IEEE India Info

IEEE India Council
News Letter
Vol. 6 Number 6
June 2011

IEEE The Institute of Electrical and Electronics Engineers. Inc

Message from Chairman

Dear Members,

Greetings from IEEE INDIA COUNCIL. So far, during the last two months I had briefed about some of the thought we had in mind about the activities of IEEE India Council. I have not received any feed back on the same and therefore assume that in general Members do agree with agenda we are working on. One of the MOST IMORTANT Activity IEEE does it is the promotional role to promote informal Education which is the core tenet of our Mission. We provide comprehensive programs in the area of reliability, maintainability and availability to offer specialization in the life-cycle design, management and sustainment of the electronic products and systems.

Unlike conventional educational program, IEEE invests in the development of Human Capital through verity of partnership, research opportunities, exchange and internship including:

- Educational and Research partnership with institutions around the world.
- Long term research projects where professionals from industry leaders participate.
- Exchange program with gold graduate students from international universities.
- Participation in the combined program within the different societies of IEEE.
- Year long internship mentored by the senior volunteer's member of IEEE.
- Web-based educational program for practitioners in the industry in the form of seminars, onsite and online short courses, and organizing and hosting symposia, conferences, workshop, distinguish lectures etc...

All the above measures lead by developing new industry standards, industry roadmaps, and improved management practices create powerful software bases design tools, analysis methodologies, and databases, IEEE is significantly influencing industry and academia on a global basis.

We have requested our Ex. Committee Members to prepare the Annual Action Plan and publish so that our members are fully in loop. I am sure; all the concerned are working on the same and soon you will have this in IEEE News.

The following events are being organized by different Chapters and Sections. We are sure, all of you should be fully participating.

- **Agilent Aerospace and Defense Symposium being organised by IEEE AES COM LEO Society Chapter India with Agilent.**
- **INDICON 2011- "Engineering Sustainable Solutions" by IEEE Hyderbad Section.**
- **CALCON 11 by IEEE Calcutta Section .**

I am requesting the Editor to put details in the contents.

Looking forward for your inputs. Thanks.

Dr. Ram Gopal Gupta

Call for Papers

IEEE Hyderabad Section *jointly with*
IEEE India Council *organizes*
2011 Annual IEEE India Conference
INDICON 2011

IEEE HYDERABAD SECTION

at

BITS, Pilani – Hyderabad Campus, Andhra Pradesh, India

December 16-18, 2011

Engineering Sustainable Solutions

http://www.indicon2011.org/

IEEE's revised core purpose is to foster technological innovation and excellence for the benefit of humanity. Engineering is about solving problems of the society for the benefit of the society. Earlier, engineering dealt with abundant resources and fewer needs; while the population was low. Times have changed now. Man exploited the nature and often took the resources as free. This is creating problem now and the resources turned out to be scarce and the needs are growing with ever increasing population. Any solution that we propose should now take care of three dimensions:

- **Sound Engineering Design:** Agile, Coping with Change, Good Analysis,
- **Eco friendly Processes:** Conserving water, energy, metals, minerals, etc.,
- **Affordable Solutions:** Ease of use and affordable to most people.

We need to look at holistic approaches to problem solving. Keeping in view of these considerations, the theme of the conference is set as **"Engineering**

Sustainability Solutions".

With this background, we invite researchers, educators, managers and students to submit original contributions which may be conceptual, theoretical, or empirical. They may document research activity, case studies or best practices, shedding light on the theory or practice of engineering, technology, or innovation. **INDICON 2011** ***Conference proceedings will be accessible through IEEE Xplore after the conference.*** Major technology topic areas,

include (not limited to):

Computing: Algorithms , Architecture, Cryptography, Security, Data Mining, Embedded Systems, Speech, Image, Video, Multimedia, Pervasive Computing, Grid and Cloud Computing, Pattern Recognition, Artificial Neural Networks and Machine Learning, Evolutionary computation, Fuzzy logic, Bioinformatics and Computational Biology etc.,

Communication: Data Communication, Telecommunication, Networks, Wireless, Mobile, Optical, Signal Processing & Coding Techniques, Internet, IPv6, Convergence of Technologies, Protocols and Standards, Personal Communications, Social Networks, Adhoc Networks etc.,

Power & Energy: Power Electronics, Instrumentation, Electrical Machines, Control and Testing Techniques, Intelligent Transport Systems, Fuel Cells/Wind Energy/Solar Energy, Energy-efficient Tools and techniques, Energy storage technologies, Smart Energy Appliances, Smart Grid etc.,

Microwave & Antennas: Microwave/optical interactions, Microwave Photonics. Biomedical Applications, Smart Antennas, Phased 0Arrays, T/R modules, multi-beam scanning, active integrated antennas. HF/UHF/RF passive and active RFID tags, Cognitive and Software-defined Radios etc.,

In addition to these core technology topics, we are open to special sessions on management issues as seen within computer, communications and power

& energy disciplines. The areas include but not limited to:

- Engineering Management and Climate Change
- Safety and Health Management
- Project Management for Sustainable Solutions
- Green Information Technology
- Green Product and Process Development
- Ecological Modernization
- Systems Approach to Sustainable Solutions

The Technology is a greatest enabler. It has a wide coverage in terms of addressing the solutions to the problems that the world is facing due to global warming, poverty, pollution, illiteracy, food scarcity, migration of people congesting the urban areas, etc., So the scope of the papers may include solutions to issues such as (but not limited to): Illiteracy, Disasters, Health, Energy, Climate, Water, Weather, Ecosystems, Agriculture, Biodiversity, etc.,

Important Dates: The Conference Website is open for Abstract submissions. Full-Paper Submission: 01 July - 15 Aug, 2011

Notification of Acceptance of Paper: 15 Oct, 2011

Camera ready Paper: 1 Nov, 2011

Registration: 1 Nov - 30 Nov, 2011

Tutorial: 16 Dec, 2011; Conference: 17 – 18 Dec, 2011

For additional information, visit the conference website at http://www.indicon2011.org/

Contact: indicon2011@ieeehyd.org

INDICON 2011 Call for Papers

That is IT in May 2011

Prof. S. Sadagopan

General

- ISRO launches GSAT g8 successfully on May 21, 2011 that will lead to significant increase in DTH capacity
- Government increases petrol price on May 15, 2011
- Assembly Election in Tamil Nadu, Kerala, West Bengal & Assam results out on May 13, 2011; two more Women Chief Ministers in Tamil Nadu &
- West Bengal (in addition to Uttar Pradesh earlier)
- SC stays Ayodhya verdict of Allahabad High Court on May 9, 2011
- IBM gears up to celebrate it's Centenary on June 16, 2011
- GM gets back the world's No 1 tag from Toyota with record profit
- Osama Bin Laden killed by US troops on May 2,2011 in Pakistan

Technology

- Intel showcases "Ivy Bridge" 3-D chip technology on May 5, 2011

Products

- Airtel and Aircel launch iPhone 4 on May 27, 2011
- Infosys announces cloud offering of its banking product “Finacle”
- Google launches StreetView in India starting with Bangalore on May 27, 2011
- Apple launches new iMacs with faster processors (Intel i3, i5 & i7) and Thunderbolt high speed port on May 3, 2011
- Google launches Google Music Beta, Chrome Notebooks during Google I/O during May 9-12, 2011
- Microsoft announces Mango Mobile OS on May 24, 2011
- Barnes & Noble launches low cost eBook reader on May 23, 2011

Markets

- Sensex (Bombay Stock Exchange Index) in record losing streak in a decade during April 21 - May 5
- IBM goes past Microsoft in market capitalization on May 24, 2011
- LinkedIn had a very successful IPO on May 19, 2011; the stock gaining 109% on Day 1 (closing at $ 94.25 from offer price of $ 45)
- Apple beats Google to become the world's most valued brand on May 9, 2011 (BrandZ Survey)
- Microsoft acquires Skype for $ 8.5 billion, the largest in Microsoft history

Indian IT Companies

- Tech Mahindra joins Billion-dollar club in May 2011
- Infosys to invest $ 150 million in China and expects 5% business from China center
- iGate completes Patni acquisition on May 12, 2011
- Aravind Melligeri founded Quest Global and Bangalore-based Cades bag orders worth $ 300 million from Airbus

MNC IT Companies in India

- Accenture has 70,000 of its 2,15,000 global employees in India
- Nokia plant in Chennai crossed 500 million handsets manufacture on May 5, 2011

Education & Research

- ISRO Chairman inaugurates a supercomputer SAGA 220 in VSSC Thiruvananthapuram with 220 Teraflops (the fastest in the country) on May 2, 2011
- Bosch formally announces the setting up of a Research Center with Rs 140 crores investment in IISc on May 31, 2011

People

- German Chancellor Angela Merkel visits India on May 31, 2011
- Microsoft CEO Steve Ballmer visits India on May 27, 2011
- Accenture CEO Pierre Nanterme visits India
- Women power on the rise in India - two more Chief Ministers (Election results on May 13) and the top two ranks of Civil Service exam held by women (May 10)

Interesting Applications

- Indian companies can use Video conferencing for AGM
- E Books sales exceed print books sales on Amazon as of May 15, 2011

Interesting numbers

- Foreign exchange reserves as on May 27, 2011 was $ 310 billion (RBI)
- Sensex on May 31, 2011 was at 18,500
- US Dollar stood at Rs 44.98 on May 31, 2011
- Sony posts $3.2 billion loss on Jan - Mar 2011 quarter
- Top mobile handset vendors in 1Q2011 are Nokia (108.5 million), Samsung (70 million), LG (24.5 million), Apple (18.7 million) and RIM (14.9 million); however in Smart Phone category
- Apple is No 2 in quantity and No 1 in revenue!

Professor Sowmyanarayanan Sadagopan is the Director of IIIT-Bangalore. These are his personal views. He can be reached at s.sadagopan@gmail.com

Call for Application for the 6th Asia Pacific Young Researcher Award

IEEE Asia Pacific Board (APB) sponsors "IEEE ComSoc Asia-Pacific Young Researcher Award". This award honors researchers who have been very active in IEEE ComSoc publication and conference activities over the last 3 years.

The upper age limit is 35.

Applicants must be members in the Asia Pacific region.

The "IEEE ComSoc Asia-Pacific Young Researcher Award" will be given to the best candidate.

The candidates not selected are eligible for the award of "Outstanding young researcher(s)" which can be issued at the same time.

Application submission due

July 1, 2011 : Application submission due

October 1, 2011 : Announcement of awardees

December 2011: Award ceremony in Globecom 2011.

Details follows:

http://chapters.comsoc.org/~apb/award/6th/2011_CFP_APBYoungResearcherAward.pdf

Naoaki Yamanaka, IEEE ComSoc APB Director

Report on PSCAD Workshop

PES/IAS/PELs Joint Chapter & GOLD Affinity Group, The Institute of Electrical & Electronics Engineers (IEEE), Hyd. Section conducted PSCAD (Power Systems Computer Aided Design) Workshop in Association with IEEE Student Branch, Osmania University, Hyderabad. The event was held on Sunday, 29th May 2011 at Osmania University.

The event started at 9:30am by introducing the speakers Mr. Venkatesh Challa, who has around 16 years of teaching experience, and who has submitted his Ph.D. thesis at NIT Warangal along with. The event basically concentrated on how to work with PSCAD. The participants were very enthusiastic all through the event. The participants included IEEE professional members as well as IEEE student members along with Non-IEEE members. There was a total participation of 60 participants.

The event ended on a successful note at 4:00pm. The feedback from the participants stated –"The event was very useful and they were happy with it". Many of the participants were very eager to participate for the upcoming events and are looking forward for the next session.

Gallery:

IEEE MADRAS SECTION

Report by
Dr. T.THYAGARAJAN, Professor
Dept. of Instrumentation Engineering, MIT CAMPUS

The IEEE Madaras Section was selected by the R10 for the 2010 R10 Distinguished Large Section AWARD. It is the first time that the Madras Section is receiving such a recognition from HQ. The IEEE Region 10, also sometimes referred as the Asia Pacific Region, comprises of 57 Sections, 6 Councils, 21 Sub-sections, 500+ Chapters and 583 student branches. The selection for the award was based on the performance summarized in the 2010 Annual Report submitted by all the sections in the region 10 (India, China, South East Asia, Australia and Newzeland). Award certificate will be presented to the IEEE Madras Section at the 2012 R10 Annual Meeting to be held early next year, and the cash bonus of USD 1,000 will also be given to us. This recognition is based on the activities carried out by the Section, Societies, Student branches, Affinity groups with the direction & dedicated involvement of the executive committee; encouragement from all the IEEE members of Madras Section and with the support from the section office staff & all the other well wishers. The highlights of the activities carried out by the IEEE Madras Section in the year 2010 are listed below:(Detailed report is also attached as pdf file)

☐ Guiding in the formation of 14 new student branches, Encouraging in the formation of 3 new Society Chapters (MTTS, PSE and RAS), Revival of the Professional Communications Society Chapter, 2 new WIE Affinity Groups, Enhancing the membership by 1500, Elevation of 3 members to Senior Members, Establishing norms for giving financial assistance to conduct conferences, Streamlining the procedure for sponsoring FDPs, Giving financial assistance to 33 conferences – Rs 4,05,000, Recommending financial assistance to 10 UG Projects @ Rs15, 000, 93 technical lectures by various societies and affinity groups, Organizing 9 technical lectures by the section, Organizing 11 Execom meetings to carryout activities with collective wisdom in a transparent

manner, Organizing 4 FDPs for the benefit of faculty members, Securing PAN number for the Section from the Income Tax Dept., Bringing out comprehensive monthly newsletter IEEE MAS LINK every month, Conducting 3 special events (Conclave 10, IEEE Day Celebration and SPAC), Receiving US$ 1800/- (Rs 80,000/-) from HQ as special assistance for SPAC, EAC, WIE activities and distributing them to SSN, Kumaraswamy, St. Xavier, Cape Institute), Improving infra-astructure in the Section office , Procuring new IEEE lapel pins and IEEE ties and distributing them to the members, Introducing vehicle loan facility to the section staff, Conferring motivational awards to the following members: Dr.D. P. Kothari for becoming the Fellow of IEEE, Prof. M. Ramlatha, for becoming

WIE Global Chair & for conducting max activities, Counselors of the student branches (AVIT, KEC, CIET, KSRCT) for carrying out maximum number of activities, Dr. Salivahanan and Dr G.V. Rao, Chairs of newly started societies-MTT, RAS, Mr. H.R. Mohan, Chief Editor of the IEEE MAS LINK & Chair-IEEE-CS for conducting maximum activities, Mr S.Rajavel for making maximum industrial membership, Dr N. Kumarappan Chair Education Activities for conducting maximum FDPs, Top three Student branches with highest student membership (Sathyabama, Velammal, Kongu).

CUBIC INSANITY

PSYCHO-ANALYSIS OF THE RUBIK'S CUBE

May 14, 2011
Revised May 21, 2011

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CUBIC INSANITY

A solved Rubik's Cube, in a "done" state may be deemed to be in a state of ***sanity***.

Make a move - turn any face through a right angle (90°) and we get a cube in the first stage of ***insanity***. A move consists of only turning a face by 90° - either clockwise or anticlockwise. Turning a central layer by 90° cannot be deemed to be a move, but rather, two moves - a move each for each of the two sandwiching faces. Similarly, turning a face by 180° is to be considered as two moves of 90° each.

Since there are six faces and each face may be moved either clockwise or anticlockwise, there can be twelve ways in which the cube can be in the first stage of ***insanity***, from a state of ***sanity***.

> "There are two common ways to measure the length of a solution. The first is to count the number of quarter turns. The second is to count the number of face turns. A move like F2 (a half turn of the front face) would be counted as 2 moves in the quarter turn metric and as only 1 turn in the face metric."
>
> **"Optimal Solutions for Rubik's Cube."** *Wikipedia, the Free Encyclopedia.* <http://en.wikipedia.org/wiki/Optimal_solutions_for_Rubik's_Cube>.

Make another move, and we reach the second stage of ***insanity***. Well - not quite - because the second move may nullify the first move and get us back to ***sanity***. Now, for each of the twelve first moves, there are twelve second moves, of which one is a nullifying move. So, there are, in all 132 (12 x 11) moves with a potential to move to the second stage of ***insanity***. Again - not quite - since there are some second stage ***insanities*** which can be arrived at in two ways. This happens if the two moves are on two opposite faces - in which case, the first and second moves can be interchanged with the same result. (Moving face A and then face B, is the same as moving face B first, and then face A, if the two faces are opposite to each other). This can happen in twelve ways. So from the potential 132 moves, twelve are eliminated as duplicates, leaving us with 120 (132 - 12) possible second stages of ***insanity***.

Proceeding further, every subsequent move either increases the stage of ***insanity*** by one or decreases it by one. The latter happening if the new move nullifies a previously made move, or a series of moves. This can also happen if the same face is moved by three quarter turns (270°), which would be equivalent to one quarter turn in the counter-direction. Hence the third quarter turn actually reduces the ***insanity*** by one.

THE CRUX

If a cube is in the nth stage of ***insanity***, then it can be brought back to ***sanity*** (or solved) in at least n moves. This would be the most efficient way of solving the cube, where each and every move always reduces the ***insanity*** of the cube.

THE CORE

What is the highest stage of ***insanity*** - from which any move made always reduces the ***insanity***? This would mean that this is the maximum number of moves strictly required to get back to ***sanity***. Most "standard" algorithms used to solve the cube use a much greater number of moves. Sheer inefficiency, I would say. After years of research, it has been found that the highest degree of ***insanity*** is 24. So, a cube can always be solved in at the most 24 moves. Or, if the face-turning convention is used, in twenty moves, since four of the twenty moves are double-moves of 180°. This has led to the assertion that "God's number for the Rubik's cube is twenty".

ENIGMA

There are more than one stages of ***sanity***.

Believe me there are. See for yourself. With a soft, erasable pencil, draw a line on the white face of a "done" (***sane***) cube - parallel to any one side of the white face, in the middle layer, but slightly off-centre. Jumble up the cube and solve it again. Is the straight line still a straight line? If yes, jumble it up, again and again, and with luck, you will find the line broken. And yet, the cube has attained ***sanity***, but of a different kind. A question arises as to how many such enigmatic stages of ***sanity*** are there?

COUNTING

We saw that there are twelve ways in which a cube can be in the first stage of ***sanity***, 120 ways for the second stage, making a total of 132 ways for the first two stages of ***insanity***. If we continue counting - right until the highest 24^{th} stage of ***insanity***, we ought to get a total figure which is equal to all the possible permutations and combinations of the cube - and if we do not get that, then what? And remember, the enigma of the ***sane*** cube is also inherent in each and every one of the total permutations and combinations.

CALCON11

NATIONAL CONFERENCE ON ELECTRICAL, ELECTRONICS AND COMPUTER ENGINEERING

November 4–5, 2011

Organized by ***IEEE Calcutta Section***
in collaboration with its
Circuits and Systems Chapter

CALL FOR PAPERS

The Institute of Electrical and Electronics Engineers Inc. (IEEE) is the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity. It has more than 400,000 members over 160 countries with 333 sections in 10 geographical regions.

IEEE Calcutta Section is one among 333 sections and belongs to Asia – Pacific Region (Region 10). It began its journey on September 28, 1978. During its more than 32 years of service, it has spread its academic and professional activities in the entire eastern part of India. On the occasion of celebration of its 30 years of service, the section organized CALCON08 in the year 2008. As a sequel to that and to provide a forum to exchange ideas, techniques and applications among researchers, practitioners and academicians working in the area of electrotechnology, the section is organizing CALCON11. The prospective authors are hereby invited to submit their research paper(s) for presentation in the areas relating to,

Electrical Engineering	Computer Engineering
Electronics Engineering	Information Technology

Information for Authors

Prospective authors are invited to submit the full papers in electronic version not exceeding 6 pages as per IEEE double column format available in calcon11 website. All the papers will be subjected to a review process before final acceptance. All the manuscripts are to be submitted electronically using the email ID calcon2011@gmail.com

In the case of multiple authors of a paper at least one author must register. All accepted papers will appear in the conference proceedings provided at least one author registers for conference. Single registration entitles presentation of maximum of two papers.

Contact Details:

Calcon11 Email ID: ***calcon2011@gmail.com***
Calcon11 Website: ***www.ewh.ieee.org/r10/calcutta/calcon2011***

For further details please contact:

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Please visit the conference website for regular updates.