IEEE Bangalore Section

BROADCAST

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CHAIRMAN'S COLUMN

Dear Members,

It is nice to be in touch with you all again through Broadcast. We are halfway through the year 2003, and witnessed many significant happenings for IEEE as well as around the world in the last quarter.

Among the most significant was the SARS, and the range and enormity of its effect on many countries as far away as Hong Kong and Canada. Many companies had to curtail operations and suffer due to the SARS outbreak, even in a country like Singapore, not to speak of the tourism industry. The economic consequences will persist for quite some time. The IEEE Region 10 Meet, which is normally held in early April, was cancelled quite at the last minute due to SARS. Several IEEE conferences, not only in SARS affected countries, but in others too, involving international participation, were cancelled or adversely affected.

Fortunately, our country escaped the SARS and business and IEEE activities have been near normal. You know that we are organizing the TENCON 2003 international conference in October 14-17and surmise that we may have escaped any SARS trouble. In fact there has been an overwhelming response to the call for papers; over 800 papers have been received, and are under evaluation by several experts requested to the task by the Technical Chair Prof. Srikant. We expect to have a full technical program for three days with five parallel sessions, besides some excellent Tutorials on the first day. I sincerely solicit that members may attend and participate in this prestigious international conference right in their own town/state and derive the full benefits.

A distressing phenomenon this year has been the poor rate of membership renewals. We have had an excellent growth in membership over the last four years, but there has been a significant decline this year, especially the student members. We are unable to pinpoint where the problem is, and EXECOM members are making efforts to get members back on roll. But I would like to hear from YOU individually if you know what has caused one of your colleagues or friends not to renew membership.Could you send an email to the Section at ieeeblr@vsnl.net and oblige. For knowing the problem is half the solution.

Sri. M Thangarajan, Tata Elxi,
receiving momento from Dr. Chockalingam

The section has been keeping up its activities and delivering good value to the members. We have had as many as FOUR technical lectures in May, for example. Several student branches have conducted 2 or 3 day tech fests. I have received word that three more student branches have received approval from IEEE headquarters. And we have our Annual Student Paper Contests and Symposium coming up, whose announcements you will find in this issue, as tear-out sheets for convenience and posting on the bulletin board. Our colleagues are working hard to make these a great success as usual and perhaps more. Your active participation in both is solicited.

Our various Chapters and GOLD are continuing to have excellent portfolio of activities to benefit the members this year too.

Let us work together, participate together for mutual benefit and comeraderie in the name of the profession and IEEE.

Warm Regards

Prof. S V Sankaran
Chairman

REPORT ON TECHNICAL TALKS

In this quarter IEEE Bangalore Section had organised a number and variety of technical talks - as many as six. Besides this the various Chapters and GOLD had organised several more talks. It was indeed a bonanza of benefits for the interested member.

In the month of May 2003, we had organized four talks and the last talk by Dr. Martin Fowler was overwhelmingly received, with more than 200 attendees. Quite amazing, considering that due to logistics, the talk was announced just one day prior to the event. In June we organized two lectures. Here is a brief overview of the Lecture/talk events:

Dr. Rajendra K Bera, IBM

Dr. Bera is the Head of the R&D Group at IBM Global Services, Bangalore. He presented a talk on "**Quantum Encryption and Quantum Teleportation**" on May 9, 2003, held at the SERC Conference Room of the Indian Institute of Science.

The lecture covered basic concepts of quantum mechanics (state vector and superposition of states, entanglement, decoherence, measurement, etc.) as applicable to quantum computing, quantum computers and basic operations on such computers. It then concluded with a description of quantum algorithms related to encryption and teleportation.

Mr. Thangarajan, Tata Elxsi

Mr. Thangarajan is the Head of Quality and Training at Tata Elxsi in Bangalore. His talk on "**The Roadmap to CMM Level 5 and CMM Level 5 - The Tata Elxsi experience, a case study**" was presented on May 16, 2003 at the Delton Hall of the IETE (Institute of Electronics and Telecommunications Engineers) in Bangalore.

The talk covered an introduction to Tata Elxsi, Software Engineering Institute's CMM and CMMi levels. Later the talk focused on the challenges from the implementation perspective of quality system. Thangarajan explained about a few case studies on how the users of the quality system were motivated to use the methodologies and also how it was institutionalized in Tata Elxsi. Thangarajan also shared some metrics of Tata Elxsi indicating the benefits of the quality system.

Prof. Narayan Mandayam, Rutgers University

Prof. Narayan delivered a talk on "**Freebits: The Real Challenge of the Wireless Internet**". This was held on May 23, 2003 at the Delton Hall of the IETE, Bangalore.

The talk pointed out the basic economic constraints that serve as a barrier to wireless internet and also provided insights into new system concepts that will

Prof. Narayan Mandayam, Rutgers University, speaking

overcome such barriers. Focusing on one such system concept being developed at WINLAB, called the "Infostations", the talk highlighted research challenges and solutions for enabling such a design including signal processing and system level issues.

Mr. Martin Fowler, ThoughtWorks

Martin Fowler is the Chief Scientist with ThoughtWorks, Chicago, USA and is considered a Software Guru, having been a pioneer of Object-oriented design and Agile programming. He delivered a talk on the timely topic "**Software Design in the Twentyfirst Century**" to a 200 plus packed audience at the Delton Hall of IETE, Bangalore on May 27, 2003.

Mr. Martin Fowler delivering lecture

Martin explained about UML applications and the shortcomings. He also described the features of different versions of UML. The talk covered re-factoring, patterns, test driven development, extreme programming and agile methodologies. The talk explained Patterns in capturing the solutions and rationale for using them, re-factoring to alter the design of a system after the code is written and the UML to represent standard notation for drawing software designs. Agile methods, in particular Extreme Programming, provide highly iterative and evolutionary approach which is particularly well-suited to changing requirements and environments. The talk was very well received by the large audience.

Mr. N. Srinivasan, Kirana Networks

Nattu Srinivasan, CTO of Kirana Networks in New Jersey, USA gave a talk on **"Configurable All-Optical Networks"** on 26th Jume 2003 at the Delton Hall of IETE, Bangalore.

The talk addressed the systems and technologies for

Mr. Srinivasan of Kirana Networks speaking

configurable all optical networks. The emphasis was on addressing various factors to be considered for scaling the Metro and Regional optical networks. Srinivasan also discussed about the wavelength mux and demux on various configurations with emphasis on optical speed switching without converting the optical signals to electrical signals. The session ended with a question and answer session and about 50% of the audience had interaction with the speaker during the Q & A session.

Mr. Bhanu Bhushan, Power Grid Corpn.

Bhanu Bhushan, Director (Operations) of Power Grid Corporation of India Ltd., Delhi delivered a talk on **"Availability Tariff"** on 27th June 2003 at the Delton Hall of IETE, Bangalore.

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The speaker introduced the problems faced by the grid prior to implementation of the Availability tariff and described what is Availability tariff. He explained about giving incentives for enhancing the output capability of the power plants, and its effect of meeting

Mr. Bhanu Bhushan of Power Grid speaking

more consumer load during peak load hours. Also, backing down during off-peak hours would not result in a financial loss to the generating station.

The power shares of beneficiaries in the Central Generating stations would be given a meaning which was not the case so far. The beneficiaries would have well defined entitlements, and they would be able to draw power up to this at normal rates from the respective power plants. In case of overdrawls, they would have to pay at a higher rate during peak load hours, which should discourage them from overdrawing and pulling down the frequency. This payment would go to the beneficiaries who received less energy than was scheduled.

P.S. IEEE Bangalore Section would like to record its special appreciation to IETE Bangalore Chapter and its officers for generously extending the use of their Delton Auditorium for our various talks (and cosponsoring some of them) complimentarily in the interest of the engineering community.

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Bangalore Section

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TWELFTH ANNUAL SYMPOSIUM
On
Mobile Computing and Applications
November 21-22, 2003

Call For Papers

In midst of the mobile frenzy, mobile and wireless computing was hailed as a revolutionary paradigm shift. As the true reality of wireless capabilities became clear, wireless is now seen as an extension of the current business tools we have in place. Cellular phones did not fundamentally change the way people communicated. Talking on the phone wasnot new, but the convenience and availability cell phones brought were. Our belief is that wireless data will bring corporations equally powerful benefits within the framework and business processes we already understand.

Wide-area cellular systems and wireless LANs promise to make integrated networks a reality and provide fully distributed and ubiquitous mobile computing, thus overcomming the limits of immobility. Furthermore, services for mobile users are maturing and are poised to change the nature and scope of computing.

Original research work and contribution based on theoretical/ analytical/ numerical/ experimental investigations are invited. Topics of interest include, but not limited to, the following:

- Applications and computing services that support the mobile user
- Network architectures, protocols, or service algorithms
- Performance characterization of mobile/wireless networks
- Network management for mobile and wireless networks
- Data management and databases for mobile environments
- Service integration and internetworking of wired and wireless networks
- Interaction between different layers of mobile or wireless systems.

- Security, scalability, and reliability issues
- Nomadic computing
- Wearable computing and networking
- Satellite communications
- Quality of service and integrated services in mobile or wireless networks
- Mobile Internetworking
- Intelligent network signaling
- Mobile VoIP
- Mobile ad hoc and sensor networks
- Power management and control algorithms
- User interfaces and systems design
- Theory/algorithms

Authors are requested to send 3 copies of a 2000 word extended summary of their papers to the following address by post/Fax or email a soft copy to

Dr. Pandian A
Wipro Technologies, 53/1, Hosur Main Road, Madivala, Bangalore 560068.
Tel: (080) 5502009; Fax: (080) 5502160; Email: pandian@computer.org

The papers may be formatted using MS Word or Latex, preferably using IEEE style file, and should be prepared as a single doc or ps or pdf file. Authors of accepted papers are required to submit a camera-ready form of the full paper, register for symposium and present their paper. Accepted papers will be published in the symposium proceedings. Students are especially encouraged to attend the symposium. Second Class train fare may be provided to a limited number of authors on request.

Important Dates:

Extended summary due date	:	**1 Sep, 2003**
Notification of acceptance:	:	**20 Sep, 2003**
Final paper in camera-ready form	:	**20 Oct, 2003**
Symposium dates	:	**21-22 Nov, 2003**

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STUDENT ACTIVITY REPORT

This quarter has been a period of considerable activity on the Student front, with a number of IEEE Student Branches at various colleges conducting their annual 'tech fests'.

Manipal Institute of Technology, Manipal, conducted their annual symposium called 'Intellect 2K3' from 2-4 April 2003. Prof Lawrence Jenkins represented the Bangalore Section and inaugurated the function.

National Institute of Engineering, Mysore, held their annual function called 'Ankura 2003' on the 23rd and 24th of April 2003. Dr Srinivas of the IISc represented the Bangalore Section.

SJCE, Mysore held their annual Technical Fete on the 26th and 27th of April, called 'Cyberia 2003'. Mr A. Raja Rao represented the Bangalore Section and participated in the Panel Discussion.

UVCE, Bangalore held their annual function called 'Impetus '03' on the 23rd and 24th of May 2003. Prof. Sankaran and Mr A. Raja Rao represented the Bangalore Section and participated in their inaugural and valedictory ceremony respectively.

These two or three day tech fests involve a lot of detailed organization, preparation and coordination, and offer excellent opportunity for our students to learn and exercise leadership qualities and presentation skills. The tech fests also involve substantial budget outlays and give opportunity to the student leaders to manage money and budget and financial discipline and accountability. These are all very useful experiences in building the career skills of the future industry leaders.

The Student Branch at Basaveshwar Engineering College at Bagalkot has also been active and have conducted a number of programmes during the year.

Dr Suresh Jangamshetti, Branch Counselor at Bagalkot Engineering College visited Hirasugar Institute of Engineering at Nidashohi, and Guru Nanak Dev Engineering College, Bidar and made presentations on IEEE and the advantages of opening Student Branches.

Siddaganga Institute of Technology, Tumkur inaugurated their Student Branch in June 2003. Profs Sankaran and Jenkins represented the Bangalore Section and inaugurated the Branch.

Mr S Parameswaran and Mr A. Raja Rao, visited the Nitte Institute of Technology at Bangalore and made a presentation about IEEE and the benefits of opening a IEEE Student Branch.

Dr. Ambedkar Institute of Technology in Bangalore and SJCIT in Chickballapur have already been approved student banches. Many other colleges in Karnataka, have shown interest in opening IEEE Student Branches. These are Acharya Institute of Technology in Bangalore, Guru Nanak Dev Engineering College in Bidar, Bapuji Institute of Engineering and Technology in Davangere, Atria Institute of Technology in Bangalore, RV College of Engineering in Bangalore (revival), Sir MV Institute of Technology in Bangalore, MS Ramiah Institute of Technology in Bangalore.

'Broadcast' and IEEE Bangalore Section wish them well in their efforts and offer their support. We have just been informed that the IEEE Region 10 Director has approved the requests of the

Inauguration of IMPETUS 2003 at UVCE

Inauguration of INTELLECT 2k3 at MIT

following colleges in Karnataka to form Student Branches. These are Golden Valley Institute of Technology in Kolar, Gogte Institute of Technology in Belgaum (reinstated) and BVB College of Engineering and Technology in Hubli. 'Broadcast' and IEEE Bangalore Section congratulate them and wish them all success in organising fruitful activity. We expect that some more colleges in the Karnataka area will get clearance to form Student Branches in the near future. MS Ramiah Institute of Technology has also submitted petition for a student branch.

Through these columns IEEE Bangalore Section urges all Engineering Colleges in Karnataka to take advantage of the opportunities offered by the IEEE as well as the support offered by the Bangalore Section in their activities and start Student Branches. All Student Branches are also encouraged to be active and reminded to submit their annual reports and annual plans to the IEEE in May and November respectively every year to ensure that their Branch status does not lapse.

-A. Raja Rao,
Student Activities Chair,
Bangalore Section.

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Bangalore Section

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BRV Vardan Undergraduate Student Paper Contest-2003
IEEE Bangalore Section Graduate Student Paper Contest-2003

As a part of the Twelfth IEEE Annual Symposium - 2003 (Symposium dates: 21-22 Nov, 2003) Student Paper Contests will be held as detailed below. The objective is to encourage and promote excellence and competition among students so that they will be ready to take up challenging R&D tasks upon graduation.

ELIGIBILITY: The Contest is open to all students (both IEEE members and non-members) enrolled in B.E/B.Tech (for UG) and M.E/M.Tech/M.Sc(Engg) (for PG) programs of engineering colleges, located within the state of Karnataka. The technical paper should be in the general areas of Electrical, Electronics, Instrumentation, Communication and Computer Engineering.

THE PRIZE: For both UG and PG contests there will be two prizes each (first and second).

FIRST PRIZE : Rs. 6000/   **SECOND PRIZE**: Rs. 4000/

PROCEDURE: In the undergraduate category, the technical paper should contain description of original work by the student/ students with or without collaboration. It could also be an expository paper on a topic of current interest. Not more than 3 students should author each contribution. In the postgraduate category, the paper should contain description of original research work and should be authored strictly by one student. Students who have recently left an institution after completion of their course of study in 2002-2003 are also eligible to participate in the contest.

FORMAT: The technical paper should start with a title page consisting of (i) Title of paper, (ii) Name(s) of Author(s), Address(es), and (iii) An abstract of about 100 words. The body of the paper following the title page should be divided into sections like introduction, theory, problem formulation, experimental setup, algorithm, results, conclusions, etc, as needed. The paper should end with a list of references generally following IEEE transactions style. The paper should be typewritten with one and a half line space on one side on A4 size paper and should not exceed 10 pages inclusive of diagrams and pictures. Diagrams, if any, should contain captions.

The manuscript should be accompanied by Self-declaration by author(s) that: "I/We declare that this paper has been completely compiled and prepared by me/ us". A letter from the Head of the Department/Principal should be enclosed, certifying that the participant(s) is/was/are/were student(s) of the institution during the academic year 2002-2003.

SUBMISSION: Submitted papers will be short-listed based on merit and the authors are required to register and make oral presentation in the Annual Symposium. The short listed papers will also be published in the symposium proceedings. The prize-winning papers will be selected at the Symposium based on the quality of the technical content as well the oral presentation in the Annual Symposium. Three copies of the manuscript (full paper) should be sent to the following address and should reach by **15 September, 2003** to:

Dr. T. Srinivas,
ECE Department, Indian Institute of Science, Bangalore 560012.
Phone: 080 - 2932283, Fax: 080-3600563; E-mail: srinu@ece.iisc.ernet.in

One author of each of the accepted papers may be provided second-class train fare on request.

NOTE: The winning entries will be sent to the IEEE Region 10 contest, where they have a further chance of getting a prize. However, it may be noted that the Region 10 Contest is open only to the IEEE student members. We urge all the students to become Student Members of IEEE.

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