilots that control any kind of vessel. In the world of aircraft, the autopilot is more accurately

described as the **automatic flight control system** (AFCS). An AFCS is part of an aircraft's **avionics** — the electronic systems, equipment and devices used to control key systems of the plane and its flight. In addition to flight control systems, avionics include electronics for communications, navigation, collision avoidance and weather. The original use of an AFCS was to provide pilot relief during tedious stages of flight, such as high-altitude cruising. Advanced autopilots can do much more, carrying out even highly precise maneuvers, such as landing an aircraft in conditions of zero visibility.

Although there is great diversity in autopilot systems, most can be classified according to the number of parts, or surfaces, they control. To understand this discussion, it helps to be familiar with the three basic control surfaces that affect an airplane's attitude. The first are the **elevators**, which are devices on the tail of a plane that control pitch (the swaying of an aircraft around a horizontal axis perpendicular to the direction of motion). The **rudder** is also located on the tail of a plane. When the rudder is tilted to starboard (right), the aircraft yaws — twists on a vertical axis — in that direction. When the rudder is tilted to port (left), the craft yaws in the opposite direction. Finally, **ailerons** on the rear edge of each wing roll the plane from side to side.

## CONCLUSION

Thus **autopilot** have a wide range of application and moreover it protects the human life in difficult operations.

## REFERENCES

- Howstuffworks.com
- Google.com

# Career Guidance Program by Sri Muthukumaran Institute of Technology



A career guidance program was organized by the IEEE Student Branch of Sri Muthukumaran Institute of Technology,

Chikkarayapuram (Near Mangadu), Chennai on 2<sup>nd</sup> March, 2009 for the students of class 11 from Padma Subramaniyam Bala Bhavan Matriculation Higher Secondary School, Mangadu. A total strength of 50 students attended this program.

The students arrived at the college premises at 10.15 a.m. and were given a brief introduction about engineering by Mr. A. Murugesan, H.O.D and few of our IEEE student members. A presentation about the various fields in engineering was also made. The students were explained about what they would be studying under various branches. The students were then divided into batches and

taken around the college premises. They visited the Electrical and Electronics Engineering, Electronics and Communication Engineering, Computer Science Engineering, Mechanical Engineering and Information Technology departments. They were guided by the student volunteers and were taken to the various labs.

Apart from this, the students were also shown the Physics, Chemistry and English Communication labs. Various concepts were taught and career guidance was given to them by the staff members. After the programme, refreshments were served to the students.

Students were benefited from this activity and they gave a positive feedback. We hope to carry out similar activities in an enhanced manner in the near future.

*Report by: Mathangi Sridharan,  
Vice Chair, WIE AG, SMIT*

## Open Source Software & Products Development Forum



*Address by Mr. Tim Cloonan*



*Section of participants*



*Forum Team*

A platform for open source software & products development — a place where people can come together to create and promote open source software & products using collaborative development tools was formally launched on 20<sup>th</sup> Feb 2009 by the IEEE Computer Society Madras Chapter and Computer Society of India, Div II on Software, Chennai Chapter with the support of Essentia Software Solutions, CDAC, NIC and like minded organizations.

Nominations (in groups) were invited from colleges and professionals for participation in this initiative. A group could consist of 3/4 students and a faculty member or 3/4 professionals with some knowledge in open source software. It was informed that the selected groups would be trained and mentored in open source development processes and methodologies so as to enable them to initiate and execute OS projects independently.

The response for the nominations was over whelming. Considering the logistics, the nominations were restricted from the colleges near Chennai. We had short listed in total 11 teams (9 college teams and 2 industry teams) as detailed below

- Aarupadai Veedu Institute of Technology
- Dhanalakshmi College of Engineering
- RMK College of Engineering
- RMD College of Engineering
- Rajalakshmi Engineering College
- KCG College of Technology
- St. Peter's Engineering College
- Jaya Engineering College
- MOP Vaishnav College for Women

- Consolidated Cybernetics, Coimbatore
- Foundation for Revitalisation of Local Health Traditions (FRLHT), Bangalore

The shortlisted teams were invited for an orientation programme on 20<sup>th</sup> Feb 2009. This was hosted at the CDAC Chennai Office at STPI Facilities Centre at Taramani.

At the inaugural session, Mr. H.R. Mohan, Chairman, IEEE CS & Software Div of CSI welcomed the participants and briefed on the initiative and highlighted the opportunities available in the open source software and product development. Mr. N. Ramakrishnan, Advisor, Essentia Soft Solutions explained their interest in supporting the initiative by offering the development platform and also extending the facilities to host, mentor and coordinate the whole process. Mr. R. Nagesh, Centre Coordinator, CDAC, Chennai spoke about the NRCFOSS facility supported by CDAC and its role in promoting Open Source Software in India. Dr. P. Balasubramanian of Open Technology Centre at NIC Chennai addressed the participants on the large scale e-governance projects developed and deployed by NIC across the country and highlighted the demand for open source professionals. CDAC and NIC have offered to identify technical professional from their organization to participate in this initiative as mentors.

The technical sessions started with a demo of the activities in JasperForge — the open source community platform by Mr. Tim Cloonan, Director, Open Source Community Marketing, JasperSoft and was followed by a session on open source processes and best practices by Mr. Rajesh Iyer, Vice President, IT, Essentia Soft Solutions. In the afternoon,

Mr. Jobin, Director Community Development at Essentia provided the hands on training on EssentiaESP platform, the collaborative development environment on which the current initiative is planned to be hosted.

Mr. Sutha Shankar, Director Engineering and Mr. Udayasankar, Director Marketing analysed the skill set of the participants and grouped them under six development groups and explained the roles and responsibilities of the members, coordinators and mentors in the project development. Outline for few identified projects were provided. It was indicated that to provide the first hand experience of community development, the students from colleges were split and included in different groups and the faculty members and professionals were assigned the role of coordinators. In the first phase, two projects will be done by three teams concurrently. It was desired that the projects are carried out in a time span of three to four months with periodical face to face review meetings and round the clock virtual meetings to sort out the issues if any. It was also planned to institute prizes to the best team for each project and best user award based on the interactions with the team and the community.

The student participants and the faculty members provided a positive feedback on the orientation programme and were very keen in carrying out the projects and expressed their thanks for being selected for this initiative. The programme ended with a note that the development environment would be setup in the coming week with users and coordinators assigned with userid and password to start working on the project.

### IEEE Society Chapter Chairpersons



Mr. H.R. Mohan  
Chairman  
**Computer Society**

Tel : +91 44 2857 6411 (O)  
+91 44 2231 3738 (R)  
Cell : +91 98414 32179  
Email : hrmohan@gmail.com  
hrmohan@vsnl.com



Dr. B. Santhananaraj  
Chairman  
**Engineering in Medicine and  
Biology Society**

Cell : +91 94440 06361  
Email : bsrindia@yahoo.com



Dr. N.R. Alamelu  
Chairperson  
**Communications Society**

Tel : +91 44 2744 3803 (O)  
+91 44 2461 6510 (R)  
Cell : +91 98413 53400  
Email : nra@vinayakamissions.com  
nralamelu@gmail.com



Dr. G.V. Rao  
Chairman  
**Industrial Application Society**

Tel : +91 44 2499 0802 (O)  
Cell : +91 99401 19770  
Email : rowgvc@giasmd01.vsnl.net.in



Mr. R. Chellappan  
Chairman  
**Power Electronic Society**

Tel : +91 44 2467 9732 (O)  
+91 44 2499 3266  
Email : r.chellappan@numericups.com



Er. K.V. Rupchand  
Chairman  
**Power Engineering Society &  
Technology Management Council**

Tel : +91 44 2495 3339 (R)  
Cell : +91 94440 10339  
Email : kvrupchand@dataone.in



Dr. N. Krishnan  
Chairman  
**IEEE Podhigai Subsection of  
Madras Section & IEEE SIPCICOM**

Tel : +91 462 2323 650 (O)  
+91 462 2333 212 (R)  
Cell : +91 94431 17397  
Email : krishnan@computer.org  
krishnan@ms-university.org



Mrs. M. Ramalatha  
Chairperson  
**Woman in Engineering  
Affinity Group**

Tel : +91 44 2249 5350, (O)  
+91 44 2376 4928 (R)  
Cell : +91 94438 56444  
Email : ramalatha\_marimuthu@yahoo.com

**Visit our Website**  
[www.ewh.ieee.org/r10/madras](http://www.ewh.ieee.org/r10/madras)

Posted On : 24<sup>th</sup> March 2009  
Posted at: Egmore RMS (Patrika)

**FROM:**  
  
Room No. 3, ISTE Professional Centre  
Gandhi Mandapam Road  
Chennai 600 025  
Tel : +91 44 2442 3939 Cell : 93823 28776  
Fax : +91 44 2442 3939  
Email : ieeemas@airtelmail.in, ieeemas@gmail.com

**TO:**