



Message from Chairman

Dear Members,

I am sure you might be planning your activities for the year. It is also time to tap various resources and services of IEEE to plan activities at our sections, chapters, affinity groups and student branches. Various IEEE resources are available online. Volunteers need to focus on the need of members while setting annual plan of their respective units. Volunteers should keep themselves updated and visit MGA News webpage http://www.ieee.org/societies_communities/geo_activities/mga_news.html. You may also subscribe to MGA News by writing an email to scoop@ieee.org.

India Council would like to focus on IEEE Conferences organized in India. All OUs who are organizing IEEE conferences should ensure quality. If you are Technically Co-Sponsoring a conference please ensure direct or substantial involvement in the overall process of the Technical Program of the Conference. Please visit Conference and Event page at http://www.ieee.org/conferences_events/index.html before planning a conference.

India Council is planning to conduct programs to help volunteers organize good IEEE conferences. One such workshop will be held on 25 April 2015 at Godavari Hall of TCS Campus, Hyderabad. Members and volunteers who are directly or indirectly involved in organizing conferences must take part in this workshop.

India Council would always be interested in organizing programs relevant to IEEE members and volunteers in India. We have very experienced and dedicated team of volunteers in our Executive Committee (EXCOM). Please visit India Council website to know India Council EXCOM members and offer your inputs so that India Council could add more value to your IEEE membership.

Deepak Mathur

Chair, IEEE India Council



NT Nair, Editor, writes...



“Our planet has finite natural assets which, even when managed responsibly and effectively, can support only a finite human population.”

I heard these words from Prof. Philip Hall of University of Melbourne, an IEEE Distinguished Lecturer attached to *The Society on Social Implications of Technology (SSIT)*, during an interaction recently. Dr Hall specialises in the delivery and management of business-critical systems in complex operational and technological environments.

The myth that by managing the finite natural assets, we can spread it thin enough to meet the needs of the entire human population is questioned by Dr Hall. Such an action will work only if the recipient end is also finitized - that is human population. Of course, efforts are on to limit the population but a huge disparity exists in spite of that. That will call for extra effort to still further reduce the usage of natural assets, possibly, strictly following the adage: *Do More with Less*. It is a challenge for engineering community, who have to shed the lavishness attitude, if there is any. But there are other forms of natural assets which will never get depleted, in the form of renewable energies like solar, hydro, wind, wave etc. Efficient tapping of these energy sources and frugal use of scarce materials are the methods in front. Let us embrace them

Before concluding, certain things about this newsletter activity. Mr Deepak Mathur, IC Chair is very keen to raise the level of newsletter contents to still higher plains, such that this interconnecting link among all IEEE members in India, including student members, does justice to its role. With that in mind, we have now formed an expert team of two eminent IEEE volunteers - Dr Y N Singh of IIT Kharagpur and Prof. V K Damodaran, UN expert in small hydro systems to scrutinise and clear articles received for publication. Additionally, we are also getting the services of Ms Preety V Warriar, who will scan the global IEEE landscape to identify technical activities worth bringing to the attention of IEEE fraternity in India. Our gratitude to these volunteers for their willingness to spare their valuable time for supporting the newsletter. Finally, a humble request to all office bearers and volunteers: Kindly make sure that the reports you send for publication in newsletter are well focussed, without mistakes and very brief. Such carefully crafted reports will reduce the burden of Editorial Team, who are also making time for this volunteer activity, in the midst of their regular occupation. And, it is important that the write ups reach us well before 25th of the previous month. i.e., for March 2015 Issue, the matter should reach us before 25th Feb. 2015. Hope all will help us on these lines to make the newsletter activity smooth and simple.

With best wishes to all IEEE friends,

N T Nair



Words of Wisdom

*Cherish your visions and your dreams as they are the
children of your soul, the blueprints of your ultimate
achievements.*

- Napoleon Hill

IT in January 2015

Prof. S. Sadagopan Director, IIIT-Bangalore s.sadagopan@gmail.com



General

- President Obama's India visit during January 25-27, 2015 and participating as the Chief Guest on the Republic Day on January 26, 2015 creates history
- Government sets up NITI (National Institution for Transforming India) Aayog on January 1, 2015 replacing the erstwhile Planning Commission; the renowned Columbia University Professor of Economics Dr. Arvind Panagariya is the Vice Chairman (Prime Minister being the Chairman); IAS Officer Mrs. Sindhushri Khullar is the CEO
- Vibrant Gujarat 2015 (January 11-13, 2015) saw UN Secretary General Ban Moon, US Secretary of State John Kerry and World Bank President attend the event in Ahmedabad; many global CEO's commit billions of dollars of investment in India in the year 2015
- Kaliash Satyarthi gives away Nobel Prize Medallion to the Nation; Prize Medallion available for public view in Rashtrapati Bhawan in Delhi; decided to give away all of Prize money to children
- Delhi Elections announced on January 12, 2015; Poll on February 7, 2015 and results on February 10, 2015; NRI get voting rights!
- Jammu & Kashmir Elections throws up fractured mandate forcing President's Rule on January 9, 2015
- Trade deficit hits 10-month low thanks to falling oil price
- Brent crude drops below \$ 50 on January 7, 2015 the first time after the year 2009
- Paris terror attack on January 7, 2015 kills 12; the world rallies against terror through a massive Paris March with 250,000 people on January 11, 2015
- Government decides not to appeal against High Court verdict on Vodafone improving investor confidence

Technology

- **Agni V** (missile) test fired successfully by DRDO on January 31, 2015

Markets

- **BSE Sensex** touches 29,000 for the first time on January 23, 2015; earlier in the month it also saw a fall of 855 points on January 6, 2015
- RBI cuts **Repo rate** by 0.25% on January 14, 2015 leading to rally in the markets on 14th January 2015; Sensex and Nifty show record spurt
- **Apple** posts **record profit** of \$ 18 billion profit (highest ever for any corporation) on January 28, 2015 for October December 2014 quarter

- Chinese Billionaire Alibaba Founder Jack Ma announces his decision to invest \$ 550 million in **PayTM** in January 2015; Delhi-based Vijay Shekhar Sharma founded Start-up **PayTM** operates in retail payments and e-commerce space; the company is expected to see billion dollar value soon
- Hyderabad-based IT services company with focus on engineering services **Cyient** acquires 74% stake in **Rangsons Electronics** for ₹ 360 crores on January 2, 2015
- **Commonfloor** (software as a service provider for apartment owners' associations) acquires Bangalore-based retail social networking company **Bakfy** on January 6, 2015
- **Hike** (India's instant-messaging App) buys US-based Anuj Jain founded phone calling company **Zip Phone** on January 8, 2015
- **TechMahindra** acquires Geneva-based transformation banking company **SOFGEN** on January 9, 2015
- India-based Zomato buys US-based **Urbanspoon** for ₹ 360 crores on January 12, 2015
- **Twitter** buys Bangalore-based **ZipDial** (started by Stanford Undergrad student Valerie Wagoner who was with mChek) for \$ 40 million on January 13, 2015
- **Mindtree** buys US-based **Discoverture** for \$ 15 million on January 18, 2015
- **Expedia** buys rival **Travelocity** for \$ 280 million on January 22, 015
- **Harman** International (German audio major of JBL fame) buys **Symphony Teleca** (owned by India-born Romesh Wadhvani) for \$ 780 million on January 23, 2015
- **Spicejet** ownership moves from **Marans** to **Ajay Singh** on January 30, 2015
- **Coal India** 10% stake sales yield ₹ 22,000 crores to Government of India on January 30, 2015

Products

- CES (Consumer Electronics Show) attracts many unusual product launches during January 6-10, 2015
- **XiaomiRedMiNote** at ₹ 9,999 launched exclusively on Airtel on January 1, 2015: announces XiaomiMi Note that is said to challenge iPhone 6 on January 19, 2015 in India
- **Ramco** Systems rolls out **SMS-based ESS**
- **Samsung** launches its first **Tizen powered phones** in India on January 15, 2015
- **HDFC** launches **digital wallet** on January 15, 2015
- **Lenovo 4G** smart phone **A6000** that was announced on CES in early January launched in India on January 16, 2015 at ₹ 6,999, the best value at its price
- **IBM** unveils **Z13 servers** (mainframe computers) in India on January 19, 2015
- **Microsoft** showcases **Windows 10** on January 21, 2015 including HoloLens 3D, new Browser (replacing Internet Explorer) and other products
- **Apple** iPhone launched by **Vodafone** along with billing plan bundles on January 21, 2015
- **Asus** launches its low cost Laptop **EeeBook X205** weighing less than 1 kg at an attractive price of ₹ 14,999 on January 21, 2015

- **HP** launches low-cost **Streamlaptops** for ₹ 18,000 onwards on January 23, 2015
- **Microsoft** offers **MS Office** free on Android Tablets on January 29, 2015
- **E-Mail** sees many actions in January 2015; **Microsoft** launches **Outlook** EMail App (re-hash of **Accompli** that was acquired by Microsoft earlier) on iPhone; **gMail** (from Google), **iPhone** (from Apple) and **Outlook** (from Microsoft) offer the best service, device and experience for E-Mail; **Amazon** announces the launch of **WorkMail** on January 29, 2015

Indian IT companies

- With capital infusion from Alibaba and Temasek, **Paytm** is near billion dollar value (faster than Flipkart and Snapdeal even)
- **TCS** September - December quarter profit at ₹ 5,444 crores (even higher than Reliance Industries) and turnover at ₹ 24,501 crores; TCS to power Virgin Atlantic software solutions
- **Infosys** posts good results for October - December 2014 quarter on January 9, 2015 in the very first full quarter after Vishal Sikka took charge
- **Wipro** bags \$ 400 million order from **ABB** on January 7, 2015; wins Rs 900 Crores contract from **Allied Irish Banks** on January 25, 2015
- **Commonfloor** (software as a service provider for apartment owners' associations) acquires Bangalore-based retail social networking company **Bakfy** on January 6, 2015
- **Hike** (India's instant-messaging App) buys US-based Anuj Jain founded calling company **Zip Phone** on January 8, 2015
- **TechMahindra** acquires Geneva-based transformation banking company **SOFGEN** on January 9, 2015
- India-based **Zomato** buys US-based **UrbanSpoon** for ₹ 360 crores on January 12, 2015
- **Mindtree** buys US-based Discoverture for \$ 15 million on January 18, 2015
- **Taxiforsure** launches App-based service for autos on January 15, 2015
- **Ola** includes an SoS feature in its taxi hailing App in January 2015

MNC companies in India

- **Twitter** buys Bangalore-based **ZipDial** that created billion dollar business using "missed calls" (started by Stanford Undergrad student Valerie Wagoner who was with mChek) for \$ 40 million on January 13, 2015; it is the first buy for Twitter in India
- **Ford** decides to pilot **car pooling App** in India
- **Microsoft** starts Apps charging thru phone bills on **Idea**
- France-based **BlaBlaCar** (car pooling using Apps) enters India in January 2015
- Global auto major **Continental** to double R&D team in Bangalore from 1,000 to 1,900 in 5 years
- **GE** plans to invest ₹ 3,000 Crores in Maharashtra in India
- **CapGemini** starts their new Bangalore campus on January 20, 2015 and plans to hire 20,000 in the next 2 years; headcount in India will touch 70,000

- **Amazon** signs up for 1.3 million square feet space in World Tech Center in Bangalore in January 2015
- **Vodafone** holds its global Board meeting in India in January 2015
- **Xiaomi** announces its decision to set up first R&D facility in India in January 2015
- **Volkswagen** launches its engine plant in Chakan in Maharashtra on January 27, 2015 (100,000 per year engine capacity and Rs 240 Crores investment)

Education & Research

- Murthy Classical Indian Library (**MCLI**) launched on January 19, 2015; under this scheme Harvard University Press will bring out authentic, contemporary English language versions of ten classics from India (chosen from many Indian languages) every year; it is funded by Infosys founder NR Narayana Murthy's family

People

- **Vint Cerf** (Turing Award winner and father of TCP/IP Protocol) **Chief Scientist of Google** visits India in January 2015 and pledges support to Digital India project of the Prime Minister
- **AK Mittal** is the new **Railway Board Chairman** from January 1, 2015
- Sri Lanka sees **Sirisena** taking over as the new **President** on January 9, 2015
- Bangalore-born **Thomas Kurian** is one of the three **Oracle Presidents** on January 9, 2015
- **SindhushreeKhullar** (former Planning Secretary) is **NITI Aayog** (newly constituted Planning Commission) CEO from January 10, 2015
- Vibrant Gujarat 2015 (Jan 11-13) saw **UN Secretary General Ban Moon**, US Secretary of State John Kerry, **World Bank President** attend the event in Ahmedabad
- **Brahma** takes over as **Chief Election Commissioner** on January 16, 2015
- Fields Medal (Mathematics) Nobel) **winner** Prof **ManjulBhargava** launches MCLI in Bangalore on January 19, 2015
- **Kiran Bedi** joins BJP on January 16, 2015; chosen as Chief ministerial candidate on January 20, 2015
- **President Obama** visits India during 25-27 January 2015; was the Chief Guest of the Indian Republic Day on January 26, 2015
- **S Jaishankar** is the new **Foreign Secretary** effective January 29, 2015
- Noted **cartoonist R K Laxman** is no more (passed away on January 27, 2015)

Infrastructure

- **Vistara** (Airline joint venture of Tata and Singapore Airlines) starts operation on January 9, 2015 with its first flight from Delhi to Mumbai on January 9, 2015; to start more flights soon

Interesting Applications

- **ICICI Bank** introduces NFC-based proximity cards with new POS terminals for easy and faster card-based payments in January 2015
- Ford decides to pilot car pooling App in India
- Mobile wallet players PayTM, MobiKwik, Oxigen, Citrus have more customers than the total debit card user base of all banks in India!

- **Apple Pay** to go international soon
- **WhatsApp** on browser too from January 23, 2015
- **PMJY** wins Guinness Book of Record for record number of bank accounts opened in a very short time
- **IKaaz** Software launches open mobile wallet on January 23, 2015
- Indian Railways launch Android-based App **NTES** (National Train Enquiry System) on January 23, 2015
- airworldservice.org (All India Radio on the Web) goes operational with President Obama and PM Modi's "Mankibaat" program on January 27, 2015
- **Swalekh** App for Android from Reverie released on January 26, 2015 makes 15 Indian language scripts available on mobile phones
- **Magzter** launches subscription-based Magazine services (Rs 499 for unlimited Magazines) on Feb 1, 2015

Interesting numbers

- **Telecom subscriber** base on December 31, 2014 stood at 970.97 million with 943.97 million mobile subscribers and 27.00 million wire-line subscribers (with net addition of 6.92 million mobile subscribers and net reduction of 0.14 million wire-line subscribers in December 2014); of the 970.97 phone subscribers 572.29 were in urban area, while 398.68 were from rural area (TRAI Press Release No. 11/2015 dated February 6, 2015)
- **India's Foreign Exchange** on January 31, 2015 was at \$ 328 billion (RBI)
- **Indian Rupee** stood at 61.86 against USD on January 31, 2015 (RBI)
- On January 31, 2015 **BSE Sensex** and **NSE NIFTY 50** (Indian stock market indices) were at 28,183 and 8,809 respectively (Reuters)
- Oil tumbles to \$ 45 on January 13, 2015
- Mahindras roll out their 5 millionth vehicle in January 2015
- Flipkart talks of creating 10,000 millionaires in this decade
- TCS quarterly profits of ₹ 5,526 crores go past RIL profits (the highest for Indian private companies) on January 16, 2015
- 99.74% households have bank accounts in India today
- SBI HDFC in global 50 most valued global banks in terms of market capitalization
- Apple sells 74.47 million phones in September – December 2014 quarter; \$ 76 billion in sales \$ 18 billion in profit and \$ 178 billion in cash reserves
- Office space in eight Indian cities (Ahmedabad, Bangalore, Chennai, Delhi, Hyderabad, Kolkata and Mumbai) increased by 32.5 Million square feet in 2014 (up from 25.35 Million in 2013) (as per Cushman & Wakefield)
- RBI permits Indians to invest up to \$ 250,000 annually outside India



Information Resources

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Carnegie Mellon's Six-Legged 'Snake Monster' Is First of New Breed of Reconfigurable Modular Robots: Carnegie Mellon University (CMU) researchers have developed the Snake Monster, a six-legged modular robot that can be reconfigured to meet a user's needs. "By creating a system that can be readily reconfigured and that also is easy to program, we believe we can build robots that are not only robust and flexible, but also inexpensive," says CMU professor Howie Choset. The U.S. Defense Advanced Research Projects Agency sponsored the research work through its Maximum Mobility and Manipulation program, which focuses on ways to design and build robots more rapidly and enhance their ability to manipulate objects and move in natural environments. Applications for the Snake Monster and other modular robots include urban search and rescue, archaeological exploration, and inspection of power plants, refineries, and sewers. To build the robot, the researchers used the hardware expertise developed in snake robots to build small, powerful modules and used the lessons learned in controlling the snakebots to create a system architecture that can be programmed to control robots with a wide variety of configurations. "When we push the Snake Monster forward, the joints in the leg 'feel' the force of the robot being pushed and, then, in an effort to zero-out the force it feels, the robot walks in the direction it is being pushed," Choset says. <http://goo.gl/svzTL2>

8E Framework for Advancing Women in STEM: Science, Technology, Engineering and Mathematics: The author, Dr. Bhavani Thuraisingham of The University of Texas at Dallas believes that to recruit, promote and retain women in STEM, we need a comprehensive framework that would focus on STEM from K-12 and beyond. Below I describe my 8E framework with a special emphasis on computer science and information technology (CS/IT). <http://goo.gl/QUPnDq>

Computer Science Careers in the Global Economy: Computer Science (CS), also popularly known as Information Technology (IT), has enabled numerous individuals all over the world to have highly successful and lucrative careers. The field started in the 1960s and became popular in the 1970s and 1980s and sky rocketed in the 1990s with the dot com boom. In spite of the dot com bust, it continues to produce a significant number of jobs in numerous fields. However, with globalization, outsourcing and the emergence of China and India as powerhouses in information technology, the opportunities for IT specialists are changing rapidly. Today, I would like to share some of my thoughts with you on the opportunities and challenges that computer scientists have in the global marketplace. I strongly believe that we cannot have CS/IT education as usual. We need innovative ways to educate our students in CS/IT, especially in interdisciplinary programs, so that they can be effective and thrive in an extremely competitive global marketplace. Personal views of Prof. Bhavani Thuraisingham, Dallas, TX. <http://goo.gl/KNRjJU>

Why is Interdisciplinary Research Hard: Personal views of Prof. Bhavani Thuraisingham, Dallas, TX. For those who have read "My Story" or browsed through my website, you know that I was a Program Director at NSF between 2001 and 2004. That was when I was introduced to interdisciplinary research. Before that, while I was at MITRE, all of my research was in computer science including in information security and data management. However, when I went to NSF, I soon realized that interdisciplinary

research was strongly encouraged. Furthermore, I was the representative from my division on programs in bioinformatics and geo-informatics. This was because Dr. Maria Zemankova invited me to join NSF as IPA and take over her programs while she was on sabbatical at NLM conducting interdisciplinary research herself. I learnt at that time that biologists, computer scientists and geologists had to work together to advance bioinformatics and geo-informatics. I learnt a lot about bioinformatics from Dr. Sylvia Spengler who was at NSF and also by managing proposals in bioinformatics. I benefited from discussions with Dr. Steve Meacham at NSF on geo-informatics. <http://goo.gl/0qjkRv>

Education Guide: Computer, Mobile And Network Forensics: There is no denying that we live in a digital age. Everything from health records to personal correspondence now comes in its own digital package and can easily be transmitted to any corner of the globe with just the push of a button. While this certainly makes things convenient for everyday activities, it can also be a convenient conduit for criminal activity. As the internet and personal computer technology has taken hold, so has the need to law enforcement and digital forensic experts who can trace, collect, and analyze evidence that lives on computers and the internet. In general terms, this field is known as digital forensics. Digital forensics encompasses computer, mobile, and network forensics. Computer forensics specifically applies to legal evidence as it can be recovered from computers, including personal desktops and laptops, and digital storage media such as hard drives and even CD-ROMs. Mobile forensics also applies to legal evidence recovery, but is specific to mobile devices such as smartphones and tablet computers. Network forensics is a specialty field that focuses on monitoring and analyzing computer network traffic, which is more ephemeral than concrete digital data, but still falls under the umbrella of computer forensics. Many digital forensic experts may have experience in all of these categories and indeed many investigations require some amount of overlap in expertise. For simplicity, we will use computer forensics as a term that applies to all three of these fields. However, some experts may choose to specialize in just one, becoming highly focused consultants in only one branch of digital forensics. Whether you want to specialize or simply further your options as a digital forensics experts, you may find it worthwhile to investigate the educational and career opportunities that exist in these similar, yet varied fields. Access the guide at <http://goo.gl/u51Z2s>

15 Cool Mobile Apps For Forensics: The number of forensics apps available for mobile phones appears to be growing with many current technologies focusing on document and evidence collection. These apps may be useful when an officer is pulling someone over, determining the particular load that a tanker may be carrying (is the load toxic, for example?), or noting the names and contact information for people involved with or witnessing a crime. When compiling this list of 15 cool mobile apps for forensics, we had the goal in mind of providing a list of apps that would be useful and helpful on the job. What we discovered in our research was that police departments and agencies seem to be trending toward adoption of entire software and mobile platform systems to allow for better documentation, communication and evidence collection. Some agencies are even making use of apps, such as iSpotACrime and My Police Department App, to allow citizens to have a hand in crime reporting. <http://goo.gl/xJrVU>

10 Modern Forensic Science Technologies: As technology infiltrates every aspect of our lives, it is no wonder that solving crimes has become almost futuristic in its advances. From retinal scanning to trace evidence chemistry, actual forensic technologies are so advanced at helping to solve crimes that they seem like something from a science fiction thriller. With all this forensic technology, its no wonder that this field is one of the fastest growing in the U.S. Shows like CSI and NCIS have made most of the forensic science techniques used today common knowledge. You might think that virtually the whole gamut of forensic technology is old hat to today's savvy viewer. In fact, there are a number of incredibly cool forensic technologies that you probably never knew existed. <http://goo.gl/ZKizOm>

How To Become A Forensic Scientist: Forensic scientists have very interesting jobs that can take them from crime scenes to labs and to courtrooms. Those who have interests in the medical field, science, and law enforcement will find that this may be a perfect career option. Before learning how to become a forensic scientist, it is important to understand what those in the field do on a daily basis. Some of the scientists and techs will visit crime scenes so that they can collect samples as evidence. They may also look at the blood spatter at the crime scene, as well as other evidence, such as tire tracks. The samples collected from the field will then go into the lab where they will undergo analysis. Forensic scientists will need to communicate well with the other forensic specialists on the team, and they will have to work and communicate with law enforcement officials on the case. <http://goo.gl/gXl879>

Detecting software errors via genetic algorithms: According to a current study from the University of Cambridge, software developers are spending about the half of their time on detecting errors and resolving them. Projected onto the global software industry, according to the study, this would amount to a bill of about 312 billion US dollars every year. “Of course, automated testing is cheaper,” explains Andreas Zeller, professor of Software Engineering at Saarland University, as you could run a program a thousand times without incurring any charges. “But where do these necessary test cases come from?,” asks Zeller. “Generating them automatically is tough, but thinking of them yourself is even tougher.” <http://goo.gl/5tjkXw>

3D printed ‘phantom’ tumours to help battle cancer: Scientists in London are using 3D printed replicas of tumours and organs, called ‘phantoms’, to show how drugs will pass through tumours and give them a better understanding of how that will be replicated in individual patients. See the 2.min 28 sec video at <http://goo.gl/j53MzS>

Could drones replace waiters?: A drone called the “Infinium Serve” could revamp your dining out experience. The flying robot is part of the wait staff at a Singapore restaurant and delivers food directly to patrons. See the video at <http://goo.gl/37JqwK>

Laser Beaming Could Make Power Lines Obsolete: A company in Washington state is developing wireless technology that delivers electricity via laser beams. The scientists and engineers who run the company, Lasermotive, are using the lasers to power aerial drones but say their technology could also replace conventional power lines to deliver electricity to homes. Watch the video at <http://goo.gl/6dEod9>

Researchers Project the Future of Smartphones: Researchers at the University of Tokyo are developing indoor projection technology that incorporates a sense of touch for interactive devices of the future. The system emits ultrasonic waves to generate pressure a user can feel and could one day render keyboards, smartphones, and even pens obsolete. See the video at <http://goo.gl/TIWqo9>

Designing and printing your cellphone at home: British start-up OwnFone launches Kickstarter campaign that offers users the chance to 3D print their own cellphone - and even draw its design by hand. Watch the video at <http://goo.gl/pp4EPq>

A boost to your mobile signal: When using your mobile phone, it doesn’t take much to lose that precious signal - just turning a corner or riding on a train can be enough. New research is developing new technologies to eradicate those annoying ‘black holes’ in wireless coverage, while freeing up some mobile network capacity at the same time. Read the full post at <http://goo.gl/qVdILv>

10 easy ways to ruin your smartphone: We depend upon our smartphones. They keep us connected, informed, and up to date during the hectic daily grind. For many of us, those smartphones have become more than a simple tool, so we should probably take better care of them than we do. Instead of treating them as if they are toys that can be replaced on a whim, we should treat smartphones as if they contain

sensitive data and our jobs depend upon them. What steps can you take to make sure you don't damage or destroy your mobile device? I have a list of nasty things that can be hazardous to the health your smartphone or tablet. Give this a read and see whether you're guilty of any of these abusive behaviors. <http://goo.gl/GVzeUP>

10 of the most useful Google Now cards for professionals: There's no doubt that mobile has become an integral part of our daily lives, and companies are battling to provide the most relevant information at the right time. For Google, that comes in the form of its personal assistant, Google Now. After its launch, Google Now quickly received accolades, netting Popular Science's "Innovation of the Year" award in 2012. On Friday, January 30, Google expanded support of its Google Now service to 40 new applications, as announced in a blog post. The new apps come from a team of more than 30 developers and run the gamut from grocery delivery to travel booking. As a professional, you want to get the most out of the Google Now service, but you have to invest in the right integrations. Here are 10 Google Now cards to get you started. <http://goo.gl/cf122j>

10 common misconceptions about mobile device batteries: Ah, the mobile battery — a thing of myth, of legend... of frustration. So much sway does battery life hold over us that we buy specific phones that guarantee us a couple of days' usage. And all of this when other devices can eke out a week's worth of usage (think Amazon Kindle). Users go to some strange measures to keep their batteries going and going and going. Yet much of what we hear about mobile batteries is simply not true. Let's examine some of these misconceptions about the batteries that power the devices we depend upon day in and day out. <http://goo.gl/YoKrPf>

Why your urine could usher in an era of personalised medicine: How big data analytics is providing insight into the chemical make-up of our bodies at a unmatched level of detail, and why it could lead to bespoke treatments and diagnoses. <http://goo.gl/rSZNDN>

Remind music app helps Alzheimer's patients bring back memories: Emily Keller is a designer who created Remind, which allows families to curate playlists that help people with Alzheimer's remember parts of their lives through music. <http://goo.gl/DURBXr>

10 simple gadgets that empower women around the world: An overwhelming amount of data shows empowering women leads to stronger, healthier, smarter communities. When women are elected to office, policy making increasingly reflects the priorities of families, women, and otherwise excluded groups, according to the World Bank. If they delay marriage, they have greater educational achievement and lower fertility, which extends their life expectancy -- pregnancy-related causes account for most deaths of girls 15 to 19 in the developing world -- as well as the health and education of children. And, when women control money, they spend it in ways that benefit the home and community. Technology is spreading faster than ever and empowering people around the world, but women have much less access to it than men. And simple technology that allows women safer circumstances, more power, and healthier food and water can make all the difference. Here are 10 simple gadgets that transform the way women live and work around the globe. <http://goo.gl/SCB1bU>

The 10 most interesting portrayals of AI in movies: With the UK release of Ex Machine in cinemas this weekend TechRepublic looks back at 10 of the most memorable portrayals of artificial intelligence in movies. <http://goo.gl/df2Fos>

How social media rerouted over 400,000 pounds of food waste in a year: One-third of the world's food is thrown away each year, but there are a few startup harnessing the power of social media and mobile technology to revolutionize how we deal with food waste. One is Cropmobster, a California-based startup that uses an online community and mobile alerts to connect farmers who have perishable surplus food to people that will buy it. <http://goo.gl/cZS6iL>

The next decade in tech: Three defining forces to watch: Something is going to happen in the tech industry in next several years that will surprise us. It will shock us. And the whole industry will make a left turn. It may be a product. It may be a technology. It may be a new company. We've seen it happen over and over again with developments from the integrated circuit to the Macintosh computer to the web browser to the Google search engine. Often, innovation comes from unexpected places. But, there are also developments we see gathering long before they ever become an industry standard or a dominating force. Right now, there are three of these forces that are preparing to define both the tech industry and society over the next 10 years. <http://goo.gl/Q4Vmsb>

10 big data projects that could help save the planet: Conservationists have been gathering big data for years, and new technology is allowing them to better analyze it. Here are 10 awesome projects happening around the world. <http://goo.gl/FXhx7A>

How to Survive the Next Wave of Technology Extinction: Today, five behemoths — Amazon, Apple, Google, Facebook and Microsoft — plus a dizzying array of start-ups are competing to win every dollar and minute you spend in tech. While each of these companies offers differing sets of technologies sold under widely varying business models, they all share a common feature — trying to hook you deeply into an ecosystem of interconnected technologies. The trouble arises when you are sold on a tech ecosystem that doesn't prosper. It's likely that at least one, if not several, of today's tech behemoths won't be around a decade from now. Thus the pervasive worry of choosing tech in these uncertain days: How do you avoid betting on the wrong horse? Read the full story at <http://goo.gl/JyQfuZ>

10 projects IT should stop putting off: Some IT projects always seem to get superseded by higher priority work, but deferring them can be costly and counterproductive. Here are 10 projects for your 2015 to-do list. <http://goo.gl/oxziXo>

10 reasons why working in the office work beats telecommuting: Virtual teams -- geographically scattered colleagues who use high-tech communication -- are now common in many organizations. Some of those team members are remote workers and some still work onsite, in the traditional office. Plenty of pundits have examined this trend and decided the office is a dead man walking. But if remote work is indeed going to kill office work, get ready for a tough time. Remote work can be hard, both for workers and their managers. Even if the employer has a good flexible working policy and the employee has the right skills for remote work, there are downsides to working from home. <http://goo.gl/99iJhi>



Words of Wisdom

*If a friend is in trouble, don't annoy him by asking
if there is anything you can do. Think up something appropriate and do it.*

- Edgar Watson Howe

* * * * *

*Success seems to be largely a matter of
hanging on after others have let go.*

- William Feather

The Human Façade of Modern Digital Technology

“The art and science of the do-it-all device”

(Technology and Education Series – 2)

Humans: Anybody can be somebody and somebody can be anybody

Machines: Any machine can do something and some machines can do anything – the human way



Introduction:

The author presents the work of the beautiful aspiring minds of engineers and designers that lead to conceptualization and making of a “do-it-all” device. A versatile entity, the scientific community proclaims as an all purpose device, a chipset demonstrating multiple capabilities - can flawlessly attend, reconfigure, and perform a multitude of functions at owners will and wish. This stunning concept and design derives its inspirations from the human body, with deep implications in the future.

The article spotlights a technology-design trend that will be utilized immensely, in the immediate future, for almost all practical purposes by modern technology - in particular the robotic revolution that is already happening. A design-concept based on human body architecture. In this article, I share the inspiring example of how the technology-enabled “do-it-all” device manifests itself to orchestrate different capabilities demonstrating parallels to human behavior – doing it the human way. I am more than excited, inspired, and motivated to write about it, and I am sure that the readers will find it inspiring too.

Setting the subject theme:

We kick start by making aware of some simple facts to set the theme of the subject-matter;

Today, it is a well known fact that all humans have capabilities and capacities to do any kind of work, or perform an artful act, provided it is practiced. Now, if we examine the way a human operates (using heart, head, and body) and executes the work-function, one can easily capture the execution profile and express it as an algorithm – given the fact that we live in the era of logic and reasoning.

Having said this, we now attempt to present the striking parallels that exist between the “do-it-all” device and a human. An all purpose digital device that emulate multiple capabilities and capacities similar to humans.

Understanding aspects and concept:

Let’s now discover how the “do-it-all” device achieves this remarkable feat of emulating the potential of multiple capabilities. Our journey starts with the technology-end and then move ahead to conclude with the human-end. In the digital world, there is something called a logic-gate. This logic-gate is the key element. In plain words, it is possible to construct a universal-logic-gate through which all kinds of logic-gates can be realized or created. Logic-gate is the key participant necessary to realize an array of functions. Therefore the universal logic-gate is the fundamental function-building block. The universal-logic-gate, when integrated with support elements becomes the all purpose do-it-all device. It is the magic-box of the digital world. The magic-box is a collection of three fundamental items. The items include elements such as, the universal-logic-gate, wiring bay, and memory elements - thousands of them in numbers – spread like an array across an nxn size silicon-estate, all under one roof, like a suitcase – similar to an electronic-chip that is hermetically sealed. In short, this magic-box is a packaged digital device.

The way of the magic-box:

Digital-bits stored in the memory, when excited with appropriate signals, setup temporary physical connections which can be set and reset at will and wish. The device, by physically establishing connections amongst different elements in different ways, reorganizes itself and different kinds of architectural-configurations can be realized. Each kind of architectural-configuration when physically realized (temporal-activation) is capable of performing a specialized function, or operations, or tasks. The function, operations, or tasks can be varied depending upon the need, for example: A function could be arithmetic or logical; operations can be a series of complex combinations like mathematical analysis, verification, etc.; and task can be executing an assembly-line program - all depending on the kind of architectural-configuration activated or active.

As discussed above, the “do-it-all” device is a versatile entity that does things “*in-a-way*”. The concept of doing things “*in-a-way*” can be extended to humans as well. As an individual, we too are versatile - have multiple capabilities and capacities. Therefore a stark contrast exists between man and machine, about the doing “*in-a-way*”. Let’s now explore the structural compositions along with its associated fundamental elements comparing them with the digital-machine (do-it-all device) and Human (people). The prime motive is to spotlight the contrasting parallels between the two entities. The same is showcased in a table below;

Machine (Do-it-all device) (Fundamental elements)	Humans (People)	Function	
		Machine	People
Memory	Head	Storage Of Programs And Programmability	Storage And Habits (Learning and Training)
Universal Logic-Gate	Head And Heart	Reconfiguration	Learn, Unlearn, and Relearn
Wire-bay	Body (Senses with Hands & Legs)	Physically Connect to configure and execute (agility)	Articulate and performance (agility)

From the table above, one can easily spot the contrasting parallels between machines and humans. The proclaimed ‘*in-a-way*’ of doing things by the digital-machine - its concept and design modeling is truly inspired by the human ‘way-of-doing-things’. The much happening robotic revolution is a testimony to the fact that the design and modeling attributes of the all purpose “do-it-all” device is based on modeling human being and human behaviors.

Spotlighting the contrasting parallels:

As showcased, in this article, the electronic device (do-it-all) and human is modeled as a three tier structure, with the electronic parts comprising of three key elements: logic-gate, memory, and wiring bay, and the human counterpart being the Heart, Head, and Body.

Deeper insight about the elements and its functional aspects:

The *electronic memory element* (including programs – pre-loaded or programmable – for specific work, or task functionality) can be attributed to our **Head** (including bio-memory - attributed to our beliefs and behaviors in terms of learning’s and training - learn), the *universal logic-gate elements* (affect reconfiguration - which reorganize to realize – a functional capability) can be attributed to the **head and**

heart (which combines to design and enable specific response for a designated work or task – affecting human reconfiguration), and finally *the wiring bay* (agility - for creating multiple connection patterns to enable work and task functionality – powering the reconfigured elements by establishing temporary physical connections and allowing the signature power signal pulses to travel) can be attributed to our **body** (agility - articulation in terms of positioning of postures, alignment of sense and locomotors elements artfully for performance – unlearn and relearn).

Conclusion:

Therefore, with the advent of “do-it-all” like devices, the mindset of the engineering design community is focused on creating revolutionary human-like-machines (robots), and this humbly forecast the fact that, the day is not far when machine will be embedded with “do-it-all” like devices and many such devices with similar attributes will integrate to construct machines like humans.....in stark contrast with human capabilities....

Dr. Yogeshwar Kosta,
Sr. Member IEEE, and Chair Gujarat Section
Director, Marwadi Education Foundations Group of Institutions. Rajkot.



Words of Wisdom

*Obstacles are necessary for success because in
selling, as in all careers of importance, victory comes
only after many struggles and countless defeats.*

- Og Mandino

* * * * *

*I attribute my success to this: I never gave or
took an excuse.*

- Florence Nightingale

* * * * *

*Happiness does not come from doing easy work but from the afterglow of
satisfaction that comes after the achievement of a difficult task that demanded our best.*

-- Theodore Isaac Rubin

* * * * *

*The key to success is to focus our conscious mind on
things we desire, not things we fear.*

- Brian Tracy

The Unknown, Uncertain & ‘Risky’ World of Startups

We are living in an amazing era of startups. Earlier we wanted Government or big corporations to do something about the problems around us. The mindset is changing/changed. Startups and Entrepreneurs are solving their problems (which majorly are problems of the masses) and changing the world around us.

What is a startup? - A startup is a human organization which is trying to solve a problem under resource constraints and extreme uncertainties. Now what is Entrepreneurship? - Entrepreneurship is the process of starting a business organization.

Quoting Reid Hoffman, one of the founders of LinkedIn: “Entrepreneurship is jumping off a cliff and assembling a plane on the way down.”

Statistics say 8 out of every 10 startups would fail; and it is a very tough roller coaster ride. But still people like myself, we resign jobs and take the dive. Why? Ofcourse, there are a variety of reasons why different people startup. Here is why I took the plunge:

1. There is immense satisfaction when you pursue what you really love to do. I want to touch the lives of a lot of people by solving a pressing problem of theirs (in other words, change the world). The work hours doesn't seem to be 'work' anymore. You wouldn't have to wait for Fridays or dread Monday; you will just forget which day of the week it is.
2. I'm sure many of you love working on your own ideas/thoughts. We, IEEEians have experience doing this through IEEE. IEEE taught me and gave me the confidence to pursue own ideas, make mistakes and learn. With startup, it's all you. Right from cleaning your office floor to making corporate presentations, you do everything yourself.
3. Learning that you acquire in the startup journey is so enormous. People who startup, don't know everything about what they want to or have to do. So it is a continuous learning process. When you try new things, you fail again and again and reach checkpoints of brief success. The experiences makes you a better professional and person. This has been the experience for myself and all my friends and colleagues.

I can list down some more of my thoughts, but largely these are the reasons. Let me conclude saying that if you are starting up for a wrong reason like money, fame, 'coolness' etc, there is a high chance that you will fail. This is not easy. But if you have the right vision, trust in yourself and ready to take the hard lift for a reasonably sustained time frame, then take the dive, it is blissful.

Arjun R Pillai
rarjunpillai@gmail.com
IEEE Young Professional
Founder, <http://vibeapp.co/>



How Can I Participate in IEEE-SA Standards Development Programs?

SrikanthChandrasekaran, Standards Senior Manager, IEEE India

In my previous article I promised to discuss participation on standards in the next article. Very often when I start discussing about standards I often get asked the question, “How can I participate in IEEE Standards Development programs?”. In this article I will try and focus a little bit on addressing this.

IEEE Standards Association is an independent global community which has over 7000 individual members and about 20000 standards developers from every continent. We have about 900 published standards and with about 500 standards under active development leveraging the breadth of 40 different technical areas developed in an open standards process based on WTO core principles. We also have about 200+ corporate members.

The IEEE Standards Association develops standards under two methods, the individual based process and the entity based process. In an individual based process, any individual can join as a member of the working group focused on the standards development project. Joining a working group for an individual based standard, IEEE-SA does not have any requirement for the individual to be a member of the IEEE or the IEEE-SA. In an individual process, each member of the working group will represent his/her own interest. The voting rules as part of the development of the draft document within the working group is governed by the policies of the working group and typically based on attendance criteria. However, once the working group has finalized a draft standard, this is submitted to a balloting process for approval as an official document of the IEEE. Only those who have IEEE-SA individual membership are eligible to vote in the ballot process. In the entity based model, corporates/entities participate as members of the working group. For an organization to participate in an entity-based standards program, the entity has to be a corporate member (either basic or advanced member) of the IEEE Standards Association. More than one individual from an entity can participate in the working group. However, the voting rule is governed by “one-entity-one-vote” irrespective of the size of the organization. Please refer to <http://standards.ieee.org/membership/> which provides additional details on the two methods of standards development.

Any individual or entity can start a new project within the IEEE Standards Association. The first step in beginning a standards development project, whether an individual or entity/corporate activity, is the submittal of the Project Authorization Request (PAR). A PAR is a document that states the reason for the project and very importantly the scope of the project and identifies the sponsor (typically an IEEE technical society) under which the standard will be developed. Once the PAR is approved by the IEEE Standards Board, a formal working group will be formed to work on the development of the standard, going through a formal process of engagement to develop the draft standard which will be submitted through a ballot process for formal approval of the standard. IEEE Standards are effective for a period of 10 years after which the standard needs to be revised to remain as an active standard.

If you have more queries are interested in more details on standards development and the process or interested in participating in a specific standard, please do contact me at sri.chandra@ieee.org.

Last month I attended a “first-of-its-kind” event, INTELECT 2015, which was jointly organized between the IEEE and IEEMA (Indian Electrical and Electronics Manufacturing Association) discussing the future of intelligent electricity. In my next edition I would like to provide a brief overview of this event and provide my thoughts and experiences. Write to you again soon.



IEEE India Council Executive Committee 2015

Snapshot	Office	Name	Section
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	Chair Elect	Dr. Sivaji Chakravorti SM 00244426	Kolkata
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Pollution Detection In Highway Vehicles

Approximately, five percent of vehicles on the road are responsible for about 90% of toxic vehicle emissions, scientists say. But testing the emissions of vehicles on busy roads by pulling them up to analyze the tailpipe output is impractical. Now, a group of researchers at Spain's Universidad Carlos III de Madrid (UC3M) has developed the first infrared and remote system able to detect pollutants from cars on highways up to three lanes. The system images the tail-pipe emissions of individual vehicles in real time. With this system, it can be determined remotely which vehicles are “big emitters” (pollute more).

At the heart of the system is a modified infrared multispectral image camera, equipped with an internal wheel of lens filters. As the camera views the passing traffic, that wheel turns at high speed, allowing several different bands of light to be imaged independently for each vehicle. The approach is practical as different gases have "emissions signatures" that are visible in different bands.

And with this kind of system available to enforcement agencies, traffic emissions (CO₂, CO, NO_x, HC, PM) could be reduced and energy efficiency increased, given that a decrease of emissions always implies less consumption. In addition, measures for optimizing consumption and emissions could be adopted, like varying speed limits on high capacity roads that enter and exit big cities.

According to the developers, the device is the only prototype on the market capable of measuring the emissions of each vehicle circulating on a high capacity road.

[For details: <http://www.uc3m.es>]



Shape-changing Lens Insect Vision Paves Way

While human eye can change focus, an insect eye made of many small optical components can't change focus but can give a wide view. These two capabilities can be combined, claims Yi Zhao, associate professor of biomedical engineering and ophthalmology at Ohio State University, who has developed an experimental lens which combines the wide angle properties of insect vision with the depth-of-field capabilities of a human eye.

The bug-inspired, 5 mm-wide prototype lens is made up of a series of fluid-filled transparent polymer pockets arranged over a dome that can be contracted and expanded to change the focus and direction of the lens. At present, the fluid is pumped in and out by hand from an external reservoir,

but a version made from an active polymer that changes shape in response to electric signals is also under development.

Another example of biomimicry, this shape-changing lens has wide applications in laparoscopy, microscopes and smartphone cameras.

[For details: <http://www.osu.edu/>]



IEEE Conferences - Around the Globe

Feb 11 – 20

2015 IEEE Power and Energy Conference at Illinois (PECI)

Abstract submission deadline: 01 Nov 2014
Final submission deadline: 25 Jan 2015
Notification of acceptance date: 01 Dec 2014

20 Feb - 21 Feb
2015

I Hotel and Conference
Center
1900 S. First St.
Champaign, IL, USA

2015 IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (SPICES)

Full Paper Submission deadline: 15 Sep 2014
Final submission deadline: 15 Dec 2014
Notification of acceptance date: 15 Nov 2014

19 Feb - 21
Feb 2015

National Institute of
Technology Calicut
NIT Campus P. O.
Kozhikode
Kozhikode, India

Feb 21 - 28

2015 Twenty First National Conference on Communications (NCC)

Abstract submission deadline: 30 Sep 2014
Final submission deadline: 31 Dec 2014
Notification of acceptance date: 30 Nov 2014

27 Feb - 01 Mar
2015

VMCC convention
center
IIT Bombay
Powai
Mumbai, India

2015 2nd International Conference on Electronics and Communication Systems (ICECS)

Abstract submission deadline: 14 Dec 2014
Final submission deadline: 20 Jan 2015
Notification of acceptance date: 14 Jan 2015

26 Feb - 27
Feb 2015

Karpagam College of
Engineering
Othakalmandapam
Coimbatore, India

Mar 1 – 10

2015 Clemson University Power Systems Conference (PSC)

Abstract submission deadline: 01 Aug 2014
Final submission deadline: 01 Oct 2014
Notification of acceptance date: 15 Aug 2014

10 Mar - 13
Mar 2015

Clemson University Madren
Conference Center and Inn
230 Madren Center Dr
Clemson University
Clemson, SC, USA

2015 IEEE Wireless Communications and Networking Conference (WCNC)

09 Mar - 12
Mar 2015

Hilton New Orleans Riverside
New Orleans, LA, USA

Mar 11-20**2015 IEEE/ACM 10th Annual Information Technology Professional Conference at TCF (ITPC TCF Pro)**

Abstract submission deadline: 12 Dec 2014

Final submission deadline: 09 Jan 2015

Notification of acceptance date: 19 Dec 2014

20 Mar - 21
Mar 2015The College of
New Jersey
2000 Pennington,
Road
Ewing, NJ, USA**2015 IEEE International Conference on Engineering and Technology (ICETECH)**

Abstract submission deadline: 05 Jan 2015

Full Paper Submission deadline: 19 Jan 2015

Final submission deadline: 09 Feb 2015

Notification of acceptance date: 02 Feb 2015

20 Mar - 20
Mar 2015Rathinam Technical
Campus
Pollachi Main Road
Eachanari
Coimbatore
Coimbatore, India**Mar 21-31****2015 International Conference on the Domestic Use of Energy (DUE)**

Abstract submission deadline: 01 Dec 2014

Full Paper Submission deadline: 01 Jan 2015

Final submission deadline: 01 Mar 2015

Notification of acceptance date: 01 Feb 2014

31 Mar - 01
Apr 2015Cape Peninsula University of
Technology
Tennant Street
Zonnebloem
Cape Town, South Africa**2015 3rd IEEE International Conference on Mobile Cloud Computing, Services, and Engineering (MobileCloud)**

Abstract submission deadline: 15 Oct 2014

Final submission deadline: 30 Mar 2015

Notification of acceptance date: 09 Jan 2015

30 Mar - 03
Apr 2015Hotel Sofitel San
Francisco Bay
223 Twin Dolphin
Dr
TBD
TBD
TBD
Redwood City, CA,
USA**Apr 1-10****2015 IEEE PES Insulated Conductors Committee Meeting (PES-ICC Spring)**

Abstract submission deadline: 13 Mar 2015

Final submission deadline: 03 Apr 2015

Notification of acceptance date: 03 Apr 2015

10 Apr - 18 Apr
2015Hilton Clearwater
Beach
400 Mandalay Ave.
Clearwater Beach, FL,
USA**2015 International Conference on Learning and Teaching in Computing and Engineering (LaTiCE)**

Abstract submission deadline: 30 Sep 2014

Full Paper Submission deadline: 21 Oct 2014

Final submission deadline: 20 Jan 2015

Notification of acceptance date: 22 Dec 2014

09 Apr - 12
Apr 2015National Taiwan
Normal University
Taipei , Taiwan

Apr 11-20

2015 IEEE European School of Information
Theory (ESIT)

20 Apr - 24 Apr
2015

Hotel NH Zandvoort
Burgemeester van
Alphenstraat 63
Zandvoort, Netherlands

2015 IEEE Optical Interconnects Conference
(OI)

Abstract submission deadline: 15 Jan 2015
Full Paper Submission deadline: 15 Jan 2015
Final submission deadline: 15 Jan 2015
Notification of acceptance date: 09 Mar 2015

20 Apr - 22 Apr
2015

Wyndham San Diego
Bayside
San Diego, CA, USA

Apr 21-30

2015 Third International Conference on Technological Advances in
Electrical, Electronics and Computer Engineering (TAECE)

Abstract submission deadline: 01 Mar 2015
Final submission deadline: 19 Apr 2015
Notification of acceptance date: 08 Apr 2015

29 Apr - 01
May 2015

Lebanese
University
Lebanese
University
Beirut,
Lebanon

2015 12th International Symposium on
Programming and Systems (ISPS)

Full Paper Submission deadline: 25 Jan 2015
Final submission deadline: 18 Mar 2015
Notification of acceptance date: 01 Mar 2015

28 Apr - 30
Apr 2015

University of Science and
Technology Houari Boumediene
BP 32 El-Alia, Bab-Ezzouar,
Algiers, Algeria



Words of Wisdom

*Success is getting what you want. Happiness
is wanting what you get.*

- Dale Carnegie

* * * * *

*Freedom, privileges, options, must
constantly be exercised, even at the risk of
inconvenience.*

- Jack Vance

IEEE NEWS

From Around India

Workshop On “SIXTH SENSE TECHNOLOGY”

IEEE STUDENT CHAPTER, CHITKARA UNIVERSITY in association with TECHNOPHILIA SYSTEMS, ROBOTICS & COMPUTER APPLICATIONS – INSTITUTE (RCAI) of USA has planned to organize a two day workshop on “SIXTH SENSE TECHNOLOGY “ on 5th -6th Feb’2015.

The main objective of this workshop is to provide students a base to Machine Vision and Image Processing. They will learn the latest human machine interfacing and controlling technologies, get better understanding and grip on its applications. In this workshop, we have interfaced digital world with physical world. This workshop provides application oriented sessions, which will eventually result in the development of vision based applications such as controlling Media Player, Power Point Presentation and Controlling Mouse Pointer using Hand Gesture etc.

At the end of the workshop, a small competition will be held among the students; top 3 teams will be selected and will qualify for the National round to be held at IIT Bombay in March’15.



CHITKARA UNIVERSITY **IEEE Student Branch, Chitkara University, Punjab** 

Presents

A Workshop on Sixth Sense Technology

Conducted by **Technophilia** **Robotics & Computer Applications Institute Of USA**

Date: 5th & 6th February, 2015

International Certificate of Excellence
By Robotics & Computer Applications
Institute of USA & Technophilia Systems

Faculty Coordinator:
Ms. Mansee Jain : 9888495038
Student Coordinator:
Akshey Singhal - 8968509903
Abhinav Mishra - 7696963610

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Kits by Robot-Cart
www.robot-cart.com

No. of Student's In a Group:5
Fees: 650 for IEEE Members
850 for Non-IEEE Members

Venue : Chitkara University, Punjab Campus
Chandigarh - Patiala National Highway (NH-64),
Tehsil: Raipura - Distt.: Patiala - 140401

For more details please visit: www.technophilia.co.in |
www.icain.co.in | www.facebook.com/technophiliasystems 

Expert Talk On “SMART CITY”

IEEE Student chapter Chitkara University, Punjab is going to organize an expert talk on “SMART CITY”, 13th Feb’2014.

Dr. Ikbal Ali, the Senior Assistant Professor in the Department of Electrical Engineering, Faculty of Engineering & Technology of Jamia Millia Islamia, New Delhi, India will be the speaker. Also, Dr. Ali is a senior member in IEEE and an expert lecturer on the topics related to Smart Grid Technologies, Substation Automation Trends and Communication Networks for Substation Automation.



Product Demonstration on Solar-Thermal, Solar-PV and Wind Power Technologies National Institute of Technology, Silchar, Assam

December 16, 2014

Organized by: IEEE Student Branch, NIT Silchar

IEEE student branch, NIT Silchar, has organized product demonstration on “Solar-Thermal, Solar-PV and Wind Power Technologies” on 16th Dec 2014 to acquaint the participants in Solar-Thermal, Solar-PV and Wind Power Technologies and its benefits. Welcome address was given by Mr. Asadur Rahman, Vice-Chair, IEEE Student Branch. Prof. N. Sinha, IEEE Branch counselor, Dr. A. K. Goswami IEEE Branch faculty advisor and the expert from ecosense inaugurated the session by lighting the traditional lamp. While addressing to the students, Prof. N. Sinha discussed regarding the next activities to be held under the IEEE Student branch. Dr. A. K. Goswami also addressed to the students and discussed the opportunities of the branch under the umbrella of IEEE. After inaugural session, an expert talk on the topic has been delivered, followed by the training program on operation of integrated solar-wind hybrid energy system in the Energy Lab of Electrical Engineering dept., NIT Silchar. There were in total 26 participants in this event including students and faculty.



Expert from ecosense addressing the students



Participants



Words of Wisdom

*If you want to test your memory, try to recall
what you were worrying about one year ago today.*

- E. Joseph Coffman

Expert Lecture on Effect of DG Power Penetration on Distribution Networks

National Institute of Technology, Silchar, Assam

December 16, 2014

Organized by: IEEE Student Branch, NIT Silchar

An expert lecture was organized by IEEE Student Branch, NIT Silchar, in Electrical Engineering Department, National Institute of Technology, Silchar, Assam, India, on “Effect of DG Power Penetration on Distribution Networks” by distinguished Professor Debapriya Das, Department of Electrical Engineering, IIT, Kharagpur, INDIA. The eminent speaker was felicitated by Prof. N Sinha, Branch Counselor, IEEE Student branch, NIT Silchar. The basic structure of distribution network for power system has initially been discussed and the stability issues regarding DG power penetration has been detailed. The lecture was concluded by vote of thanks given by Jayesh D. Ruikar, Chair, IEEE Student Branch, NIT Silchar. There were in total 13 participants in this event including students and faculty.



Prof. Debapriya Das addressing the students



Participants



Words of Wisdom

*A mediocre person tells. A good person explains.
A superior person demonstrates. A great person
inspires others to see for themselves.*

- Harvey Mackay

Plant Visit: Trip to 1.5 MW Bio Gas Plant National Institute of Technology, Silchar, Assam January 11, 2015

Organized by: IEEE Student Branch, NIT Silchar

IEEE student branch, NIT Silchar, has organized a plant visit to 1.5MW Bio-gas plant owned by New Gen Power Company Private Ltd., Chennai, INDIA, situated at Cachar district of Assam, INDIA. It was held on 11-Jan. 2015, to provide the participants an opportunity to have exposure and discuss with the field experts in the field of electrical power production from renewable energy sources. Several faculty members have accompanied PG & Ph. D. scholars to the plant visit, including Branch faculty advisor Dr. A. K. Goswami. Sri Krishnendu Nath, AGM (APDCL, Silchar-I division) also accompanied for the cause.

Experts from New Gen (including some Chinese counterpart) explained the functional process of the plant, practically showing the initial start-up process. They use scrap woods as their raw material for power production. The plant is equipped with 3 sets of gas-engine and synchronous generator. It uses 2 stage cooling process (air and water cooling).

There were in total 31 participants in this event including scholars and faculty members.



Expert explaining the functional process



Participants



Words of Wisdom

*If you feel like there's something out there that you're
supposed to be doing, if you have a passion for it,
then stop wishing and just do it.*

- Wanda Skyes

2014 IEEE Region 10 Professional Activities

Art and Craft of Effective Scientific Dissemination and Research Grant Proposals

Debdoot Sheet
IEEE Kharagpur Section
Oct – Nov. 2014

Latex for Document Typesetting

Date	21 October 2014
Venue	Computers and Informatics Centre, IIT Kharagpur
Speaker	Samiran Dam and Jit Mukherjee Graduate Students, IIT Kharagpur
Host	Debdoot Sheet, PhD Assistant Professor, Department of Electrical Engineering, IIT Kharagpur
Attendees	200
Type	Workshop
Impact	The event was attended by graduate students and doctoral candidates exploring the option of LaTeX for document typesetting for disseminating their research, computation, data analytics, documentations for scientific publications and grant proposal formulation. It included the session on introduction to open source tools for publication and a session on Tex installation and packages of use for professional development. This was coordinated with the TeX User Group incubated with the IEEE Student Branch IIT Kharagpur.



Introduction to Data Analytics and its Importance in Research

Date	27 October 2014
Venue	Bhatnagar Auditorium, IIT Kharagpur
Speaker	Debdoot Sheet, PhD Assistant Professor, Department of Electrical Engineering, IIT Kharagpur
Host	Rupesh Bansal and Aswin Singh Coordinators, Kharagpur Data Analytics Group (KDAG)
Attendees	500
Impact	The event was attended by undergraduate and graduate student interested in actively exploring the avenues and challenges in data analytics for a career in it. This homebrew hobby group of data analysts coordinates among peers and plans of inspiring youngsters to take up data analytics seriously within academic as well as in research and experimental reporting.

Research Challenges in Natural Language Processing

Date	11 November 2014
Venue	Gargi Auditorium, Srinivasa Ramanujan Complex, IIT Kharagpur
Speaker	Gerard Huet, PhD Senior Research Director, INRIA, Paris France Member, French Academy of Sciences
Host	Debdoot Sheet, PhD Assistant Professor, Department of Electrical Engineering, IIT Kharagpur
Attendees	100
Impact	This lecture was about Prof. Huet's experience with building the Sanskrit Heritage linguistic platform from the perspective of Natural Language Processing and the importance of data analytics in this field of research involving revival of culture with technology.

Research Challenges in Machine Learning for Image Segmentation

Date	13 November 2014
Venue	N208, Department of Electrical Engineering, IIT Kharagpur
Speaker	Sri Phani Krishna Karri Graduate Student, School of Medical Science and Technology, IIT Kharagpur
Host	Alok Kanti Deb, PhD Associate Professor, Department of Electrical Engineering, IIT Kharagpur
Attendees	50
Impact	This lecture was about the speaker's experience with using machine learning for medical image segmentation problems and his experiences presenting the contributions at the IEEE International Symposium on Biomedical Imaging in 2013, 2014.

IEEE Bangalore Section

IEEE Bangalore Section, with 23 society chapters and 2 affinity groups is one of the most vibrant section under R10. Section has 63 student branches and nearly 3500 Student Members. This membership is spread across the Karnataka region and is a nice blend of Industry, Academia and Research organizations. Section was established in 1976 with 313 members. Over the years the strength of the section has grown steadily and currently the Section membership stands close to 7500. Section has 450 senior members and 20 Fellows, largest among all the sections in India. Section conducts more than 200 technical events every year with the help of chapters, affinity groups and student branches, and is adjudged as outstanding Large Section by MGA and Best Large Section by R10 for the year 2013. Dedicated volunteers, as part of the Executive Committee of the Section as well as Chapters continuously strive to bring more activities under the Section. IEEE Bangalore Section's volunteers have received numerous IEEE awards from IEEE Global, Region 10 and India council level. IEEE Bangalore Section runs following unique initiatives:

1. IEEE CONNECT: Annual International Conference on Electronics, Computing and Communication Technologies
2. IEEE Industry Day: Annual workshop to engage Industry & Academia
3. B.R. Vardan Student Paper Contest: Annual National paper contest to encourage students
4. Student Leadership Congress: Annual Congress to inculcate leadership qualities among students
5. SIMPLE: A program to elevate Members as Senior Members
6. Cash reward of INR 1000 (increased to Rs. 2000 this year onwards) for Publishing IEEE Journal/Transaction paper and for Elevation as Senior Members
7. Felicitation of IEEE Fellow
8. Cash Reward of INR 10,000 for Best Volunteer, Best Student Branch, Best Branch Counsellor, Best Student Volunteers
9. Seed Money of Rs. 25,000 and Rs. 15000 to newly established society chapter and students branch respectively.
10. Annual Support of Rs. 15000 and 25000 to each student branch and society chapter after conducting at least 1 technical activity.
11. Teachers in Service Program (TISP)
12. Annual WIE Workshop
13. Providing seamless information with e-mails, section website, facebook and twitter web pages
14. Annual Branch Counsellors meet

Initiative Started By section and raised upto Global/R10 level

1. AIYEHUM: All India Young Engineers Humanitarian Technology Challenge
2. GINI: Global Integrated Network of IEEE
3. IEEEInterns.in: Internship Portal
4. Insurance Cover to Members
5. IEEE Industry Day

New Initiative started in the year 2014

1. **IEEE SmartTech Workshop:** First Non-US Metro Area workshop on IoT&Bigdata for Industry professional. This 2 day workshop (19-technical & 6 hand-on session) was a huge success with more than 250 participants. IEEE membership was clubbed in the registration fee for non-members. With this 111 new IEEE members were inducted throughout India. Based on this success it is planned to conduct this workshop every year for industry professionals.



First Non-US IEEE SmartTech Workshop

2. Felicitation of IEEE Fellows - Celebrating 50 years of IEEE Fellowship: On the occasion of 50 years of 50 years of IEEE fellowship section felicitated all the fellows of IEEE Bangalore Section.
3. Fellow Identification and Nomination Exercise (FINE) workshop: FINE Workshop was conducted by IEEE Bangalore Section on December 20th, 2014 at Hotel Matthan, Bangalore. The objective of this workshop was to make aware the eligible senior members about the Fellows Elevation process, nomination guidelines, and minimum eligibility requirements. In this connection this workshop was organized and Dr. Panos, Chair, IEEE Fellows elevation committee & Dr. Prasad Kodali, Member, IEEE Fellows elevation committee were invited to conduct the workshop.



4. Support of Rs. 5000 to each student branch to celebrate IEEE Day
5. Start of Small Student Branch Award with prize money of Rs. 10000
6. Cash Award of Rs. 1000 to each member who have been granted a patent
7. Inter Collegiate Cultural competition during AGM

IEEE Fusion, Bangalore section managed online technical magazine. This magazine offers member's an opportunity to write about their passion for the world to read. The magazine is well read and followed one on the internet. (www.ieeefusion.in)

Product Management workshop, Bangalore Section organized a one day workshop in associated with the Product Leadership Institute on procedures and techniques involved in conceptualizing a product from idea to market sales.

Volunteers Day: Annual activity planning is done using a volunteer day inviting current team and new volunteers to participate in a days workshop on new ideas for the year.

Chapter Chair's meet: Quarterly Chapter chair meeting is conducted to keep the synch between Section and the chapters.





Together with SPIE (the international society for optics and photonics), the Chandra X-ray Center/Smithsonian Astrophysical Observatory are leading

Light: Beyond the Bulb for the International Year of Light 2015 (IYL2015).

Light: Beyond the Bulb is a cornerstone project for the International Astronomical Union.

IYL2015 was declared by the United Nations and is supported by UNESCO.

TO WHOMSOEVER CONCERNED

The International Year of Light 2015[IYL2015] was declared by United Nations Organization [UNO] and is supported by UNESCO. This global initiative is getting launched from 8AM, Jan.19th 2015 to 6PM, Jan.20th 2015 at Paris.

IEEE Mangalore Sub Section has spread an year long program of "Light Exhibit" in various engineering college campus to spread the mission of International Year of Light and for raising the awareness about how light based technologies promote sustainable development and provide solutions to Indian & Global challenges in Energy, Education, Agriculture and Health. Light has revolutionized medicine and opened up international communications via internet and continues to link cultural, economic and political aspects of global society. Prof. Dayananda Suratkal, Chair IEEE Mangalore Subsection expect to cover maximum number of students & faculty for this awareness by one day event of "Light Exhibit" at their own respective College Premises.

Media, Industry and Institutes are requested to support IEEE Mangalore Sub Section through their contributions to spread the UNO program of IYL 2015 supported by UNESCO. Anyone interested can contact IEEE Mangalore Sub Section (Chair, Vice Chair or Secretary) for details and fixing the dates of "Light Exhibit" and IEEE Mangalore Sub Section requests Sponsors to donate for the Cause by cash or cheq or RTGS to IEEE Mangalore, A/C SB No. 8517101003602, IFSC Code CNRB 0008517, Canara Bank NITK Campus, Srinivas Nagar Mangalore 575025.

The IEEE Mangalore Sub Section "Light Exhibit" will have time slots for exhibiting the donors / contributors contents/slides

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LIGHT

Beyond the Bulb

January 27, 2015

To Whom It May Concern,

It is our pleasure to write a letter in support for Dayananda Shetty who plans to host a "Light: Beyond the Bulb" exhibit for the International Year of Light 2015.

In proclaiming an International Year focusing on the topic of light science and its applications, the United Nations has recognized the importance of raising global awareness about how light-based technologies promote sustainable development and provide solutions to global challenges in energy, education, agriculture and health. Light plays a vital role in our daily lives and is an imperative cross-cutting discipline of science in the 21st century. It has revolutionized medicine, opened up international communication via the Internet, and continues to be central to linking cultural, economic and political aspects of the global society.

Light: Beyond the Bulb is an open-source international exhibition program for the International Year of Light to showcase the incredible variety of light-based science being researched today across the electro-magnetic spectrum, across scientific disciplines, and across technological platforms. The exhibit materials and striking images would be crowd-sourced and then expert-curated for science content, high-quality printability, stunning beauty and ability to engage the greater public. Based on an award-winning "proof of concept" platform "From Earth to the Universe" from the International Year of Astronomy 2009, Light: Beyond the Bulb could offer wide international reach, high visibility and improved public awareness on the science of light.

We support the efforts of IEEE Mangalore Sub Section as they seek funding and additional help to support a program designed to increase awareness of the myriad of things light can do, and how it plays a critical role in our lives every day.

Sincerely,

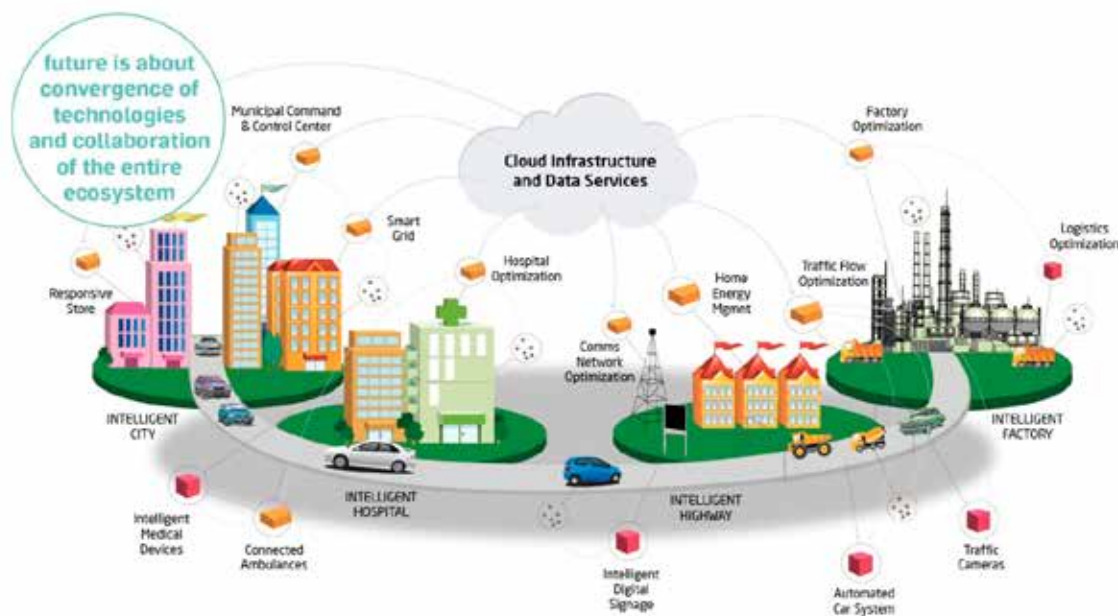
Kim Arcand

Principal Investigator, Light: Beyond the Bulb

<http://lightexhibit.org>

Working Together to Bring Smart Electricity to Emerging Markets

IEEE collaborates with global partner IEEMA to deliver first INTELECT Conference and Exposition



In January 2015, IEEE collaborated with the Indian Electrical and Electronics Manufacturers' Association (IEEMA) to host the first all-IEEE wide conference entitled, "[IEEE-IEEMA INTELECT Conference and Exposition](#)" in Mumbai, India. The Conference, which featured approximately 50 globally renowned key note speakers and high-caliber panelists, attracted nearly 400 attendees, along with 10,000+ exhibit visitors. The joint event was supported by three Ministries of Government of India including the Ministries of Power, Urban Development, Communications & IT, plus the Government of Maharashtra.

"This conference was about IEEE's tagline, 'Advancing Technology for Humanity'. It featured the people who literally invent the world that we live in," stated Howard Michel, IEEE President. "This was a partnership between IEEE and IEEMA, a partnership of researchers, people who build the equipment and people who make the policies who educate and advance the world to make it a better place to live in."

In the months leading up to INTELECT, [IEEE Smart Grid](#) via the collaboration of IEEE Power & Energy Society, IEEE Computer Society, IEEE Communications Society, IEEE Industrial Applications Society, the Humanitarian Ad Hoc Committee, IEEE Standards Association and IEEE Region 10 all worked together to plan and deliver a successful event.



2015 IEEE-IEEMA INTELECT Conference & Exposition was inaugurated in Mumbai, India by Tommy Mayne, INTELECT Chair and Vice President of IEEE PES Meetings & Conferences; Mr. Vishnu Agarwal, President, IEEMA; Shri Anant Geete, Union Minister for Heavy Industry & Commerce, Government of India; Patrick Ryan, Executive Director of IEEE PES; Shri Tanga Byaling Chairman, North Eastern Regional Power Committee, Minister for Home, Power & Non-Conventional Source of Energy, Arunachal Pradesh; Howard Michel, President and CEO, IEEE; and Ramanathan Krishnakumar, Co-Chair of INTELECT.

For more information regarding INTELECT, please visit www.ii-intelect.org.

The conference featured four parallel tracks, including:

- **H3O – Smart Home, Hospital, Hotel & Office**
- **Microgrids, Rural Electrification and Renewables**
- **Smart Cities**
- **Humanitarian Impact of Smart Electricity**

In addition, two co-located events and one tutorial were organized for those attending INTELECT and local IEEE members. IEEE Technical Activities and IEEE Meetings, Conferences & Events hosted training sessions. IEEE PES hosted a tutorial “Keeping the Lights On – Yesterday, Today & Tomorrow”.

INTELECT proved to be a platform to translate many of the global concepts in smart energy management into workable business opportunities for India. As we prepare to embark on the next phase of double-digit growth and development, the corporate world, utilities, industrialists, consumers cannot afford to miss the next edition of INTELECT in 2017 - truly the beginning of a sustained intelligent electricity forum.

The following supporting documents are available:

[Speaker List and Conference Proceedings](#) (continually updated)

[INTELECT Program Booklet](#)

[INTELECT Photos](#)

[INTELECT Videos](#)

[IEEE Post Event INTELECT Report](#)

[IEEMA Post Event INTELECT Report](#)



Caption : Mr Atindra K Banerjee (Chair Bombay Section) - centre along with Prof Vinit Kotak and Mr Aiyappan Pillai (at left) together with key IEEE team at Intellect 2015



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