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Features

CHAIRMAN'S MESSAGE

Dear fellow members,

The SARS virus affected the IEEE Region 10 as well. The annual meet of the Region 10 committee had to be indefinitely postponed. Hope the R10 executive committee arranges the meet at the earliest since this is one forum where all the Section Chairs from India can personally get-together and discuss/resolve issues.

The great news is that PICT (Pune Institute of Computer Technology), Pune in Bombay Section with 1012 member strength is the largest IEEE Student branch in the world. They are very closely followed by Jeppiars Sathyabama in Madras Section with 991. The next few ranks go to USA and then we come to our VESIT (Bombay section) at 522, Thadomal Sahani Engg College (Bombay section) close at 520 and St Josephs in Madras Section with 409.

PICT was the largest student Branch in the World in 1999/2000 also and the then IEEE President Dr Bruce Eisenstein visited them when he came to Bombay for ACE2000.

Congrats to all these Student branches and we sincerely hope that they will be able to continue the good work and keep attracting new members, year after year.

The sad part of the story is that there are many student branches that have less than 10 strength. The Region 10 did a study and ultimately 14 student branches in India were mercilessly axed - 4 in Bangalore, 3 in Bombay, 4 in Hyderabad, 2 in Kerala and one in UP. We need to be very agile on this and I urge all Section SACs to keep track and do the needful.

Another good news is that two Sections in India are listed among the 12 largest sections in the world as of Dec end 2002. Fourth in the list is Bombay section with a strength of 7971 and twelfth is Madras with a strength of 5240. The largest Section in the World is the Santa Clara Valley with a strength of 15,487.

The end Feb 2003 statistics is not at all encouraging. Probably many would have renewed by April end.

With best regards,

R. MURALIDHARAN

Mumbai

Chairman

1 May
IEEE
India Council

r.muralidharan@ieee.org

The greatest pleasure in life is doing what people say *you cannot* do

- Walter Bagehet

This issue is sponsored by

IEEE MADRAS SECTION

EDITOR'S DESK

Walk-the-Talk

A mother approached a saint along with her son. Her problem was that the child was too fond of sweets. She wanted the saint to advice him to stop this habit. After listening to her, the learned man asked her to come back to him after two weeks. She returned to him as suggested and the saint gave sound advice which made a positive impact on the boy. Just before leaving, the mother could not resist the temptation to find out the reason for the two weeks time sought by the saint and asked him straight. The saint smiled and explained - I myself was very fond of sweets when you came to me first time. During the subsequent 14 days, I applied control on my sweet consumption and succeeded in bringing it down substantially. Today, I am in a position to advise your son without prick of conscience.

How many of us are really walking-the-talk in our daily life? Around us, we see people in all walks of life Teachers, Politicians, Bureaucrats, Executives, and such others - doling out advices for others to follow, while they themselves never do practice them. This is especially relevant in the case of teachers who should be role models for the younger generation to emulate. Equally important is the role of managers put in charge of engineer/executive trainees getting into a work environment for the first time in their life. This is the time when importance of traits like professional ethics, hard work, team spirit, loyalty to organisation etc could be imbibed in the minds of youngsters in their formative years, to remain as a solid foundation of their character. Such managers, who are honest examples themselves, can play key roles in making their organisation world class, taking support from the well-guided youngsters.

N.T.NAIR

Trivandrum Editor

1 May 03 e-mail: del@vsnl.com

IEEE NEWS & EVENTS

5th International Workshop on Distributed Computing (IWDC)

Dec 27- 30, 2003

Jointly Organized by: **Jadavpur University, Kolkata & IIM, Calcutta**

Co-Sponsored by: **IEEE India Council's Computer Society Chapter**

Call for Papers:

IWDC is a forum for presenting the latest research on distributed/networked computing systems. The workshop will cover all the facets of distributed computing including theory, systems and applications. IWDC invites papers, embodying original research work, in MS_Word, postscript or PDF format by e-mail to either of the program chairs.

Important Deadlines:

* Manuscript Submission: June 15, 2003;
* Notification of Acceptance: August 15, 2003;
* Submission of Camera-Ready Copy: September 15, 2003

For detailed guidelines, please see the web-site http://www.iimcal.ac.in/iwdc2003/CFP.htm

Program Chairs:

Samir R. Das, SUNY at Stony Brook, USA , e-mail: samir@cs.sunysb.edu;
Chandan Mazumdar, Jadavpur University ,India, e-mail: chandanm@vsnl.com.

Publicity Chairs:

Debashis Saha, Indian Institute of Management Calcutta, e-mail: ds@iimcal.ac.in;
Rajkumar Buiyya, Univ. of Melbourne, Australia, e-mail: raj@cs.mu.oz.au.

International Conference on Information Technology:

Prospects and Challenges (ITPC – 2003)

May 23-26, 2003, Kathmandu, Nepal

Organized by: Nepal Engineering College, Royal Nepal Academy of Science & Tech MOST and NCIT

Cosponsored by: IEEE India Council's COMPUTER SOCIETY CHAPTER

Web-site:http://www.nec-itpc.org.np

ALL ARE INVITED TO PARTICIPATE BY REGISTERING AS DELEGATES

6th International Conference on Information Technology - CIT 2003

December 22-25, 2003, Bhubaneswar, India

Sponsored By: Orissa Information Technology Society

Co-sponsored By: IEEE India Council's Computer Society Chapte

CALL FOR PAPERS: Authors are invited to submit original unpublished manuscripts that demonstrate current research in all areas of information technology.

For details, please visit http://www.citconference.org.

IMPORTANT DATES: May 30, 2003 Conference Paper Due; May 30, 2003 Tutorial Proposal Due; July 30, 2003 Notification of Acceptance/Rejection; August 30, 2003 Camera-Ready Paper Due.

Program Co-Chair:

Sudeshna Sarkar, Dept. of Computer Science & Engg IIT,Kharagpur-721 302, India

email: cit2003@cse.iitkgp.ernet.in

Tel: +91-3222-283494 Fax: +91-3222-278985

IEEE-IAS Distinguished Lecturer

Prof Ajit K Chattopadhyay, UGC Emeritus Fellow, Bengal Engineering College, IEEE Fellow and IEEE-IAS Distinguished Lecturer, on the invitation of the Joint IEEE IAS/PELS/IES German Chapter delivered two Distinguished Lectures at Robert Bosch GmBH, Stuttgart, Germany on February 20-21 on the topics Power Electronics-Past, Present and Future and

High Power High Performance Industrial Drives A Technology Review. Prof Chattopadhyay later visited the facility of Siemens Power Electronics & Drives Division, Nuremberg on Large Traction and Industrial Drives and also for a visit to the Institute of Electric Drives & Control , University of Erlangen-Nuremberg.

In San Francisco, USA he presented an invited Distinguished Lecture at the IEEE-IAS San Fransisco Chapter on February 25. Dr Chattopadhyay also visited the Dept. of Electrical & Computer Engineering at the Institute of Technology, University of Minnesota, Minneapolis.

Madan Mohan Malviya Engineering College, Gorakhpur

IEEE Student Branch, Madan Mohan Malviya Engg. College successfully organised a 3-day national level technical festival - tech SRIJAN 2003- during March 2003. Academicians and highly placed professionals from the industry delivered talks on topics related to cutting edge technologies as well as on professional awareness for future engineers. Some highlights of the programme:

Expert Talk:

Topic: Current Trends in Microelectronics Industry by Anand Hardy,Section Manager,Central R&D,ST Microelectronics

Campus Talk: STM Recruitment Bench, Wipro representatives

Guest Lectures

1. Topic: Power Electronics DR. S R Doradla, Professor, Dept. of Electrical Engg, IIT, Kanpur
2. Topic: Antennas DR. A Harish, Prof., Dept. of Electrical Engg, IIT, Kanpur

Guest Tutorial

Topic: VLSI Concepts & Design Prashant Dubey, Asst. Manager, Central R&D, ST Microelectronics

In addition to these events, some formal events were also conducted like techPRASTUTI (A technical paper presentation contest), softRACHNA (Open Software contest), hardRACHNA (Open Hardware contest), techSHILP (On the Spot Software contest, consisting of 3 separate categories: Web page design contest, Circuit Simulation through VHDL contest, CAD based design contest), techNEETI (A technical quiz for budding engineers), whirlpool (case studies & beyond), and bizquiz (quiz for the managers)

There were informal events as well aimed to make learning more entertaining and interesting like Network Games, Overnight software problems, Rapid debugging contests, Picasso [e-card designing] etc

Reported by: Ritesh Srivastava, Membership Development Head
IEEE Student Branch

A ship in harbour is safe, but that is not what ships are built for

- William Shedd

Technology *in brief*

Fusion-generated Electric Power - A reality?

Hopes are high once again for a new energy source. This time, scientists at Philadelphia's Sandia Labs say that a recent discovery they have made could bring the world just that one crucial step closer to realizing fusion-generated electric power. At the lab, a large device called the Z-machine has been made to create temperatures hotter than the sun's centre. The result: Lighter atoms are forced to squeeze together despite the inherent repelling nature of the atom- to make larger atoms. When these atoms fuse at high temperatures, thermonuclear neutrons release enormous energy, just like the sun. The Z-machine operates on the pulse-power model, where tremendous energy is concentrated in a short burst on a very small piece of deuterium, a hydrogen isotope. This enables fusion. Once we figure out how to capture and control this energy, we would, theoretically, have access to a perpetual power source which would be both self-sustaining and pollution-free. Although this is a grand simplification of an extremely complicated process, scientists believe that there is no reason why the basic principle shouldn't work in practice.

Researchers develop non-invasive glucose sensor

Millions of people suffering from diabetes mellitus may be spared the ordeal of pricking their fingers several times a day to test blood sugar levels, thanks to a breakthrough by University of Pittsburgh researchers who have developed a non-invasive method to measure the glucose level in bodily fluids.

Researchers Sanford A. Asher, Ph.D., professor of chemistry and David Finegold, M.D., professor of pediatrics in the School of Medicine, created a thin plastic sensor that changes color based on the concentrations of glucose.

The sensor material, which would be worn like a contact lens, was described in a paper published in the online version of Analytical Chemistry on April 11. The paper is scheduled to be published in the print version of Analytical Chemistry, a publication of the American Chemical Society, on May 1.

"There has been an increasing demand for continuous, non-invasive glucose monitoring due to the increasing number of people diagnosed with diabetes mellitus and the recognition that the long-term outcome of these patients can be dramatically improved by careful glucose monitoring and control," said Dr. Asher.

"The current method of testing glucose in diabetes patients-by drawing blood from a finger prick-is uncomfortable and is dependent on patient skill and compliance for regular testing," said Dr. Finegold.

The researchers plan to embed the sensing material into contact lenses worn in the patients' eyes. Patients will determine their glucose levels by looking into a mirror-similar to women's makeup compact mirrors, but with a color chart to indicate glucose concentrations-to compare the color of the sensing material with the chart.

The sensor will change from red, which indicates dangerously low glucose concentrations, to violet, which will indicate dangerously high glucose concentrations. When the glucose level is normal, the sensor will be green. The researchers are still determining the number of detectable gradations, but expect that it may be as high as the finger stick meters currently provide.

The University of Pittsburgh, which owns this patented technology, has licensed this technology to a new startup company that will engineer the material and commercialize it. The researchers believe the product is at least a year from being tested in humans. The researchers expect that their technology would be able to be incorporated into currently available commercial contact lenses, which would be replaced weekly.

Underwater Windmill - The Future Energy Source ?

A handful of tidal-power plants dot the world, and most of them are sprawling facilities that impound incoming water in estuaries, block shipping, and disrupt marine life. But 50 meters under the sea, at the bottom of a remote Norwegian strait, the world's first unobtrusive, grid-connected "watermill" will soon produce power for the world's northernmost town.

The recently devised Davis Hydro Turbine works like an underwater windmill forming a tidal fence in the water. The device's designers, based at Blue Energy Inc., in Vancouver, British Columbia, claim it can meet up to 40 percent of the world's electrical needs while not harming the environment or depending on solar cycles.

The turbine looks something like a windowless, slow revolving door. The units drop into the water and are fixed to the ocean floor. The unit then uses the natural ebb and flow created by the surging and sucking of the water's energy to produce energy.

The fence rotates at about three miles per hour, so, its creators claim, no fish would be harmed. Building a fence of fences could produce even more energy, according to Blue Energy spokesman Michael Maser.

"If we were to construct a tidal fence or a barrage of our units linked across a passage you have no need for pipelines across parts of the country," he said.

The company has located several sites in Washington as well as California, Florida and Canada that they believe would be ideal for the Davis Turbine. Maser says that one Davis Turbo Turbine could provide the equivalent of 450 megawatts or enough to power half a million homes.

Vancouver's main energy provider BC Hydro is in discussions with Blue Energy to assess the possibility of powering Vancouver Island with the Davis Hydro.

"The government is running out of options," Maser said. "The world has incredible ocean energy resources that we haven't thoroughly assessed or harnessed. These energy sources could be used in an environmentally benevolent way."

Ocean energy, Maser claims, could meet 40 percent of the nation's energy needs in 30 years. The Canadian company isn't alone in researching the potential energy source of ocean waves. Companies in the Netherlands, Ireland, Australia and Romania are also exploring similar ways to capture wave power. And, in Scotland, the concept has already been put to use.

Business BUZZ Words

BUSINESS BUZZWORDS

[This is a new column on business buzzwords in use today as well as that are being added to the repository from time to time. We welcome contributions from readers also to this column

- Editorial Board]

Buzzwords - Oxford dictionary explains this as ﷺa fashionable technical wordﷺ. In the business world, these terms capture the big trends and issues of the moment. The terms sometimes survive only as long as the trend exists. Examples of some buzzwords - flexitime, codetermination

Couch Potato ﷺ Lethargic television addicts. Such people eat too much junk food while watching TV programmes. Eventually, they acquire the physical profile of a large potato. Marketing executives speak in terms of surveying the ﷺcouch potatoesﷺ to determine viewer trends.

Cash Cow - A product or a business in a company that generates revenue without further investment. Like a cow giving milk, the product or business is a reliable money maker. Yet cash cows, like milk cows, do require a certain minimum amount of tending. More importantly, owners should remember that cows of all kinds have finite lifespans.

Chicken feed ﷺ Small sums of money or an amount that is not large enough to be important. For eg, The penalty imposed was chicken feed- only Rs 5.

Holistic - An approach to management that encompasses the entire range of human need, not just money.

A holistic manager really cares about your children, your hobby and level of happiness you achieve in your work. The word comes from the jargon of philosophical discourse, where it means the careful ordering of things to produce a whole that is greater than the sum of its parts.

Also used in alternative medicine circles. That is, treating the whole person rather than just the symptoms of a disease: holistic medicine.

News - Scan

Tomato yield improves with CO2

The carbon dioxide from gas- fired micro turbines producing electricity, is used in glass houses to increase the yield of tomatoes grown in them. It is found that tomatoes grow heavier and healthier with added carbon dioxide. According to British Tomato Growersﷺ Association, around one quarter of the UKﷺs tomato production area is being equipped with on-site CHP plants to provide electricity, heat and carbon dioxide.

Linux Supercomputer in IISC

The increasingly popular ﷺOpen Sourceﷺ operating environment is getting a boost with the installation of the most powerful single-platform Linux computing facility in the country at the Indian Institute of Science, Bangalore recently-Altix 3000 system from Silicon Graphics

Powered by 32 Itanium-2 processors from Intel stable for high end 64-bit computing, the system comes to India within weeks of its first launch in US. The machine will provide the scalability, raw performance and reliability that high performance computing users need to solve large complex problems of both science and industry. It will be upgraded with newer versions of Itanium chips codenamed ﷺMadisonﷺ by Intel, when they become available later in the year. The replacements would improve performance by 30-40 % compared to the current processors. The system can also be expanded in the form of super clusters with up to 64 processors per node ﷺ which may come in handy to address computation intensive tasks like gene mapping and bioinformatics.

Library Scan

ﷺQuicksilver Companies - The battle for the online consumerﷺ

Book by: Alan Griffiths

Published by: JoPALGRAVE, UK, USA

The most difficult and yet most exciting aspect of online business is that there are no rules. Every company has a business plan, but the key to success is the ability to rewrite and reshape it repeatedly as one interacts with the customers. The victors in the online battle are those that can provide instant gratification, by anticipating their customersﷺ needs and by being flexible enough to remain one step ahead. These are the ﷺQuicksilver Companiesﷺ and this book is about them.

As the creator of the BBC News online site and adviser to businesses such as the Financial Times, SkyDigital. and others, Alan Griffiths has been at the frontline of online business for several years. In this book he provides the reader with practical advice on how to make the great ideas in the e-business books work in practice and real-life stories on how to avoid the pitfalls.

Administrivia:
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Send your comments about this page, to
: s.gopakumar@ieee.org
This page, developed and maintained by: S.Gopakumar
