

## 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 Madras Section is organizing IEEE 125<sup>th</sup> Year Celebrations at Madras Institute of Technology, Chrompet, Chennai on August 27, 2009 with the participation of Dr. John Vig, IEEE President and Dr. P. Mannar Jawahar, Vice Chancellor, Anna University Chennai. All the IEEE Student Branch Counsellors, Student Volunteers and other members are requested to reserve this day for the celebrations of this memorable event at Chennai.

As you are aware that IEEE Madras Section is always active in conducting the following programmes in April / May 2009:

A Faculty Development Programme on "Intelligent Software Agents for Knowledge Engineering" was conducted during April 24 – 25, 2009 at Karunya University, Coimbatore. Many faculty members from different colleges took part and benefited.

A technical lecture on "DDR3 Technology and Trends In Storage" was delivered by Mr. Vasantha Kumar, Manager, IP Business Unit, GDA Technologies Limited, Chennai on Saturday 25th April, 2009. It was organized by IEEE Communication Society and IEEE Computer Society.

CIO Forum of CSI Chennai Chapter & IEEE Computer Society, Madras Chapter and Oracle discussed on "Driving Extreme Performance of Data Warehouses and Business Intelligence applications" on Wednesday, April 22, 2009 at Hotel Le Royal Meridien, Chennai.

IEEE Computer Society, Madras Chapter, Rotary Club of Madras Mid Town and Digital Literacy Exnora launched the Digital Literacy Training Programme on April 20, 2009. This training programme aims to empower novice users. It is supported by simple multimedia eLearning content with simulation, practice and test options developed by Indiss Infotech, Chennai using Tamil voice over and Tamil script at present, with plans to extend to other languages.

A technical talk was arranged on "Digital Forensics" and delivered by Mr. Sriram Raghavan, Queensland University of Technology, Brisbane, Australia on May 16, 2009.

**IEEE Madras Section extends financial support to student branches for organizing Symposiums / Seminars / Workshops / Conferences.**

**Requests can be made in the format available at <http://ewh.ieee.org/r10/madras/applicationforfinancialsupport.doc>**

**On completion of the event, a detailed report with photos and two copies of the proceedings are to be sent to the Madras Section.**

## From The Editor's Desk

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



Dear Friends,

LINK is pleased to add that the IEEE 125<sup>th</sup> year celebrations planned on 27<sup>th</sup> Aug 2009 will feature two invited talks – one by Prof. Ashok Jhunjhunwala, IIT Madras, who was recently awarded the IEEE Fellowship and the other one by Dr. M. Anandakrishnan, Chairman, IIT Kanpur & Science City, Chennai.

It is really heartening to note that out 15 finalists for the IEEE Presidents' Change the World Competition, six are from India and three are from Madras Section members. Voting for the People's Choice winner is officially open to the public. So visit the site <http://www.ieee125.org/change-the-world/> top-competitors/ and vote now! Select the project that you think has the best overall results and the greatest impact on humanity or a local community.

The monthly technical talk on "DDR3 Technology and Trends in Storage" and events organized by Computer Society such as seminar on "COMSOL Multiphysics simulation environment", discussion meeting on "Open Source and Asian Economies", seminar on "Email Archiving", CIO Meet on "Driving Extreme Performance of Data Warehouses and Business Intelligence Applications", launch of "Digital Literacy Training Programme" are detailed in this issue along with the national conference NAC-CISS'09 held at Spona College of Technology.

LINK also reports on the FDP on "Intelligent Software Agents for Knowledge Engineering" held at Karunya University, GINI Hub Leaders Meet held at CIE &IT, guest lecture on "Wireless Networking" at KSRCT, Sangamam projects by the WIE group at Xavier's Catholic College of Engg. Two interesting articles – "Bionic Eye" & "Efficient use of Electrical Energy" authored by our student members also feature in the current issue of LINK.

We draw the attention of our readers to the announcements published in this issue of LINK for the call for papers and participation relating to conferences in the areas of Intelligent Systems, Advanced Computing, Global Computing & Communication, Software Engineering and Role of ICT in Millennium Developmental Goals. Members, pl. make use of the opportunity to enrich your knowledge and share your research experiences with the world.

LINK congratulates Mr. S. Pugazharasan of SVCE, and Ms. G.M. Archana of Crescent, the winners of Info Contest 0904 who will receive a prize of Rs. 500/= each sponsored by SRA Systems. From the current (0905) contest, content mix is altered to include some GK questions along with ICT related which we hope will encourage more participation.

We once again request the contributors to LINK to co-operate by sending the matter latest by 8<sup>th</sup> of every month. Avoid sending conf. information in the form of PDF brochures. We will be constrained to ignore items if the matter is not sent as per the guideless published in LINK.

### Editorial Team

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

## Launch of Digital Literacy Training Programme



IEEE Computer Society, Madras Chapter joined hands with Rotary Club of Madras Mid Town and Digital Literacy Exnora in the launch of the Digital Literacy Training Programme held on 20<sup>th</sup> Apr 2009.

This training programme is aimed at empowering novice users. It is supported by simple multimedia eLearning content with simulation, practice and test options developed by Indiss Infotech, Chennai using Tamil voice over and Tamil script at present, with plans to extend to other languages. This self paced content could be implemented with minimal teacher assistance. Academic Institutions, NGOs and Corporate organizations interested in CSR initiatives could become the potential partners in the implementation of this programme.

In his address, Mr. K.B.Sridhar, President of the Rotary Club of Madras Midtown said that the initiative was aimed at



making youth and women digitally-literate. To start with, the Club would provide content and training to select educational institutions and non-governmental organisations. He added that they are keen on more partnerships and the whole activity is a community development initiative and needs the support from various agencies.

Ms. C.K.Gariyali, a former bureaucrat, at the launch of this campaign said that the digital divide is a big issue and steps have to be taken to bridge the digital divide by making content simple and accessible. Pointing to work done by various institutions and educationists in the area of digital literacy, she said the challenge of creating relevant content had now been overcome. "It is now important to take this content to those who need them, as it will enhance their employability," she said, launching the content developed for the campaign.

Mr. M.B.Nirmal, founder of Exnora International spoke on the need to empower

women, said that digital literacy could make a difference to the lives of people.

Mr. H.R.Mohan, Chairman, IEEE Computer Society Madras Chapter said that the Society would be willing to support the initiative as it recognised the need for bridging the digital divide and the digital inclusion at various levels. He added that the IEEE student members at various student branches in the Madras Section could volunteer in running the programmes at their institutions which have facilities for training. He said that the institutions would be willing to support this activity as it would be a CSR activity for them.

A presentation on the content highlighted the areas covered in the package, which included an introduction to basics of computer, MS windows, MS Word, MS Excel and MS PowerPoint and the internet. The content, including the voice over, was in Tamil, to make it accessible to all sections.

Copies of the content in CD along with instructional manual were presented to few agencies who had volunteered to kick start this programme at different parts of the city. SKR Engineering College is one of the recipients of the content and Mr. K. Ramadoss, Managing Trustee of the college said that he would involve the IEEE members of his college in this initiative.

The launch programme was attended by about 75 participants and the initiative was appreciated by one and all.

## CIO Meet on 'Driving Extreme Performance of Data Warehouses and Business Intelligence Applications'

IEEE Computer Society, Madras Chapter & the CIO Forum of CSI Chennai in association with Oracle had organized an evening meet on 'Driving Extreme Performance of Data Warehouses and Business Intelligence applications' on Wednesday, 22nd Apr 2009.

The meet was focused on Business intelligence applications and data warehouses which help in consolidating and transforming data into information enabling organizations to compete more effectively, increase operational efficiency and identify new revenue streams. However, the users face issues in data analysis as it becomes constrained by limited I/O capabilities since the size of data warehouses and fact tables' increase, coupled with expanding dimensions, large data warehouses require a higher level of data throughput to

satisfy business intelligence demands. Oracle Database 11g provides all the data integration, reporting, analytics and data mining features organizations today require. With the recent introduction of the HP Oracle Database Machine and HP Exadata Storage Server, organizations can expect to improve query performance by a least a factor of 10x. By combining leading, industry-standard hardware from HP with the intelligence built into Oracle Database 11g and the Oracle Exadata Storage Server Software, the HP Oracle Database Machine has the I/O bandwidth required to deliver extreme performance for large data warehouses.

Mr. T. Srinivasan, Vice President, India Sales, welcomed the gathering and briefed on the Oracle's data warehousing strategy.

Mr. Sumanta Nandi from the Technology Integration Practice of Deloitte gave a presentation on "Data Warehouses for Extreme Performance" covering the evolution of data warehouses and choosing a data warehouse platform highlighting the various considerations such as query type, data volume, usage, memory and processor, availability, mixed workload and deployment options. Mr. Sundar Ram, Sr. Director, Tech Sales Consulting, Oracle Asia Pacific, gave a detailed presentation on HP Oracle Database Machine – world's fastest database machine which comes with the hardware from HP and software from Oracle.

The meet was attended by about 75 professional representing both industry and academia and appreciated the integrated solution in meeting the BI needs of an organization.

## Guest Lecture on Wireless Networking at K. S. Rangasamy College of Technology



A guest lecture on “Wireless Networking” by Dr. V. Sumathy, Asst. Prof, ECE, GCT was delivered at K. S. Rangasamy College of Technology on 17<sup>th</sup> April 2009. The day began with the ceremonial tribute to the almighty. Dr. K. V. Manickam, Dean, ECE, KSRCT welcomed the gathering. Dr. N. Santhiyakumari, Prof, ECE, KSRCT introduced the speaker Dr. Sumathy.

Dr. Sumathy spoke about the recent trends in wireless networking. She began the talk explaining about the two types of wireless networks — Infrastructure & Infrastructure less (or) Ad-hoc networks. She explained in detail about Ad-hoc networks covering classification of Ad-hoc networks, routing protocols, characteristics of an Ad-hoc network,

applications of Ad-hoc networks and problems with routing.

Dr. Sumathy, briefed about the throughput enhancement routing, reliable zone routing protocol and dynamic transmission power routing for Ad-hoc network. Then she gave an enlightening talk about vehicular Ad-hoc network. She also gave an idea about some projects like comesafety, SEVECOM - “SEcure VEHICLE COMMunication”, CVIS - “Cooperative Vehicle Infrastructure Systems”, SAFESPOT - “Smart vehicles on smart roads”, and coopers - “co-operative systems for intelligent road safety”.

She, then spoke about the characteristics and applications of Wireless Sensor Network (WSN). She mentioned some research areas of WSN software which are security, mobility, and middleware. At the end, she gave an idea about GloMoSim. This guest lecture was to motivate the students and also to enhance their technical knowledge. At the end of the talk, Mrs. M. Shenbagapriya, IEEE graduate member proposed the vote of thanks.

*Report by: Dr. N. Santhiyakumari, KSRCT, santhiyarajee@rediffmail.com*

## Forthcoming Events

**IAMA 2009: International Conference on Intelligent Agent & Multi Agent Systems** - IAMA2009: 22 - 24 July 2009, Chennai. Organized by Aarupadai Veedu Inst. of Technology, Chennai in association with IEEE Madras Section & IEEE Computer Society - Madras Chapter and Computer Society of India - Division II on Software. Contact: E-mail: rponnusamy@acm.org Website: <http://www.iama09.org> Ph: +91-44 - 27443801 / 04 / 08 / 09

**ICAC-09: International Conference on Advanced Computing: 6–8, Aug 2009** at Trichy. Organized by Cauvery College for Women and Bharathidasan University Technology Park. Contact: E-mail: [cauveryintconf@csbdu.in](mailto:cauveryintconf@csbdu.in) Website: [www.butp.org/ICAC09](http://www.butp.org/ICAC09)

**ICGCAC 09: International Conference on Global Computing and Communications; 9 – 11, December 2009, Chennai**, Organized by Faculty of Computing Sciences, Hindustan University and supported by Computer Society of India - Div II & Div IV, IEEE Computer Society, Madras Chapter and IEEE Communications Society, Madras Chapter. Contact: Dr. M. Roberts Masillamani, Conference Chair at [deancs@hindustanuniv.ac.in](mailto:deancs@hindustanuniv.ac.in) Website: [www.hindustanuniv.ac.in/ICOGCAC09](http://www.hindustanuniv.ac.in/ICOGCAC09)

## NAC-CISS'09 at Sona College of Technology



NAC-CISS 2009 was held at Sona College of Technology during 3 – 4, April 2009, with participation by 150 researchers from around the country. The first day of the conference, April 3<sup>rd</sup>, began with keynote speech by Dr. Kapali Vishwanathan from HP Labs, Bangalore. His talk highlighted the research framework within which Academia, Industry & Government operate & co-operate. He brought to light the effect of individual integrity on the performance of the research community. Prof. N. Ramanathan, Regional Director of Computer Society of India from Chennai reiterated the need for integrity while urging young

researchers to adopt a focused approach to the pursuit of knowledge.

Presentation of research work began with topics on Image Processing, Database & Web Applications and Networks & Network Security. A work in progress (WIP) session saw a unique presentation by a senior staff scientist from CDAC Mumbai on “BhartiyaAFIS” (Biometrics). First day, saw participations from institutions such as Government College of Engineering, National Institute of Technology and CDAC. Chairpersons for the sessions were Dr. R. S. D. Wahidabanu, GCE, Salem & Dr. P. Santhi Thilagam, NIT, Surathkal.

On day two, Apr 4<sup>th</sup>, there were four tutorials as detailed below with presenters drawn from industry:

- “Enterprise web application development using J2EE “by Mr. G. Muruganatham, Hexawarsity, Chennai
- “Intellectual Property Rights “by Dr. S. Senthil Kumar, Principal Scientist ABB, Bangalore

- “Innovation and Value Addition in IT” by Mr. Ramesh Kalyan, Manager-Projects, CTS
- “Computer Vision and its Applications” by Dr. M. Aswatha Kumar, HOD/CSE, MSRIT, Bangalore.

Afternoon sessions included presentations on Advanced Computer Applications. Chairpersons for this session were Dr. N. P. Gopalan, NIT Trichy, Dr. K. Sekaran, IISc, Bangalore, Dr. K. Chandrasekar, NIT Surathkal, Mr. T. S. Srikanth, DI-PSP, Viseton, Chennai, and Mr. Aswin Gopalan, Scientist, ABB, Bangalore.

The proceedings of the conference were distributed in CD form and will also be hosted on [www.nac-ciss.org](http://www.nac-ciss.org). The conference was sponsored by Cognizant Technology Solutions & IEEE Madras Section. NAC-CISS'09 was organized by the Department of Computer Science Engineering of Sona College of Technology in collaboration with CSI Salem Chapter.

## Faculty Development Programme on “Intelligent Software Agents for Knowledge Engineering” at Karunya



As a service to the teaching community in the engineering institutions, IEEE Madras Section in association with the Dept. of Computer Applications, Karunya University, Coimbatore organized a Faculty Development Programme (FDP) on “Intelligent Software Agents for Knowledge Engineering” with lectures on Intelligent Software Agents, Applications of Intelligent Agents for Mobile Communications and Health Care. Also hands-on exercises with MatLab and PolyAnalyst were provided. Prof. V. Thavavel, Asst. Prof. (SG), Karunya University was the coordinator for this FDP. The instructors for this programme were drawn from Vellore Institute of Technology, Madurai Kamaraj University, and Karunya University. The programme was conducted during 24<sup>th</sup> -25<sup>th</sup>, April 2009 at Science and Humanities Seminar Hall. Around 20 faculty members from various engineering colleges in and around Tamil Nadu attended the

programme. Dr. T. Michael N Kumar, Dean of PG courses of Karunya University and Executive Committee Member of IEEE Madras Section, inaugurated this two days FDP.

On the first day, 24<sup>th</sup> April 2009, the first session on “MatLab for Intelligent Agents” was taken by Prof. V. Thavavel, Karunya University. The next session on “PolyAnalyst, Datamining Software for Knowledge Engineering” was handled by Prof. Sujni Paul, Karunya



University. During noon sessions, the participants were given hands-on exercises on MatLab and PolyAnalyst and it was handled by the research scholars, Dept. of Computer Applications, Karunya University.

The sessions on second day focused on the applications of Intelligent Software Agents in various fields. The first session on

“Application of Intelligent Agent for Health Care” was handled by Dr. R. Murugesan, Emeritus Professor, Centre of Excellency Genomics, Madurai Kamaraj University. The next session on “Intelligent Agents for Green Computing” was taken by Prof. K. S. Maharasan, Karunya University. The final session on “Application of Intelligent Software Agents to Mobile Communications” was handled by Dr. T. Arun Kumr, School of Computing Sciences, Vellore Institute of Technology.

On the 25<sup>th</sup> April 2009 evening, at the valedictory function, Dr B. Selvaraj, Director, School of Sciences and Humanities delivered the valedictory address. Prof. V. Thavavel, Karunya University presided over the function and delivered the closing remarks and the summary of the FDP. A few participants volunteered the feedback with highest regards and appreciation. The feedback from the participants was encouraging; Most of them had graded the programme as excellent in terms of quality, topics, presentation and hospitality. Some useful suggestions were also provided. Few participants felt that the duration of the programme can be extended and desired it may be conducted in Karunya University again.

## Seminar on Email Archiving

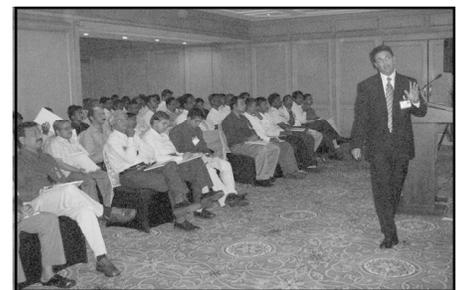


IEEE Computer Society, Madras Chapter & the CIO Forum of CSI Chennai in association with Hitachi Data Systems (partnering with Symantec & Wipro) had organized a seminar on “Email Archiving” on Wednesday, 4th March 2009.

The seminar was organised to familiarize the professionals on how Hitachi Data Systems (HDS) can help to resolve today’s e-mail data

challenges, from expanding mailboxes and increasing e-mail quotas to regulatory compliance and cost reduction. By offloading e-mail data to an intelligent archive means one can: shorten backup windows and cut operational costs; set records retention policies directly in line with regulations and reduce the server traffic volumes.

Mr. G. J. Prasanth, Regional Sales Director – South, HDS welcomed the gathering and provided an introduction to “Email Archiving” and highlighted the need for it. Mr. Sunil Chavan, Director, APAC, HDS gave a presentation on “Creating long term archiving solutions with HDS”. Following this, Mr. Murali Urs, National Product Manager, Symantec explained on “Managing unstructured information and content” Mr. Deepesh Gowda, Practice Manager, Wipro then gave a presentation on “Archival solutions and capabilities of Wipro” and substantiated his talk with a case study.



The meet had attracted about 75 participants from corporate organizations and academia. The theme and solutions were found to be very useful by the participants in addressing their growing concerns in managing the emails.

**We are pleased to announce the proceedings (CDROM) of the National Conference on Computational Intelligence Security and Systems held at Sona College of Technology, Salem has been added in the IEEE Madras Section Library.**



## 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 THIRTEENTH contest under Info Contest—a regular column in our newsletter IEE MAS LINK. From this contest, the content mix is altered to include some General Knowledge questions in addition to IT related questions. This, we believe would provide an overall exposure and also facilitate more participation.

Members are encouraged to participate in the contest and win prizes. Answers are to be sent by EMAIL ONLY. Please follow 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 – 0905

This contest has 25 questions in five sections - A, B, C, D & E - each having five questions.

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

- A1. RISC
- A2. RFID
- A3. MTTR
- A4. RAID
- A5. EPROM

#### B. Provide the answer.

- B1. Microsoft had its own version of UNIX operating system. Name it
- B2. Who is the author of the book: “A Better India: A Better World”
- B3. Identify the company whose tagline is “Think”
- B4. Whose loss was the gain for Microsoft in creating OS for IBM PCs.
- B5. Name the popular reference site of Microsoft to be discontinued from 31<sup>st</sup> Oct 2009

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

- C1. Chess: Deep Blue = Quiz : \_\_\_\_\_
- C2. CDAC is headquartered at \_\_\_\_\_
- C3. Kindle is the eBook reader from \_\_\_\_\_
- C4. What is common: Orca, Wyzo, SeaMonkey, Avant
- C5. YouTube: Google = Soapbox : \_\_\_\_\_

#### D. Provide the answer.

- D1. Name the first movie to get 11 (eleven) Oscar awards
- D2. Name the first Indian sportsperson to have a wax statue in Madame Tassaud’s Museum at London
- D3. Which state has recorded 92% voter turnout, the highest in the recent 2009 general elections
- D4. Identify the bank whose tagline is “Experince our Expertise”
- D5. What will be the ratio of the time taken to travel a given distance by the cars whose speeds are in the ratio 2:3:4

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

- E1. AIEEE : Engineering = CAT : \_\_\_\_\_
- E2. London : Thames = Trichy : \_\_\_\_\_
- E3. Chennai : Super Kings = Kolkata : \_\_\_\_\_
- E4. Britain : Knight = Malaysia : \_\_\_\_\_
- E5. The Value of “pi” (rounded to 4 decimal places) is \_\_\_\_\_

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

In the Subject,

- Write the Contest No. (Info Contest – 0905) in the subject line.

In the body of the mail,

- In the first line, write the contest No: Info Contest – 0905
- 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 your college / organization name
- In the sixth line, write the answers to the five questions of Section A, separated by comma.
- In the seventh line, write the answers to the five questions of Section B, separated by comma.
- In the eighth line, write the answers to

the five questions of Section C, separated by comma.

- In the ninth line, write the answers to the five questions of Section D, separated by comma.
- In the tenth line, write the answers to the five questions of Section E, separated by comma.

Email the answers to:

**hrmohan.infocontest@gmail.com**

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

#### Info Contest – 0904 Answers & Winners

##### Answers:

Subscriber, Session, System, Semiconductor, Simultaneous  
Matlab, IEEE Job Site, CMS Computers, Tally, Aircel  
Tesla, Tech Mahindra, Hanuman – Boy Warrior, bmp, Mindtree  
IBM, Loop, Simulink, Phlashing, kite

##### Winners:



**Mr. Pugazharasan. S**  
Sri Venkateswara College of Engineering  
Mem No. : 90238454  
Email : pugazharasan@gmail.com



**Ms. Archana. G.M.**  
Crescent Engg. College  
Mem No.: 90547053  
Email: arch\_pretty@yahoo.co.in

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).

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

Life Senior	-	5
Fellow	-	1
Life Fellow	-	1
Life Member	-	3
Senior Member	-	69
Member	-	787
Affiliate	-	32
Associate	-	40
Graduate Student Member	-	756
Student Member	-	4031
<b>Total</b>	-	<b>5,725</b>

## SANGAMAM Projects by WIE Group of Xavier's Catholic College of Engineering



**T**he sixth program of our village visit was on 15<sup>th</sup> Feb 2009 to Ariyoorakonam village. A career guidance program was arranged. The program started with the welcome address by Mr. S. Eswara Moorthy, IEEE Student Member. The function was presided over by Mr. Albert, and it was felicitated by our IEEE Coordinator Mr. A. Darwin Jose Raju and our IEEE Student Branch Counselor Mr. C. John Moses. Their addresses emphasized the importance of Career Guidance programs in villages and parents awareness towards their children's future. The Career Guidance program was conducted by Mr. Paul Raj, Career Counselor. He enlisted the various courses present in Tamil Nadu and other states that the students could choose from, and also explained how a student should select a course. The details of the civil service examinations, offers and facilities provided by the government for the education of people in villages were also provided. Finally the program was concluded with a motivation talk with the people about their education and importance of education. The meeting came to an end with the vote of thanks by Mr. N. S. Sinil Prakash, Sangamam Project Student Member Coordinator. After this meeting, the IEEE student members Mr. N. S. Sinil Prakash,

Mr. A. K. Vishagan, Mr. Anish kumar and Mr. Eswara Moorthy visited various houses to create awareness about the importance of using Bio-gas under the guidance of our IEEE Coordinator Mr. A. Darwin Jose Raju.

The seventh program of our village visit on behalf of Sangamam Project was arranged on 22<sup>nd</sup> Feb 2009 at Ariyoorakonam village. This time a workshop was arranged in the village. The program started with the welcome address by Mr. V. Pratheesh, IEEE Student Member. The function was presided over by Mrs. Anuratha. Our IEEE Coordinator Mr. A. Darwin Jose Raju and IEEE SB Secretary Mr. V. Anish Kumar felicitated the function. Our IEEE



Coordinator Mr. A. Darwin Jose Raju in his address explained the importance of building a Bio-gas farm in that village. Following him, Mr. V. Anish Kumar, IEEE Secretary explained the various accomplishments of the Sangamam Project and our plans for the future. Mr. S. Rexley, IEEE Student Member explained about constructing Biogas Farm. He also listed the materials required and procedure for its construction and explained about its dimensions with a pictorial demonstration. The meeting



came to an end after the vote of thanks by Mr. N. S. Sinil Prakash, Sangamam Project Student Member coordinator. After this meeting under the guidance of our IEEE Coordinator Mr. A. Darwin Jose Raju, our IEEE student members Mr. N. S. Sinil Prakash, Mr. A. K. Vishagan, Mr. S. Rexley, Mr. Pratheesh, Mr. PushphaRaj and Mr. Anish kumar visited a Bio-gas farm that was under construction. Mr. S. Rexley, IEEE Student Member explained certain steps to be provided in further construction. Through the Sangamam project our IEEE members have worked to bring out the talents of the rural student, to create awareness about the engineering studies and develop the rural areas.

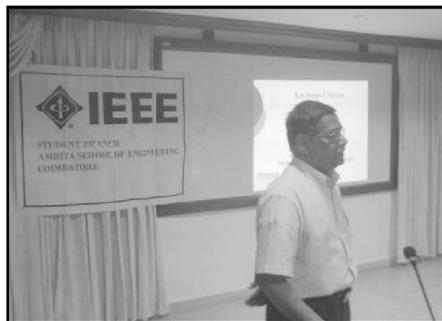
We are very thankful to the college Correspondent Rev. Dr. V. Hilarius, Principal Dr. S. Joseph Sekhar and the Mentor Mrs. Ramalatha Marimuthu, IEEE Madras WIE for the support and encouragement given for conducting this Sangamam Project.

Faculty Development Program (FDP) on  
**“Time-Frequency Signal Analysis”**  
 during 7 -13, July 2009 at IIT Madras  
*For details, pl. contact*  
 IEEE Madras Section  
 Tel: +91-44 2442 3939 Cell: 93823 28776  
 Email: ieeemas@airtelmail.in

## Guest Lecture and Interactive Session at Amrita School of Engineering

**D**r. K. Gopalan, Professor, Department of Electrical and Computer Engineering, Purdue University, Calumet, USA visited the IEEE Chapter at Amrita School of Engineering, Coimbatore on 17th Apr 2009.

Dr. K. Gopalan gave a lecture on “Information Hiding in Audio Signals for Watermarking, Steganography and Covert Communication Applications”. The lecture was followed by an interactive session with the student members of IEEE. He reviewed the progress of the research projects in Steganography and Steganalysis of students of M. Tech in Cyber Security.



Dr. T. R. Padmanabhan, Professor Emeritus and Chairman of Institution of

Electronics and Telecommunication Engineers (IETE), Coimbatore Chapter and Prof. B. Rajathilam Department of IT participated in the interactive session.

Dr. M. Sethumahavan, Head of the TIFAC Core Centre for Cybersecurity at Amrita Vishwa Vidyapeetham presented various research projects underway in the centre.

Join IEEE now at [www.ieee.org/join](http://www.ieee.org/join) and avail the extended half year membership

## Bionic Eye

**E. Chitra**, 3rd Year, IT  
Sakthi Mariamman Engineering College,  
Thandalam  
chitraelumalai66@gmail.com

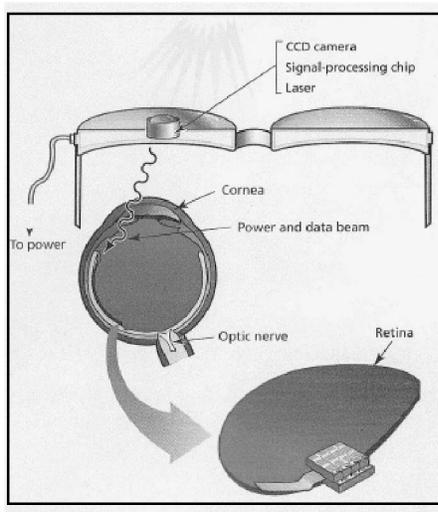
**INTRODUCTION:** Bionic eye is a bio electronic eye. It is an electronic device which replaces or adds functionality to an eye. A visual prosthesis or bionic eye is a form of neural prosthesis intended to partially restore lost vision or amplify existing vision. It usually takes the form of an externally-worn camera that is attached to a stimulator on the retina, optic nerve, or in the visual cortex, in order to produce perceptions in the visual cortex. The ability to give sight to a blind person via a bionic eye depends on the circumstances surrounding the loss of sight.



*Bionic Eye*

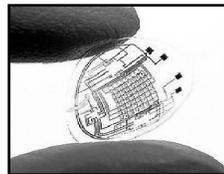
**FIRST BIONIC EYE:** Drs. Mark Humayun and Eugene DeJuan at the Doheny Eye Institute (USC) were the original inventors of the active epi-retinal prosthesis and demonstrated proof of principle in acute patient investigations at Johns Hopkins University in the early 1990s. In the late 1990s **Argus II**, the bionic eye was developed by US company Second Sight. Team of doctors led by Lyndon da Cruz, the Moorfield's Eye Hospital in London fitted to a blind patient Ron with a bionic eye.

**HOW IT WORKS:** The bionic eye uses a camera and video processor mounted on sunglasses to send captured images wirelessly to a tiny receiver on the outside of eye. Then the receiver passes on the data via a tiny cable to an array of electrodes which sit on the retina — the layer of specialized cells that respond to light found at the back of the eye. When these



*Bionic Eye Implantation*

electrodes are stimulated they send messages along the optic nerve to the brain, which is able to perceive patterns of light and dark spots corresponding to which electrodes have been stimulated.



### ADVANTAGES:

- No Batteries implanted within body
- No complicated surgical procedure
- Power Requirement – ¼ of mill watt

**BIONIC CONTACT LENS:** The Bionic contact lens is being developed to provide a virtual display that could have a variety of uses from assisting the visually impaired to the video game industry. The device will have the form of a conventional contact lens with added bionics technology. The lens will eventually

have functional electronic circuits and infrared lights to create a virtual display.

**MANUFACTURE:** The lenses require organic materials that are biologically safe and also use inorganic material for the electronic circuits. The electronic circuits are built from a layer of metal a few nanometers thick. The light-emitting diodes are one third of a millimeter across. A grey powder is sprinkled onto the lens. Then a technique called micro fabrication or 'self-assembly' is used to shape each tiny component. Capillary forces pull the pieces into their final position.

**DEVELOPMENT:** Harvey Ho, a former graduate student of Mr. Parvizi who is now working at Sandia National Laboratories in Livermore, California presented the results at the Institute of Electrical and Electronics Engineers international conference on Micro Electro Mechanical Systems in Tucson, AZ. The lens is expected to have more electronics and capabilities on the areas where the eye does not see.

**PROTOTYPE AND TESTING:** The prototype does not light up or display information. It is a proof that it is possible to create a biologically safe electronic lens that does not obstruct a person's view. Engineers have tested the finished lenses on rabbits for up to 20 minutes and the animals showed no problems.

**CONCLUSION:** Thus bionic eye are being developed as a potentially valuable aid for individuals with visual degradation. Bionic devices are being developed to do more to replace or add defective parts. Like bionic eye there are bionic arms, bionic tongue, and bionic nose.

### REFERENCES:

The Hindu (5 March 2009)  
www.topnews.in  
www.medindia.com

## Seminar on “COMSOL Multiphysics simulation environment”

The IEEE Computer Society, Madras Chapter & CIO Forum of CSI Chennai in association with COMSOL Multiphysics Pvt. Ltd, Bangalore, had organized a free seminar on “COMSOL Multiphysics simulation environment” on 24th April 2009.

The COMSOL Multiphysics simulation environment facilitates all steps in the modeling process —defining your geometry, specifying your physics, meshing, solving and then post-processing your results. COMSOL Multiphysics provides solutions for an

unlimited range of modeling needs in areas such as: Acoustics; Biomedical Engineering; Biotechnology; Chemical Engineering; Chemical Reaction Engineering; Electro - & Magnetostatics; Electrochemistry; Filter Design; Fluid Mechanics (CFD); Geophysics; Heat Transfer; Hydrology, Subsurface Flow; Material Science; MEMS; Nanotechnology; Numerical Analysis, PDE, FEA; Optical Systems & Photonics; Optimization; Petroleum Engineering, Subsurface Flow; Physics; Process Control; RF Systems; Semiconductor Devices;

Static mixers; Structural Mechanics; System Identification; System Identification/Model Calibration; and Teaching.

The seminar featured a live demo of the simulation environment and its capabilities. A free trial CD was provided to all attendees by which one can install and try the tool firsthand. Dr. Vineet Draid of COMSOL India was the resource person at the seminar which was attended by about 35 participants from engineering industry and academia.

## Efficient use of Electrical Energy



**J. Dineshkumar**  
 EEE 3<sup>rd</sup> Year, SMIT  
 jdineshkumar.eee@gmail.com

**Introduction:** One of the biggest challenges facing the engineers and administrators, governments and almost every person is the challenge to provide sustainable energy services to exploding population with shrinking resources.

- To provide power for all and additional capacity of 100,000 MW will be needed
- But the availability of electrical energy is not sufficient to meet our daily requirements

So we must utilize the available energy in an efficient manner. For utilizing the energy efficiently we have to adopt different techniques in different places. The different conservation techniques in different fields for the efficient utilization of electrical energy are discussed here after.

### What is energy conservation?

- Energy conservation means utilizing energy more efficiently or reducing wastage of energy
- It is important that energy conservation plan should only try to eliminate wastage of energy without affecting productivity and growth rate.
- Energy conservation usually requires new investments in more efficient equipments to replace old inefficient ones. Thus energy conservation can result in more job opportunities, cheaper and better products etc.

### What is the need for energy conservation?

Energy conservation is needed to reduce the wastage of energy. For household, the main aim is to keep the monthly energy bills (electricity, gas) at the same level in case of increasing energy prices. The motivation for energy conservation depends on the sector where it is applied.

### Brief Description about Energy Conservation:

**Energy conservation in Industries:** Almost 38% of electrical energy is consumed by industrial motors. Therefore, industries are the biggest consumers of energy (both electrical and thermal). In most industries the energy cost is a large portion of manufacturing cost.

### Some techniques for energy conservation:

- Improving heat recovery
- Using more energy efficient process
- Proper illumination levels in industries.
- Better building design
- Use of more natural lighting
- Operation of machines at maximum efficiency
- Better maintenance of equipment.

### Conservation of Energy in Agriculture Sector:

Indian economy is based on the agriculture. Almost 23% of electricity is consumed in agricultural sector. It accounts for over 120 lakh electrical pumps. Energy is required for crop production, corn production, food processing, dairy operations, transport etc.

### Some Techniques for Energy Conservation:

- Proper and efficient use of equipments like tractors, motors, pumps, and materials like fertilizers, pesticides can help the energy conservation.
- Use of drip irrigation
- Keeping the pipe and fitting losses to minimum.
- Operating the pumps during off-peak periods help in energy conservation.

### Energy Conservation in Homes:

Domestic appliances like washing machine, refrigerator, mixer-grinders and air

conditioners use about 11% of electricity supplied and lighting accounts for 13% to 17% of power bill.

### Some Techniques for energy conservation:

- Use of proper size lamps.
- Use of fluorescent lamps.
- Use of light color paint on walls.
- Switching of lights.
- Switching of radio and television sets when not in use.
- These are very useful for energy conservation.
- Also compact fluorescent lamps (CFL) save energy.

### Simple energy conservation measures in homes:

- Defrost the refrigerator at regular intervals.
- Use proper quantity of water for cooking.
- Use proper size of pan for cooking.
- Use electronic choke and electronic fan regulators.
- Don't overload the washing machine.
- Use correct temperature and time setting for the washing machine.
- Replace faulty switches and devices as soon as possible.

**Uses:** Conservation methods will help to reduce electricity bill by 15 to 20%.

**Conclusion:** Though the nature had given lot of source to us, we should use it perfectly and efficiently for the sake of future.

For	Recommended illumination level	Degree of illumination
Entrance way, toilets, Suburban roads, yards, Ordinary city roads etc.	Up to 50 lux	Very low illumination level
Staircase, corridors, Bedrooms, parking areas, Warehouse, electrical, Equipment rooms, bathrooms etc.	Up to 100 lux	Low illumination level
Living room, reception room, Lecture hall, museum, lounge, Hospital, assembly hall etc.	Up to 150 lux	Medium illumination level
Kitchen, bakery, libraries, Workbenches, machine room etc.	Up to 200 lux	High illumination level
Office, sustained reading, Typing, cash counter, drawing, Rooms, labs, indoor game places etc.	Up to 300 lux	Very high illumination level
Testing, Laboratory instrument, Repair and manufacturing, drawing, Boards, electronic work etc.	Up to 700 lux	Extremely high illumination level

Requirements of Good Lighting

## GINI Hub Leaders' Meeting at CIE & IT, Coimbatore



The second Hub Leaders Meeting of GINI (Global Integrated Network of IEEE) was conducted on 18<sup>th</sup> Apr 2009 at Coimbatore Institute of Engineering and Information Technology, Coimbatore. The programme started with an inaugural session where the Principal of the college, Dr. N. Nagarajan delivered the welcome address and the Advisor Prof. K. Arumugam delivered the special inaugural address.

Dr. P. Suresh Chander Pal, IEEE MAS SAC gave a brief talk on the activities of Madras Section. Dr. Mini S. Thomas briefed on the objective of Global Integrated Network of IEEE (GINI) and the status of Madras Section in the Global Scenario. She said that according to the latest statistics, 62 student branches out of the 133 Student Branches in Madras Section are with "zero" members. She also added stress to the point that retaining of student branches are very much important than induction of new student branches in the Section. The main reasons as to why the members do not continue their membership was discussed and Dr. Mini said a statistical data that people who continue their membership for the second year membership tend to renew their membership through out and the people who do not continue their membership for the second year are difficult to be convinced. She added that networking is the only option left and crisis management, organization and communication with the members would help in the retention of members. She also added that IEEE is a forum to develop the skills of an individual and the activities performed inside a student branch must be divided among its members in order to develop the skills of governance and administration inside the student branch members.

Mr. Barnabas. M.S, Vice Chair of GINI MAS gave a presentation on the activities so far in Madras Section and the details of all the hubs since there were new people who were to take charge this year were also gathered in the place. He also proposed on the activities that were being planned for the year 2009 and the details

of the budget proposed for the same. He added importance to the proper submission of reports onto the section and to the GINI Execom so that the event gets logged on into the activities of GINI Madras Section.

Mr. Sivakumaran, Hub Leader of Coimbatore Hub presented the activities of his hub in the last one year. Mr. Ranjit R. Nair, Hub leader of Erode Hub and Secretary of GINI MAS presented the activities of Erode hub followed by Mr. Srikanth presenting the activities of Madurai Hub. The new Hub leaders who are second in line and will take charge after the previous Hub leaders are:

- Chennai - 2 Hub: Mr. Pradeep, Velammal Engineering College to replace Mr. Barnabas
- Kanchipuram Hub: Mr. Subadesh Kanna, SSNCE will take over from Mr. Prithvin Rajendran
- Erode Hub: Mr. Anand, MP Nachimuthu M. Jagannathan Engineering College will replace Mr. Ranjit R. Nair
- Coimbatore Hub: Mr. Nirosh, CIET, Coimbatore will replace Mr. Sivakumaran.

### Updates from Hub Leaders:

Mr. Sivakumaran: Reactivation and creation of new student branches - Kalaingar Karunanidhi College of Engineering. SSK Awareness Drives were organized. Three student branches were reactivated - Kathir College of Engineering, Skathi Engineering College and PSN College of Engineering.

Mr. Ranjit R. Nair: Vellalar College of Engineering and Sasurie College of Engineering were reactivated. Totally there are 12 student branches in this hub with 9 of them active and the other 3 are with "zero" members.

Mr. Srikanth: Activities: STAR '08; ABHIVART '08 (Techno Management Symposium) New Ventures: 1. IEEE DISCO (Digital Science Community) 2. IEEE Marathon (For Freshers) 3. IEEE Eve's Era (Run by WIE) & 4. IEEE Techie Potter.

Dr. Mini Thomas advised the hub leaders to organize a hub level meeting in the month of June to create an awareness among the student branch representatives and give them a presentation on branch leadership training getting the help of the student branch counsellor of the Hub Leader College.

Each Student Branch will have to have a yearly plan of activities

**Plans for 125<sup>th</sup> Anniversary as suggested by Dr. Mini Thomas:** Locally a big awareness programme can be organized; A Humanitarian Technology Competition can be organized; Ethics Competition can also be organized & participate in the Global Competitions organized such as Presidents Change the World Competition and Anything which will help the society

**Plan of action for Madras GINI:** Frame an annual plan with discussion with the hub level entities and then discuss it with the GINI MAS Execom and the Student Activities Coordinator of the Section and proceed with the plan of activities.

- SBs should send the proposals to the Hub. Hub Excom can finalize the programs (may be online discussion or phone calls). Hub should send the final programs to the Section. Let the Section finalize and allot money to the hubs.
- All Hubs should organize a Hub level meeting in May, June or July 09 and come up with a plan of action for 2009-10
- To organize an inter hub meeting in the month of August, (This can be along with the 125<sup>th</sup> Anniversary Celebrations in Chennai on 27<sup>th</sup> August 2009). Two people from each hub will have to represent and it is mandate for the hub. If we have ten hub level meetings, it should be made sure that at least 2 are common hub level programmes.

It was informed by Dr. Mini Thomas that, earlier the minimal number of student branch members for starting a student branch was 20. But now it has been reduced to 12. And for societal chapters it has been reduced to 6 members from 12 members. Meetings should be convened and all interested students can be called. These people need not be IEEE Members. We can present an award to each student branch - Outstanding Student Volunteer. One certificate should be given to each student branch. Criteria for selection should be 50% - Academics; 40% - IEEE activities and 10% - Extra Curricular activities. Branch counsellors have to recommend the names to the Section for this award. Give certificate for each and every activity. Have an activity for each student branch like Spectrum Quiz, Group Discussion Trainings from Management Training Institutions etc.

**Categories of Activities:**

- Technical
- Professional - *Management Training, Leadership etc.*
- Educational - *Industrial Visits etc.*
- Social- *Outing / Parties, Societal Development etc.*

**Conclusions:**

- Hub Meetings should be organized to give training to people to spread the news.
- More inter College or Inter SB programs will have to be organized.
- Each hub is big enough to have a meeting for two days.

- L51 form for section reporting is now available for student branches also. So they can report their programmes online and could account to their student branch.
- Hub Leaders training programme can be organized giving importance to membership, leadership and benefits. - 3 student members per SB could be given training in such manner with the previous office bearers and the mentors. Inspiration can be given through the History of IEEE.
- Each activity organized inside a hub must be eventually reported to the nearby hubs, so that they can also add in participation.

**A note on Section Level Student Congress:** Ask for proposals to colleges for venue and organization. Give deadlines for the same and then along with the Section, continue with the other proceeding for the Student Congress.

Dr. Suresh Chander Pal, appreciated the goodwill, initiatives and support given by Dr. Nagarajan, Principal & Prof. K. Arumugham, Advisor and also the role played by Mr. Elangovan, SB Counsellor, in co-ordinating and organising the Hub Leaders' Meeting at short notice.

The Hub Leaders' Meeting ended with a new hope for 2009. Mr. Elangovan, IEEE Student Branch Counsellor of CIET, Coimbatore proposed a hearty vote of thanks.

**Discussion meeting on “Open Source and Asian Economies”**



IEEE Computer Society - Madras Chapter, Centre for Development of Advanced Computing (CDAC), Chennai and Computer Society of India, Chennai Chapter had jointly organized a discussion meeting on “Open Source and Asian Economies” on Friday, 3<sup>rd</sup> April 2009. The meeting was hosted by CDAC at their Centre at the STPI Facilities Centre near Tidal Park.

Mr. H.R. Mohan, Chairman, IEEE CS & Div II (Software) of CSI, welcomed the gathering and said that Open Source is gaining popularity as the global meltdown is forcing the organizations to look for cost effective solutions at a lower TCO. He also added that a variety of solutions are now available in the Open Source and the mindset to use the OSS is also changing among the corporates. Mr. Mohan, then introduced the three panel members - Mr. Yasuyoshi Gando, Deputy Managing Director, Center of International Cooperation for Computerization (CICC), Singapore,



Mr. V. Narayanan, Consultant, CICC/JETRO, Singapore and Mr. M. R. Rajagopalan, Director, CDAC, Chennai.

Mr. Yasuyoshi Gando, who had a long stint with NEC and handled the ICT projects and also seconded the managing director of NEC New Zealand gave a presentation on Center of International Cooperation for Computerization (CICC) and its role in promoting the usage of OSS and training in the areas of OSS.



Mr. Narayanan, consultant with CICC/JETRO Singapore who had traveled extensively in the Asia Pacific region to form alliances and initiate/execute projects spoke about the Open Source content generation and sharing initiatives of CICC and requested that participation from India would enhance the adoption of Open Source for developmental activities.

Mr. M. R. Rajagopalan was involved in setting up of C-DAC, Chennai Centre and National Resource Centre for Free/Open Source software (NRCFOSS) which had successfully carried out the development activities such as Development of Indian Linux Distribution (BOSS-Bharat operating system solutions); Service oriented architecture (SOA) framework using open source tools for e-governance applications; Paperless Office Management System (POM) an

office automation application and a framework for “Software as a Service (SaaS)” and WebOS - a technology to deploy SaaS and extend it to cloud computing based services. He had explained in details about the NRCFOSS activities in both development of solutions and manpower.

The discussion meeting was attended by about 50 participants coming from industry and academia with an interest in open source applications. Few members shared their views and concerns in using the open source.

At the end of the meeting, mementoes were presented to the panelists on behalf of IEEE CS & CSI.

**Forthcoming Events**

**CONSEG 09: International Conference of Software Engineering;** 17-19, Dec 2009, Chennai. Organized by CSI Div II and Chennai Chapter and supported by IEEE CS Madras. Contact Mr. Ramesh Gopalswamy, PC Chair at gopalswamy\_ramesh@yahoo.com Website: [www.csi-chennai.org/conseg09](http://www.csi-chennai.org/conseg09)

**International Conference on Millennium Developmental Goals: The Role of Information and Communications Technologies;** 27-29 December 2009, Chennai. Organized by R.M.K. & R.M.D. Engineering Colleges in Association with IEEE Computer Society — Madras Chapter and Computer Society of India — Div II (Software) & Chennai Chapter. Contact: E-mail: [mdgict@rmk.ac.in](mailto:mdgict@rmk.ac.in) Web site: <http://www.rmkec.ac.in/mdgict> Ph: +91 - 44 - 27925338, 27925899 (Dr. T. Srinivasan, Associate Dean)



*Announcement and First Call for Papers*

**CONSEG 09  
International Conference on Software Engineering**

**December 17–19, 2009 at Chennai, India**

*Organized by*

**Computer Society of India, Div II (Software) and Chennai Chapter**

*Supported by*

**IEEE Computer Society, Madras Chapter**

**Software Process Improvement Network (SPIN), Chennai Chapter**



**About the Conference:** Software engineering has long been a rewarding ground for professionals from the industry and academia to work together. Over the years, software engineers, developed processes, tools, techniques and evolved best practices that enabled distributed development of quality software. With technological capability and economic incentive, software engineering has become a global phenomenon with the stakeholders spread all over the globe. Today, social and organizational theories are increasingly applied to improve theoretical understanding and drive further developments. The goal of this conference is to elucidate new and emerging ideas and solutions from the business, managerial, technological, empirical, and theoretical perspectives and also to provide a forum for researchers, practitioners and educators to present and discuss the recent innovations, trends, experiences and concerns in the field of software engineering. Two half day pre conference tutorials are planned on the topics of “Requirements & Design” and “Testing & Maintenance”.

**Call for Papers:** Papers are invited but not restricted to the following topics in Software Engineering: Requirements Management; Visualization; Ontology; Cost & Effort Estimation, Design and Architecture; Formal Methods; AI and Knowledge Based Approaches; Aesthetics; Modeling; Tools; Processes; Quality; Testing, Verification and Validation; User Interface Design; Project Management; Risk Management; Metrics; Component-Based Development; Web Services; Globalization; Workflow Automation; Collaborative Environments; Safety, Security and Reliability; Performance Engineering; Re-use and Product Development; Maintenance, Configuration Management and Reverse Engineering; Open Source, Agile, Extreme Programming; Software Development Education; Real time Embedded Software; Ethics and Legal Issues; Standards; Best Practices; Software as a Service (SaaS); Application Verticals.

Papers submitted will be reviewed and evaluated based on originality, technical quality and relevance to the conference. The paper length of six pages is encouraged and an upper limit of 10 pages, including figures, tables and references shall be enforced. The format of the papers should confirm to the IEEE guidelines available at [http://www.ieee.org/portal/cms\\_docs/pubs/confpubcenter/pdfs/samplems.pdf](http://www.ieee.org/portal/cms_docs/pubs/confpubcenter/pdfs/samplems.pdf)

**Important Dates:** Last date for paper submission : Aug 31, 2009; Confirmation of paper acceptance: Sep 30, 2009; Submission of camera ready copy: Oct 31, 2009

**Correspondence:** All Correspondence including paper submission should be by email and to be addressed to [conseg09@csi-india.org](mailto:conseg09@csi-india.org) OR [conseg09@gmail.com](mailto:conseg09@gmail.com). For further details, please visit [www.csi-chennai.org/conseg09](http://www.csi-chennai.org/conseg09)

*For further assistance, please contact:*

**Mr. Ramesh Gopalswamy**  
Chairman, PC  
Author, Consultant & Adjunct Prof.  
[gopalswamy\\_ramesh@yahoo.com](mailto:gopalswamy_ramesh@yahoo.com)

**Mr. K. Ananth Krishnan**  
Chairman, OC  
Tata Consultancy Services  
[ananth.krishnan@tcs.com](mailto:ananth.krishnan@tcs.com)

**Mr. H.R. Mohan**  
Chairman, CSI Div II & IEEE CS  
The Hindu  
[hrmohan@gmail.com](mailto:hrmohan@gmail.com)

**Dr. T.V. Gopal**  
Co-Chairman, PC  
Anna University  
[gopal@annauniv.edu](mailto:gopal@annauniv.edu)

**Mr. V. Rajanna**  
Co-Chairman, OC  
Tata Consultancy Services  
[v.rajanna@tcs.com](mailto:v.rajanna@tcs.com)

**Mr. S. Ramasamy**  
Chairman, CSI Chennai  
Integrated Databases India  
[sypsys@md5.vsnl.net.in](mailto:sypsys@md5.vsnl.net.in)

## Guidelines for submitting reports and articles to get published in the newsletter IEEE MAS LINK

- The matter may be in doc / rtf / txt format.
- Pl. use single column format.
- Photographs in digital form not to exceed 1024 pixels in width.
- Preferred format is “jpg”. Pl. avoid sending the pictures in “bmp”, “png” formats.
- Do not embed the photograph in the document. Send them separately.
- Images referred in articles may be embedded at appropriate places in the document.
- Provide your name, full affiliation, membership no. and email id at the end of the matter.
- Send the matter by email with the subject “Matter for IEEE MAS LINK <MMYY>”
- Address the email to [ieemaslink@gmail.com](mailto:ieemaslink@gmail.com)

with a copy to [ieemas@gmail.com](mailto:ieemas@gmail.com)

- Pl. note that the matters sent to other email ids may get ignored and may not be considered.
- Submit the materials by 8<sup>th</sup> of the month to facilitate inclusion in that month’s issue of LINK.

**We may ignore the submitted materials, if they do not follow the above guidelines.**

**Pl. co-operate with us in adhering to the guidelines specified. - Editor, IEEE MAS LINK**

## Presentation on “DDR3 Technology and Trends in Storage”



A presentation on the topic “DDR3 Technology and Trends in Storage” by Mr. Vasantha Kumar, Manager, IP Business Unit, GDA Technology Ltd., Chennai was organized jointly by the IEEE Madras Section, IEEE Computer Society Madras Chapter, IEEE Communications Society Madras Chapter on 25th Apr 2009.

Dr. S. Salivahanan, Chairman, IEEE Madras Section welcomed the gathering. Prof. T. Thyagarajan, Secretary, Madras Chapter made an announcement on the IEEE 125th year celebrations being planned at the Madras Section on 27th Aug 2009. Mr. H.R. Mohan, Chairman of IEEE CS introduced the speaker Mr. Vasantha Kumar and stated that the developments in the storage technology area has been rapid and mind boggling. He added that the cost of storage is diminishing along with the size.



DDR3 SDRAM or double-data-rate three synchronous dynamic random access memory is a random access memory interface technology used for high bandwidth storage of the working data of a computer or other digital electronic devices. DDR3 is part of the SDRAM family of technologies and is one of the many DRAM (dynamic random access memory) implementations. The primary benefit of DDR3 is the ability to transfer twice the data rate of DDR2, thus enabling higher bus rates and higher peak rates than earlier memory technologies.

Mr. Vasantha Kumar started his presentation with explaining the typical chipset and the latest desktop chipset, standard DRAM memory. He then illustrated the architectures of DRAM and SDRAM, functionalities and structural differences. The DDR architecture and the timing diagrams were then explained and it was followed by the arrangement in the

die and motherboard. The comparison of DDR, DDR2 & DDR3 under various heads illustrated the superiority of the DDR3.

Mr. Vasantha Kumar, highlighted the trends in bandwidth, latency and capacity of the memory. He, then briefly explained about the popular memory modules SIMM, DIMM and variants such as UDIMM, SODIMM, RDIMM and FBDIMM. Further, Serial Bus Memory Architectures, RAMBUS DRDRAM Interface, XDR Architecture, Memory Controller and its functions were touched upon.

Mr. Vasantha Kumar, also spoke on the market trends on the increasing usage of DDR memory and its variants in notebooks, desktops, servers, digital consumer electronics devices and mobile phones.

The talk was illustrative and interactive. It was well attended with over 80 participants comprising of students, academicians and professionals.

After the presentation, Dr. Salivahanan, presented a memento to the speaker Mr. Vasantha Kumar. Mr. P Subramanian, Asst. Prof. of ECE Dept at AVIT and the Secretary of IEEE ComSoc Madras Chapter proposed the vote of thanks.

**Visit our Website**

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

Posted On : 25<sup>th</sup> May 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](mailto:ieeemas@airtelmail.in), [ieeemas@gmail.com](mailto:ieeemas@gmail.com)

TO: