



### *Message from Chairman*

Dear Members,

We recently concluded the Region 10 meeting at Dhaka on 7-8 March 2015. Region 10 Activities Coordinators presented their plans and budget for the year. The R10 activities coordinators will reach out to Sections with details of activities they will support. All Sections are requested to encourage members and volunteers to tap this opportunity. Experienced volunteers should help in preparing a good and effective proposal.

It has been observed that award committees are not receiving adequate number of nominations, and those that reach them do not have sufficient details to judge a candidate. We need to address this by recommending all eligible volunteers for awards and by diligently putting their details in the nomination form.

Region 10 awards include those for outstanding volunteers, and outstanding Sections (in large, medium, small categories). The other Region 10 awards are in student activities, women in engineering etc. For details please visit Region 10 website.

Similarly MGA and many societies have also instituted various awards that are regularly announced. Sections should appoint a volunteer as the award and recognition coordinator if they have not yet done. Our volunteers are putting lot of efforts and they should be suitably awarded.

Besides many other activities, IEEE India Council is also going to institute awards from this year. We are planning to give award to one outstanding section chair, five outstanding volunteers and most sustainable student branch every year. Details will be available soon.

India Council has a plan to rope in more volunteers especially as subject experts to address issues related to mentoring students, participating in reviewing old curriculum, policy making, development of standards etc.

I wish to share the Wikipedia's definition of 'volunteerism'

"Volunteering is generally considered an altruistic (pro bono) activity and is intended to promote goodness or improve human quality of life. In return, this activity can produce a feeling of self-worth and respect. There is no financial gain involved for the individual. Volunteering is also renowned for skill development, socialization, and fun. Volunteering may have positive benefits for the volunteer as well as for the person or community served".

  
**Deepak Mathur**  
Chair, IEEE India Council



### **Makerspaces: Where the Dreams are Made into Realities**

A good number of IEEE fraternity is *Do It Yourself* kind: Engineers who are engaged in activities warranting direct application of engineering skills learnt in colleges and subsequently polished and enriched along the way while in profession. This makes them best fit for mentoring jobs in Makerspace environments. Then, what is Makerspace?

A Makerspace is a community center that provides technology, manufacturing equipment and learning and mentoring opportunities to the public, irrespective of their age. In makerspaces, community members can design, make prototypes and manufacture items using tools that would otherwise be inaccessible or unaffordable such as 3-D printers, digital fabrication machines and computer-aided design (CAD) software.


In fact, Makerspaces had their nucleation in libraries, especially in U.S.A and also in Europe. Recently many libraries which are places of community engagement, have begun to develop spaces for makerspace activities that both teach and empower patrons. The learning in these spaces varies wildly--from home bicycle repair, to using 3D printers, to building gadgets, designing new agricultural implements etc. Fittingly, they are called Makerspaces.

Now, back to the IEEE forum. In India, Makerspace Movement is yet to catch up in a big way, though there are activities in metros. Fab Lab, a concept of the Massachusetts Institute of Technology, was set up in Pune in 2002—the first lab to be set up outside the United States. It was funded by the National Science Foundation of the US and IIT-Kharagpur.

All Fab Labs have the same set of tools and processes and are connected to each other to form a global network to promote innovation and invention and sharing of ideas. Kerala had announced plans to set up 21 Fab Labs, following the specifications and directions of MIT.

IEEE India could be playing a key role in Makerspace movement in the country, by associating with the agencies involved - governmental and others. A master plan and a clear action plan, with end results well spelt out, if not already made, are needed. This should be in line with India's Make in India initiative, for which creative inputs can flow from Makerspaces to be set up as part of libraries across India. In other words, it would be giving the much needed R&D support to transform India as another factory of the world, like China.

Finally, here are the words of Anna Waldman-Brown, a maker-evangelist who works with the international Fab Lab network: "I think the philosophy behind makerspaces—the idea of local production and manufacturing, and the democratization of technology—has its roots in Gandhian philosophy as much as it comes from the burgeoning tech scene worldwide."

As IEEEians, let us explore how to play a lead role in the Makerspace Movement in India. 

**NT Nair**

## From IEEE President's Desk



IEEE is not just membership, conferences, journals, standards, or societies—and neither is the world our global professional community functions in. As a community, we can't allow ourselves to continue to think within those traditional parameters. We are IEEE members and volunteers, throughout India and around the world, bound together to create, disseminate and use information to advance technology for the benefit of humanity.

In the future, information will be created by individuals who never meet, brought together through technology, bonded together by a shared passion to better the world. More than ever, IEEE in India and around the world must address the future of information--how technical professionals will create it, share it, and use it in a global, evolving marketplace. Envisioning and acting upon that future is absolutely critical to IEEE's continued success.

Throughout 2015, IEEE is focusing on not just our immediate future, but what is ahead on five-, ten- and fifteen-year horizons, and what the future holds for some of our most vibrant IEEE communities around the world, India among them. We will talk about the future of information; of conferences; of membership; of publications; of standards development. We will talk about the future of IEEE.

And when we talk of the future of IEEE, we talk of the future of our global community as well. Partnerships, like the recent joint efforts between IEEE and IEEMA in the creation and hosting of the INTELECT conference on intelligent electricity consumption and technology in India, are critical to the continued evolution of IEEE. Events such as this bring out not only the best within our IEEE community, but allow IEEE to work with the best in other respected organizations as well.

This year, the IEEE Board of Directors is incorporating strategic discussions about topics such as these into the very fabric of our face-to-face meetings. Strategically examining and actively envisioning IEEE's future is an absolute necessity, and it is being given priority at every IEEE Board of Directors meeting this year.

For IEEE to remain a touchstone organization for engineers and technologists, it must also evolve. That evolution, while swift, can't be haphazard. Instead, there must be a comprehensive vision of the identity of IEEE as a community, and what we wish that identity to be in the future.

By the end of this year, it is my goal to have an actionable vision, articulated in a comprehensive strategic plan and accompanying global strategy plan, which all in our global community can embrace. But most importantly, I want that vision to be an outgrowth of the ideas and insights gathered from across the breadth of IEEE. I look forward to your thoughts and suggestions.



**Howard E. Michel**  
IEEE President and CEO

### *Words of Wisdom*

*I believe that one defines oneself by reinvention. To  
not be like your parents. To not be like your friends.  
To be yourself. To cut yourself out of stone.*

*- Henry Rollins*

## IEEE 2014 R10 EA Award Recipients

1. 2014 R10 EA Award on Major Educational Innovation

Dr. Rosanna Chan, Hong Kong Section

Citation: For her innovations and advancements of the theory and practice of Engineering Education based on Learning Sciences and a multidisciplinary foundation.

2. 2014 R10 EA Award on Major Educational Innovation

Prof. Yatindra Nath Singh, Uttar Pradesh Section

Citation: for the contribution of spearheading the opensource Brihaspati initiative which has led to better learning environment by use of technology in large number of institutes in India.

3. 2014 R10 EA Award on Continuing Education

Prof. VK Damodaran and Ranjit Nair

Citation: For their outstanding contributions in improving the quality of technical education in the State and getting the early career faculty to inspire the students and innovate in education.

**Reported by: Supavadee Aramvith, Ph.D.**

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### Words of Wisdom

*Don't be too hard on yourself. There are plenty  
of people willing to do that for you. Love yourself  
and be proud of everything that you do.  
Even mistakes mean you're trying.*

*- Susan Gale*

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*Look at a day when you are supremely satisfied at the end. It's  
not a day when you lounge around doing nothing, it's when  
you've had everything to do and you've done it.*

*- Margaret Thatcher*

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*I am not here to change the world. I am changing  
the world because I am here.*

*- Lisa Wilson*

# IT in February 2015

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



## General

- Railway Budget and General Budget prepared by the new BJP government has several novel features
- Government accepts Finance Commission recommendation of 62% revenue to go to States from April 1, 2015
- Supreme Court clears Spectrum sale, though halts final allotment
- Coal auctions see much action on the ground
- Delhi Elections results on February 10, 2015 throws up very interesting results; AAP wins 67 out of 70 seats with BJP winning 3 and Congress winning no seats; Arvind Kejriwal sworn in on February 14, 2015, exactly one year after he resigned as Chief Minister last year
- US Government clears Work permit for spouses on H1B Visa in February 2015

## Technology

- UK researchers I University of Surrey achieve 1 Tera-bit per second speed over a distance of 100 m 25, on 5G networks on February 2015

## Markets

- Apple's market capitalization touching \$ 700 billion (the first ever by any corporation) makes history on February 11, 2015
- Sensex back to 29,000 on February 14, 2015
- Micromax with 22% market share is No 1 mobile handset brand in India (as per Canalsys)
- FoodPanda acquires JustEat on February 6, 2015
- Staples decides to buy Office Depot for \$ 6.3 billion
- Google acquires Odysee on February 8, 2015
- BookMyShow buys EventifierFebruary 10, 2015
- Infosys acquires Automation company Panaya for \$ 150 million on February 16, 2015
- EXL buys RPM for Rs 460 crores in February 2015
- Ajit Prabhu and Aravind Malligeri founded Quest buys German engineering firm EDF and plans to have 1,000 engineers in Germany soon
- Apps-based taxi service Ola to get another \$ 500 million from DST
- Infosys co-founder Kris Gopalakrishnan invests in Fresh World



## Products

- SAP launches S/4HANA aggressively on February 5, 2015
- Microsoft shows off touch-optimized version of Office for Windows 10 on February 5, 2015
- Huawei launches Honor Series of mobile phones in India on Flipkart with much fanfare on February 5, 2015

## Indian IT companies

- Flipkart talks of \$ 8 billion sales in the year 2015
- TCS bags outsourcing contract from US Southern California Edison on February 19, 2015; TCS partners Startup-boot-camp to launch Pitch Days inside TCS Campuses; TCS sticks to its hiring target of 35,000 for the year 2015-16
- ICICI launches Pockets - mobile wallet service (powered by MasterCard) on February 10, 2015
- Bangalore-based Naveen Tewari founded mobile advertising company InMobi powers 1 billion devices on February 11, 2015
- Adani talks of \$ 10.5 Dollars solar project
- L&T BEL Consortium talk of Rs 40,000 defence order
- Infosys acquires Automation company Panaya for \$ 150 million on February 16, 2015
- Ajit Prabhu and Aravind Malligeri founded Quest buys German engineering firm EDF and plans to have 1,000 engineers in Germany soon
- Apps-based taxi service Ola to get another \$ 500 million from DST

## MNC companies in India

- Huawei starts new R&D campus in Bangalore on February 5, 2015; expects \$ 2 billion business in India next year
- Facebook launches Internet.org on February 10, 2015 in India that aims to reach Internet to the next 5 billion
- GE starts manufacturing in India - Chakan plant 'modular factory' goes on stream on February 14, 2015
- Lowe India development center in Bangalore launched on February 12, 2015
- Wal-Mart Labs in Bangalore expanding in February 2015

## Startup scene

- Persistent Founder Anand Deshpande and Sycamore Networks Founder; Desh Deshpande planning to create entrepreneurs and jobs; Anand talks of 25,000 SMB's and 100,000 jobs; Desh talks of 100 sandboxes each creating 30 start-up with 100+ jobs - all in February 2015; Desh Deshpande plans a 300,000 square feet campus for startups in Hubli
- Bangalore-based mobile Ads start-up (founded by Navin Tewari) InMobi his 1 billion devices on February 11, 2015

- Analytics startup Manthan raises ₹ 375 Crores from Tamasek & Norwest in February 2015
- Infosys founders Kris Gopalakrishnan & S Shibulal invest in SellerworkX, Vigyanlabs; Kris also invests in Fresh World
- Mobile re-charge platform Free-Charge raised \$ 80 million on February 5, 2015
- Ratan Tata invests in CarDekho on February 8, 2015
- Indian startup Nutanix - iPhone for data center holds great promise
- TCS partners Startup-boot-camp to launch “Pitch Days” inside TCS Campuses
- Dawailo.com (online medicine distributor) starts in Varanasi in February 2015
- Mustafa Pasha founded iDFresh (Dosa batter) from IIM Alum addresses a critical Indian need; talks of becoming a Rs 1,000 crore enterprise

### **Education & Research**

- MIT celebrated its 150th anniversary on February 20, 2015
- Agni V test fired successfully on February 1, 2015
- Union Budget on Feb 28, 2015 clears a new IIT for Karnataka
- Bennett University (Times of India) signs up with Babson College University on February 2015
- CMU wrongly issues admission letters to 800 people thanks to software bug on February 19, 2015

### **People**

- Mysuru gets a new Maharaja on February 23, 2015
- Arvind Kejriwal becomes Chief Minister of Delhi on February 11, 2015
- PunitRenjen becomes Deloitte global CEO in February 2015

### **Telecom**

- For issuing SIM cards government starts using AADHAR-based KYC (Know Your Customer) in February 2015

### **Infrastructure**

- GoDaddy&Microsoft start offering cloud services for SMB at ₹ 99 per month from February 2015
- Adani'sKandla bulk terminal dedicated to the Nation on February 10, 2015

### **Interesting Applications**

- Adobe Photoshop celebrates 25 years in February, 2015

- Indian government launches 11 services on Biz portal (part of ease of doing business initiative); DEITY showcases sample “Digital Locker App”
- Magzter launches subscription-based Magazine services (Rs 4999 per year for unlimited Magazines) on February 1, 2015
- ICICI launches Pockets - mobile wallet service (powered by MasterCard) on February 10, 2015
- Federal Bank launches v-connect - video conference to support customers on February 11, 2015
- Auto Drivers Union launches Savarimate App in Bangalore on February 17, 2015
- RBS NatWest Bank starts fingerprint-based login using Apple Pay on February 19, 2015
- Hotstar App (Star TV) talks of creating a new global record - 25 million video views - most watched sports event online ever –during India-Pakistan cricket match in February 2015

### Interesting numbers

- Telecom subscriber base on January 31, 2015 stood at 979.21 million with 952.34 million mobile subscribers and 26.87 million wire-line subscribers (with net addition of 8.37 million mobile subscribers and net reduction of 0.13 million wire-line subscribers in January 2015); of the 979.21 phone subscribers 575.05 were in urban area, while 404.16 were from rural area (TRAI Press Release No. 18/2015 dated March 12, 2015)
- India’s Foreign Exchange on February 27, 2015 was at \$ 338 billion (RBI)
- Indian Rupee stood at 61.86 against USD on February 28, 2015 (RBI)
- On February 28, 2015 (with special trading on Budget day) BSE Sensex and NSE NIFTY 50 (Indian stock market indices) were at 29,361 and 8,902 respectively (Reuters)
- Micromax with 22% market share is No 1 mobile handset brand in India (as per CanaIys); Intex is No 1 Smart Phone brand as per January 2015 shipment
- BSNL market share of mobile phone customers drops below 10% in February 2015
- Forex reserves touch \$ 330 billion for the first time on February 13, 2015
- 150-year old MIT has 168 acres of land, 1021 professors, 11319 students, 12.4 Billion Endowment, and 74 Nobel prizes (won by MIT faculty and Alumni)
- IT sector to create 13% less jobs in 2015-16 (NASSCOM)





# Information Resources

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**New Technology in the Construction Industry:** The first week of 2015 is already underway, and that means it is time for a bit of reflection on the past year. Like so many years before, 2014 brought some great advances in technology for the architecture, engineering, and construction industry. From new survey methodologies to building techniques, 2014 has shown many noteworthy milestones. Here are some of the best trends and new technology in the construction industry that have made news in 2014. Reality Capture Technologies. AEC may stand for architecture, engineering, and construction, but before any of that can happen, there has to be a survey. So it's no wonder that 2014 brought some interesting advances to this very fundamental industry. <http://goo.gl/07sZSG>

**8 Import and Export Tips Using Various File Formats in AutoCAD:** You can import most popular CAD file formats into AutoCAD, including Autodesk Inventor, CATIA, IGES, Rhino, and SolidWorks, and export most AutoCAD drawings just as easily. With complex geometry, not every process is the same, and there's no such thing as a one-size-fits-all import with CAD. Follow these eight easy AutoCAD tips to get your original 3D or 2D drawings into AutoCAD. AutoCADExchange gives a good overview of the AutoCAD 2012 (and later) AutoCAD importer and how it imports data as a block. <http://goo.gl/FcTloI>

**5 Options for Software Licenses: Which One Is Best for Your Business?:** Once upon a time, buying computer software was easy. You went to the store, picked up a box, brought it home, and installed it on your computer. (That computer probably took 5.25-inch floppy disks, but that's another story.) Today, you have many more options when it comes to acquiring the software licenses you need for your business. Which option should you use, though, and when? Let's break down the five options. <http://goo.gl/esJfYM>

**Out of Office: 6 of the Best Business Apps to Get the Job Done While You're on the Go:** You probably have at least several screens of apps on your phone or tablet, but are they making your life easier, or are they just helping you kill time? Candy Crush is fun and all (or maybe soul-sucking, depending on how begrudgingly addicted you are), but it doesn't help you get your job done. When you decide to download a new app to help you with work, there are a few questions you should ask yourself. Is it any good? If it costs money, is it worth the price? Is it easy to use? Will it work on your computer, phone, and tablet? Will the IT department allow you to use it? As a business owner, you want your employees to be able to work wherever they are, on whatever device they are using. You also want your IT department to feel good about the tools they manage. Mobile work can be tricky, but here are six of the best business apps to help ensure your employees won't have to fight to keep their heads above water while they're away from the office. <http://goo.gl/ZdODJm>

**What Is the Internet of Things, and What Does It Mean for Design?** Is the tech buzz around 3D printing giving way to a new-media darling? Sure looks like it. What is the Internet of Things (IoT) fervor all about? While the idea of connecting products such as mobile devices, TVs, and even refrigerators to the Internet isn't really groundbreaking, the massive potential in an entirely new army of everyday things connecting to the Internet—and the never-before-seen scenarios they enable—is fuelling IoT growth. Devices aren't just devices anymore. They are becoming entire platforms that collect data about everything—you, your environment, your behavior, your likes, your dislikes. And it's all feeding into a Big Data machine, creating an entirely new set of data never seen before. Factor in that sensors have also become incredibly inexpensive and accessible for production and, voilà, you have yourself a bona fide IoT bandwagon. If the Internet is about data created by people, the IoT is about data created by things. <http://goo.gl/4IDXiH>

**How we built The Crystal – video:** Designed by architects Wilkinson Eyre, the iconic Crystal building - among the greenest in the world - draws inspiration from the many sides of a crystal. Situated in London's Docklands, the site houses an

exhibition and education space and is a sustainable conference space designed to bring people together to tackle the complex challenges the world faces today. The Crystal is an all-electric building that uses solar power and a ground source heat pump to generate its own energy. That means no fossil fuels are burnt within the building. The development showcases state-of-the-art technologies that make buildings more efficient, including rainwater harvesting, black water treatment, solar heating and automated building management systems. The design of the building's structure provides additional insulation and takes energy efficiency to a new level. Watch the video at <http://goo.gl/N00rce> to find out more.

**What is HTTP/2 and is it going to speed up the web?:** Biggest change to how the web works since 1999 should make browsing on desktop and mobile faster internet. The web is about to get faster thanks to a new version of HTTP – the biggest change since 1999 to the protocol that underpins the world wide web as we know it today. Hypertext Transfer Protocol is familiar to most as the http:// at the beginning of a web address. It governs the connections between a user's browser and the server hosting a website, invented by the father of the web Sir Tim Berners-Lee. <http://goo.gl/YyBWDS>

**How zoology has been transformed by mobile technology:** Consumer hunger for small, smart gadgets has had a helpful side effect for zoology - it's created the ultimate means of studying wild animals at a distance. <http://goo.gl/OZ814e>

**Artificial intelligence and nanotechnology 'threaten civilisation':** Artificial intelligence and nanotechnology have been named alongside nuclear war, ecological catastrophe and super-volcano eruptions as “risks that threaten human civilisation” in a report by the Global Challenges Foundation. In the case of AI, the report suggests that future machines and software with “human-level intelligence” could create new, dangerous challenges for humanity – although they could also help to combat many of the other risks cited in the report at <http://goo.gl/9VbM5A>.

**Hackers steal \$1bn in series of online bank thefts says report:** A hacking ring has stolen up to \$1bn from banks around the world in what would be one of the biggest banking breaches known, a cybersecurity firm says in a recent report. The hackers have been active since at least the end of 2013 and infiltrated more than 100 banks in 30 countries, according to Russian security company Kaspersky Lab. After gaining access to banks' computers through phishing schemes and other methods, they lurk for months to learn the banks' systems, taking screen shots and even video of employees using their computers, the company says. <http://goo.gl/uV1aOT>

**The great internet swindle: ever get the feeling you've been cheated?:** The internet was meant to liberate and empower its users. But the real effect has been to create vast monopolies and turn us into victims, argues web sceptic Andrew Keen in his controversial new book *The Internet is Not the Answer*. During every minute of every day of 2014, according to Andrew Keen's new book, the world's internet users – all three billion of them – sent 204m emails, uploaded 72 hours of YouTube video, undertook 4m Google searches, shared 2.46m pieces of Facebook content, published 277,000 tweets, posted 216,000 new photos on Instagram and spent \$83,000 on Amazon. So it takes a brave man to argue that there is another side to the internet; that stratospheric numbers and undreamed-of personal convenience are not the whole story. Keen (who was once so sure the internet was the answer that he sank all he had into a startup) is now a thoughtful and erudite contrarian who believes the internet is actually doing untold damage. The net, he argues, was meant to be “power to the people, a platform for equality”: an open, decentralised, democratising technology that liberates as it empowers as it informs. <http://goo.gl/C5FGEZ>

**10 Obscure Technologies That Could Change the World:** In the world of tech, there is no shortage of well-known products that make our lives easier and more enjoyable. At the same time, there are also a number of fascinating and ground-breaking technologies and products that remain somewhat under the radar. Here are a few examples of cool products you might not have heard of. <http://goo.gl/b54ph7>

**Don't trust that lamp! How 12 common devices can now be hacked:** The Internet of Things, that is to say all of those devices we use that are connected or "smart," continues to multiply like rabbits in spring. According to various sources, the number of wirelessly connected devices is estimated to reach more than 40 billion worldwide by 2020, including one billion smart electric meters, 150 million connected cars, and 100 million smart lights. From insulin pumps to thermostats to coffee makers, more and things we use in our daily lives that we don't normally think of as computers, are, in fact, behaving like computers. By now having brains and being connected, these devices make our lives easier by offering apps to control them and by tailoring their behavior to us. But this convenience comes at price; namely, that many of these devices that we now

connect to our computers, home networks or the Internet are now susceptible to malware and hacking. Use the navigation buttons above to see how 12 devices many of us use in our daily lives have been shown to be hackable. <http://goo.gl/ueWPgq>

**Dozens of Tech, Education, and Nonprofit Execs Urge Passage of Washington Computer Science Bill:** More than 50 business and education leaders have signed a strongly worded appeal to the Washington state House of Representatives, urging them to vote for a bill that would expand computer science education in the state's schools. The letter was sent by Code.org and Washington STEM on March 3 and asks state legislators to support House Bill 1813. The bill would establish a grant program with matching private funds that would both train educators in computer science, as well as provide funds for new equipment. H.B. 1813 already has cleared the House committees on education and appropriations and will go to a vote before the whole House soon. The letter points out that although there are about 20,000 open computer jobs available in Washington and such positions are growing at a much faster rate than the state average, only 1,200 state students graduated with degrees in computer science in 2014 and computer science courses are only offered in 7 percent of the state's high schools. Among the 53 signers of the letter are former Microsoft CEO Steve Ballmer, Starbucks president Kevin Johnson, and University of Washington Provost Ana Mari Cauce, as well as Code.org and Washington STEM CEOs Hadi Partovi and Patrick D'Amelio. <http://goo.gl/XXlt3R>

**Google Wants to Rank Websites Based on Facts Not Links:** Google's search engine currently uses the number of incoming links to a Web page to determine where it appears in search results. However, Google researchers are experimenting with a new system to rank pages based on their trustworthiness instead of on their reputation across the Web. The new ranking system counts the number of incorrect facts within a page, and not the number of incoming links. "A source that has few false facts is considered to be trustworthy," the researchers say. The new method produces a score for each page known as its Knowledge-Based Trust score. The software, which is not yet live, works by accessing the Knowledge Vault, a vast database of facts Google has collected from the Internet. The facts are unanimously agreed upon and are considered a reasonable measure for truth. Web pages that contain contradictory information are moved down in the rankings, while facts the Web is in unanimous agreement on are designated a reasonable proxy for truth. <http://goo.gl/jXj8Uc> Related published paper at <http://arxiv.org/pdf/1502.03519v1.pdf>

**NIH Dives Into Cyber-Physical Systems Research:** The U.S. National Institutes of Health (NIH) and several other agencies have announced funding and grant opportunities for cyber-physical systems (CPS), a new generation of embedded systems with integrated computational and physical capabilities. "The ability to interact with and expand the capabilities of the physical world through computation, communication, and control is a key enabler for future technology developments," according to a recent IEEE paper. NIH wants to study ways CPS technology can mitigate errors in intensive care units, exploring the development of CPS for artificial organs, as well as developing hospital-wide applications to decrease fragmentation and conserve costs by tracking medical assets. The funding program aims to develop the core system science needed to engineer complex cyber-physical systems, and to foster a research community committed to advancing research and education in CPS and transitioning CPS science and technology into engineering practices. "CPS technology will transform the way people interact with engineered systems--just as the Internet has transformed the way people interact with information," NIH says. Grant applicants should describe how the ideas being proposed will address healthcare needs of end-users, including healthy individuals, patient populations with specific targeted diseases, persons with disability, and or health disparity populations. <http://goo.gl/cQr2v4>

**Next-gen security for a mobile culture: 10 risks, seven pointers:** The number of mobile devices now outnumbers the number of people in the world. Mass mobilization calls for next-generation security tools and some forward thinking on the part of CIOs. <http://goo.gl/Lu8Rfc>

**Bank Hackers Steal Millions via Malware:** In late 2013, an A.T.M. in Kiev started dispensing cash at seemingly random times of day. No one had put in a card or touched a button. Cameras showed that the piles of money had been swept up by customers who appeared lucky to be there at the right moment. But when a Russian cybersecurity firm, Kaspersky Lab, was called to Ukraine to investigate, it discovered that the errant machine was the least of the bank's problems. <http://goo.gl/dgGLWz>

**7 Little Known Ways On How To Improve Patient Satisfaction:** You have cutting edge technology, a solid facility and a skilled staff. But how do you make yourself stand out in the vast field of health care centers? It's all about connecting with the client and making him or her feel acknowledged, heard and cared for in both small and large ways. Take these extra steps satisfy and retain your patients. <http://goo.gl/JmLehO>

**How To Motivate Students With 7 Inspirational Movie Scenes:** One of the most common question teachers ask is, "Can you help me learn how to motivate my students?" They will likely do a search like, "How to motivate students quickly," and come across tons and tons of tutorials like this one or this one. While tips like, "Give students a voice," or "Make their education feel real by including marble jars" can be helpful, there are literally millions of "tips" like these. That is why we wanted to change things up a bit... It goes without saying that technology is an essential part of education in today's world. One important tool is YouTube. Sure, it's usually a place for people, young and old, to watch hilarious cat videos but it has so much more than that. If you dig around, you can find some quality clips that can be very useful for educational purposes. You may be thinking, "Oh great... I don't have time to find these clips..." We completely understand! Time is an important commodity, especially for educators like you! That is why we did the research for you:) Below, you will find 7 inspirational movie scenes that will help you learn how to motivate your students. We included the clips, a brief overview and one key point to take away from each one. Enjoy... <http://goo.gl/RjHBdH>

**The 11 Worst Times Your Cell Phone Can Die:** Your phone's battery life is a precious thing. But having it die on you can be tragic! Cell phone charging stations can truly be more than an amenity to a waiting room or school student union. Our cell Phones are here for us to make life easier. They allow us to connect and share almost everything. This is why it's a big deal when they die. At this point, cell phones may as well be an extra limb on our bodies, connected to us at all times. We always assume that they'll be there for us when we need them. Below, are a few horror stories (to us anyway) of situations when a cell phone's battery was neglected, and would have greatly benefitted from the assistance of a power charging station. <http://goo.gl/Zb0vOh>

**39 Incorrectly Used Words That Can Make You Look Bad:** Easy to get wrong. Fortunately, not hard to get right. Where the mechanics of writing are concerned, I'm far from perfect. One example: I always struggle with who and whom. (Sometimes I'll even rewrite a sentence just so I won't have to worry about which is correct.) And that's a real problem. The same way one misspelled word can get your résumé tossed onto the reject pile, one misused word can negatively impact your entire message. Fair or unfair, it happens all the time--so let's make sure it doesn't happen to you. <http://goo.gl/gRZ81K>

**10 Mind-sets That Will Radically Improve Your Business:** Success is something all career-driven individuals desire yet it eludes many people -- at least at the levels desired. Why are some businesspeople successful and others not? It has everything to do with habits, beliefs, passion, flexibility and attitude. Often there's nothing really different between one entrepreneur and another in terms of ability, as each person can do whatever he or she wants. What it all comes down to is having the frame of mind to set practical habits and keep a balance between attachment and commitment and letting things happen. Here are 10 mindsets for success: <http://goo.gl/ypkcyw>

**10 Super Simple Ways to Be a Better Writer:** Do you enjoy writing? Does it come naturally to you? Do colleagues praise you for your crisp, articulate, Nobel Laureate-worthy email updates? Congratulations! Because if you work in an office or run your own business, you're likely to spend about a quarter of your workday doing one thing: Writing. Oh, and that's just the portion of your day that you'll spend writing emails. That figure doesn't account for reports, proposals, best practice guidelines, blog posts, Facebook updates, tweets, texts, chapters of your forthcoming memoirs, that TED Talk script you've been tinkering with for the last 18 months, and the occasional hand-written "thank you" note. We live in an era where the written word is King. And if you're going to write 40,000+ words this year—at minimum!—you might as well learn how to do your absolute best. Here are 10 ways to become a better writer, right away. <http://goo.gl/P7WCEV>

**Here's What Will Truly Change Higher Education:** Online Degrees That Are Seen as Official: Three years ago, technology was going to transform higher education. What happened? Over the course of a few months in early 2012, leading scientists from Harvard, Stanford and M.I.T. started three companies to provide Massive Open Online Courses, or MOOCs, to anyone in the world with an Internet connection. The courses were free. Millions of students signed up. Pundits called it a revolution. Read the full story at <http://goo.gl/ujpTiV> Related video at <https://vimeo.com/111556033>



**How 'Solar Roadways' plans to create smart roads to produce clean energy and save lives and money:** About an hour south of the Canadian border, in Sandpoint, Idaho, a visionary couple came up with a ridiculous plan. They decided we should replace all the asphalt roadways with solar panels, which would drastically reduce our greenhouse gas emissions and generate clean, renewable energy. Turns out, this project is actually far more practical than it sounds. Scott and Julie Brusaw developed Solar Roadways, a modular pavement system that uses solar panels with 18.5% efficiency that can withstand 250,000 pounds, last 20 years, melt snow and ice on contact, and hold built-in LED lights to warn drivers of oncoming debris or traffic. Though they've talked about it for eight years, the pair decided to launch the project on Indiegogo to "see what happened," and they have been blown away by what did. <http://goo.gl/ZbMjN0> Related video: Solar FREAKIN' Roadways! : <http://goo.gl/12PZi8>

**The depressing truth about e-waste: 10 things to know:** In 2012, the United Nations reported that in five years, the world's electronic waste would grow by 33% from 49.7 million tons to 65.4 million tons. That's the weight of 200 Empire State Buildings or 11 Great Pyramids of Giza. Considering the lifespan of a cell phone is now only 18 months and a laptop's life span is only around two years, that rapid growth rate isn't surprising. What is surprising, however, is how little the public knows about e-waste and how to properly dispose of electronics. Here are 10 things to know about the e-waste life cycle. <http://goo.gl/h6QfM5>

**Poo power: fuel, lampshades, paper and other useful things made from waste:** Poo. It's a dirty word, and in some parts of the world, a taboo. But everyone does it – the average person alone produces 72.5kg of faecal matter annually. Some of it gets treated, some of it is left to float around, but nearly all of it has an economic value. Last year, the UK's first bus powered by human poo hit the roads of Bristol and in January this year, the Janicki Omniprocessor, a machine that turns human poo into water was revealed. Janicki Bioenergy, the company behind the machine, is soon to ship a processor to Dakar, Senegal, where it will produce 10,800 litres of water. Here are some other examples of how waste is being integrated into sustainable, circular design and production with environmental and social benefits. <http://goo.gl/rp3GQ3>

**10 things you need to know about the circular economy:** A working circular economy could be a practical solution to the planet's emerging resource problems. Here's 10 facts you should know. <http://goo.gl/BnwFGS>

**The house made from 4,000 video cassettes and two tonnes of jeans:** The Brighton Waste House is Britain's first house made almost entirely from rubbish, including chalk, coffee cups and lights en route to Bangladesh. Remember video cassettes, those big black boxes that played pictures? Rendered useless by DVDs, they've found a new purpose. Some 4,000 of them have built a house, along with two tonnes of denim jeans, 2,000 used carpet tiles and 20,000 toothbrushes. The result is Britain's first house made almost entirely from rubbish. Based at the University of Brighton, the house opened its doors in June and is a live research project, acting as a test-bed for new windows, solar panels, insulation and construction materials. The 20,000 toothbrushes were sourced from a company that cleans planes after long-haul flights and represent just four days worth of work. According to the 2006 Greenpeace report, Plastic Debris in the World's Oceans, plastic has been found floating in all the world's oceans, from polar regions to the equator. Toothbrushes, lighters, bottle caps and syringes are among the ingredients making up the "plastic soup" floating in the Pacific Ocean. <http://goo.gl/RRRAS6>

**Book Review: From College to Career: How to Make the Transition and Become a Successful Professional:** This book, From College to Career attempts to capture the essence of such career-building by focusing on several important topics, ranging all the way from initial job-hunting and the placement process to communication skills and social responsibility. Besides presenting some of the established concepts and viewpoints on these topics, appropriate examples and tools have been provided to embed these ideas into one's career planning. The broad content of the book include: Part I Getting that job dealing with concepts such as Selection Process for Job; Preparing Your Résumé ; Preliminary Aptitude Tests; Group Discussions; Job Interviews; Part II Things that you should know before you start your career dealing with concepts such as Vision; Time Management; Work Hard, Work Smart; Professionalism; Part III Communication basics covering concepts such as Communication in the Workplace; Spoken Communication; Body Language; Listening; Part IV Winning attitude equals successful career explaining Lifelong Learning; Diversity Awareness; Teamwork; Emotional Intelligence; Performance Expectations Management; Understanding Cultural Issues; and Part V Etiquette at workplace elaborating on How to Conduct Effective Meetings; Phone Communication; Email; English Language Skills; and ending with Some Final Words of wisdom. This book will be useful to all students aspiring to get in to job market and grow in their work. Author: Gopalaswamy Ramesh. Published by: Pearson Education (www.pearsoned.co.in). Pages: 248, paperback, Price: INR 299/=.

# The Art and Science of Trend Spotting

(Technology and Education Series – 3)



## Introduction:

In this article, the author proposes to share with the vivid readers the art and science of trend-spotting. This is however not an exactitude, but a sensible way of gaining insight and awareness, and thereby having the time-factor in-hand to prepare and respond. Such an approach enables us to guide, undertake leadership initiatives, and initiate advanced actions that could benefit organizations and societies. The irony here is; trend-spotting is a serious art and a science too. The art lie in the way we explore and accumulate: data and information, and the science being to discover the next path or steps using reasoning and logic by an expert-diverse-group. My attempt here will be to present a flow-scheme that is more generic and can be utilized by people and organizations for the purpose of their own use and benefits. As an author of this article, I strongly believe, that in a fast changing landscape of growth and developments this art and science is being visualized as an important job-profile-component in an organization. First, I will share technology trend-spotting, followed by general global trend-spotting.

## Technology trend-spotting:

**Scanning:** While operating in scan-mode, our artful cursor swims through five broad spaces, surfing and accumulating data and information. The first, leading academia (current programs and courses on the offer), industry (sectors – products and services on demand and rise) & research institutions (areas, people, and funding); the second can be Leading Media companies (news flash, interviews, debates, and exit polls), High impact factor Research Journals (key-words, areas of work, results, and directions), Published reports of leading Research Laboratories, and Presently Funded Key Research Project (Impact analysis – businesses, communications, and markets) and Key International Scientific Summits and Conferences (published proceedings and outcomes – major decisions); third can be energy (production, transmission, storage, distribution, and number of research groups) and environment (impact analysis in terms of economic development and population growth); the fourth can be Scientific decisions by Governments of Countries, International or Global Scientific Summits of countries and participation profile, International scientific organizations in terms of Policies and Promotions (Sectors of Economy). The survey will generate a repository of base ingredients necessary to discover and thereby enable us to spot global and regional trends in terms of scientific advancements and breakthrough technologies that will have the maximum impact.

**Process, Analyze and Extrapolate:** The repository of scattered data and information is processed and utilized to arrive at plausible trends by means of an aggregating mechanism – through diverse-groups and experts. The expert aggregating mechanism enables plausible projections by integrating data and information in complex ways using different perspectives – diversity, independence and decentralization. This complex cascading is then essentially captured as multiple plots showcased in one single screen, for the sole purpose of showing directions (multiple, independent, and contrasting), filling the cavities, and attempting projections by extrapolating the graphs. This scheme will enable us to discover contrasting relationships amongst multiple graphs and independently striping entities (a new technology/research on the rise) and thereby help us to develop our vision and see the other side of the wall – perhaps into the future-space with extra confidence.



Trend analysis and extrapolation can show the nature, causes, speed, and potential impacts of trends. Therefore by making use of mathematics and connecting knowledge (trans-disciplinary) we can project possible future trends.

**Envisioning:** After analysis and extrapolations, our next obvious thing to do is envisioning. Envisioning is the art and science of developing possible scenarios to describe the future developments based on data-trends and information – in the form of a paper-model with a story. This scheme (paper-model + story) helps to create a near-visual snapshot of the proposed possible future developments and thereby show how to prepare effectively for future opportunities. Multiple paths can be carved depending on the visioning. Visioning creates and thereby orchestrates (by transmuting it into physical reality) the big picture of possibilities and prepares the pathway to enable piecewise planning and stepwise goal-setting.

**Virtual Verification Model:** Since the advent of computer science and engineering, most scientists and experts use computer models to simulate the behavior of a complex system under a variety of settings – to validate and develop best-fit scenarios – that depict reality. Therefore, after the paper-model and the related story is endorsed, computer based modeling is utilized to create possible simulation based reality scenarios in the virtual space, eventually validating the scenario-theory.

**Transmuting into physical reality - creating the final Vision**—following a series of computer based simulations and expert-group-validation; best-fit-scenario is chosen to enable organizations and individuals to pursue and transmute the vision-scheme into physically desirable future by offering to markets and people.

#### General Global Trend Spotting:

In order to discover key general trends quickly, one needs to focus on the following seven areas. My idea is to pen down keywords, this will serve as a broad guide to discover and perhaps help look across the horizon quickly. This is based on the concept that the ecosystem comprising of Internet and IOT is a living entity. It is directing lives, people, markets, organizations, societies, governments, and countries.

**Markets:** Quick E-search using powerful search engines for patterns and analytics, government schemes enforced, business investments, mass consumption trends, and people-feedbacks (blogs and social sites)

**Economic:** Health of power sector – production, storage, and distribution including long-term reserves and contracts. Govt. policy reports and budgets releases, tax laws and cross border policies – import and export, natural resources deposits, water, education, and manpower resources and security.

**Key Technologies:** Connectivity and networking - Linking of all kinds of knowledge bodies and educational institutions, R&D funding, break-through technologies, innovations, discoveries and patents.

**Impact on environment:** Technological, civilizations, species, habitat, forests, natural eco-deposits, and human population.

**Social:** Education, values-culture-traditions (lifestyles), food, religion, entertainment, sports, arts, language, sex, and family.

**Demographics:** Changes in population: movements (migration-immigration - inward and outwards), births, deaths, marriages, and other vital information.

**Governments:** Stability, Policies, impact of laws, regulations, taxes, politics, diplomacy, and war.



**Dr. Yogeshwar Kosta**

Sr. Member IEEE, and Chair Gujarat Section

Director, Marwadi Education Foundations Group of Institutions. Rajkot.

## What do you wish someone told you before starting your first company?

I don't wish anyone told me anything before I started off. I'm fine the way I made the mistakes and learned. But if someone asks me, then probably I would tell them the following:

1. Go after problems only and not after ideas.
2. Don't build things which you think 'they' want. Build things which 'they'**actually** want.
3. There are only 2 tasks in a Startup a) Sell b)Build
4. Selling > Building (arguable, Yes. But I think so)
5. If you are not Steve Jobs (most of us are not), then spend a lot of time by talking to your customers. Only they know what they want.
6. It is 'F\*\*\*ing" difficult. Understand it and if you still feel like diving, Yes, Do Dive. It's wonderful.
7. Have a Vision and try to achieve - If you are here for some other (wrong) reason like money, fame etc, then there is every chance that you will quit before long.
8. You don't need to be the smartest guy ever alive to build a successful company. Most of them were/are not.
9. Be Ready to Fail - It is just another event/form of learning.
10. There is only one way to win this game - Hang on for as long as it takes.



Image Courtesy: [Funders & Founders](http://FundersandFounders.com)



Arjun R Pillai  
Vice Chair, MGA Young Professionals Committee.

## INTELECT – A New Forum to Drive Innovation in Smart Cities

Everywhere in India, you feel the atmosphere charged with bullishness. Much of the optimism stems from Prime Minister Narendra Modi's focus on an empowered India. This is not just hyperbole. A great example is the recent 100 Smart Cities initiative in India, whereby infrastructure, information and communication technologies (ICT), and standardization and interoperability are some of the key points of consideration. This, too, was among the topics discussed at the first ever INTELECT event held in Mumbai, India in January 2015. Organized by IEEE in collaboration with the Indian Electrical and Electronics Manufacturing Association (IEEMA), INTELECT strongly aligned with "100 Smart Cities" program and "Digital India". As a panelist and judge of one of the technical tracks, it was great for me to see such a high level of interest in Smart Cities during INTELECT 2015.

This multi-day event brought together more than 100,000 experts from both the Power and ICT technology sectors, industry practitioners, students, and policy makers to debate and discuss issues surrounding the key topic of "Smart Electricity for Emerging Markets". It also provided the opportunity for next generation technologies in the areas of power, telecommunications, and IT to be showcased. As a native of India, it was important for me to see that the participants and panelists understood that the implementation of Smart Cities technologies presented challenges--not only of convergence, but also of change management--and recognized the need to ensure smooth rollouts, adoptions, and adaptations of new technology.

By the end of this three-day event, I felt that the core issues of Smart Cities implementation had been conveyed and received. Even the student participants displayed their understanding of the challenges. Moderator Alpesh Shah (IEEE-SA Director of Global Intelligence and Strategy) asked, "Should Smart Cities be considered a social investment?" Of which many respondents agreed. A Smart City is not solely an investment in digital infrastructure; rather, it is a platform for social innovations, as well as the opportunity for commercially viable results. The high level challenges—beyond implementation—discussed included the need for appropriate policies around privacy, security, access, and usage. Privacy and security policies are hot topics of conversations in IoT as well as an interconnected and digital world; and are certainly not easily resolved. Access presents an interesting challenge, and many innovative minds discussed at the conference. Conversations on the last mile, micro-grids, and creative methods for rollout in rural areas—all made for exciting and enticing propositions in the march towards 100 Smart Cities in India.

Many of the challenges faced in India are common to any country considering Smart City rollouts. As the panelists pointed out, the implementation is where the rubber meets the road. For Japan, the panelists talked about energy surplus being a key challenge, whereas in India, it resides on the demand side. Thus, while it is important to ensure a global perspective—it is imperative that countries considering Smart City investments understand there is no "one size fits all". Given the cost of investment and size of the projects as frameworks and architecture are developed, appropriate factors required for creating a Smart City should be given serious thought and attention.

The Indian government provided strong support **to the 2015 Intellect event** through its Ministry of Power (MoP), Department of Telecom (DoT), and Department of Electronics and IT (DEITY). This demonstrates their commitment to ensuring that the technology, implementation, adoption, and policy developments are addressed in order to carry India into the next generation. INTELECT also had a "Humanitarian Track," which showcased some of the key social entrepreneurship projects for taking rural implementation of technology beyond the cities to remote areas in India.

I look forward to participation at the next INTELECT event in 2017. If you are interested in learning about how your organization can participate, please feel free to contact me at [sri.chandra@ieee.org](mailto:sri.chandra@ieee.org) —to keep your company informed about the event.



# IEEE India Council Executive Committee 2015

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## Rocket Properties of Penguins *For New Propulsion Technologies*

The most hydrodynamic of all marine creatures, penguins waddle like Charlie Chaplin on land but underwater, they mean business, accelerating from 0 to 15 miles per hour in less than a second. They can change the shape of the body to suit their swimming speed.

Now Flavio Noca, who teaches aerodynamics at the University of Applied Sciences Western Switzerland (hepia) and the Swiss Federal Institute of Technology (EPFL), has come out with a penguin-inspired propulsion system that uses a novel spherical joint mechanism. Based on a penguin's shoulder-and-wing system, the mechanism features a spherical joint that enables three degrees of freedom and a fixed center of rotation.

"Unlike an animal shoulder joint, however, this spherical joint enables unlimited rotational range about the main shaft axis like a propeller," Noca said.

To achieve this they needed to overcome the technical challenges of spherical joints, such as the lack of rigidity and the inability to generate high torques. To understand the challenge involved, just try lifting a 10-pound weight on your hand with your arm extended.

The manner in which penguins swim is still poorly understood, aside from the technological perspective, according to Noca. "By accurately reproducing an actual penguin wing movement, we hope to shed light on the swimming mysteries of these underwater rockets," he said.

The researchers maneuvered around these challenges by choosing a parallel robotic architecture for this type of mechanism, because it enables rigidity as well as high actuation frequencies and amplitudes.

And some submarine designer, somewhere, is paying close attention to this research, as its outcome could pave way for a new generation of submarines.

[Courtesy: [www.penguinscience.com](http://www.penguinscience.com), <http://www.newswise.com>.]



### Words of Wisdom

*The major value in life is not what you get.*

*The major value in life is what you become.*

*- Jim Rohn*

\*\*\*\*\*

*Rejection doesn't mean you aren't good enough;*

*it means the other person failed to notice*

*what you have to offer.*

*- Mark Amend*



# IEEE Events Calendar

## April - December 2015

### 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 2015](#)

[Hilton 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 2015](#)

[National 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](#)

**May 1 – 10**

[2015 IEEE International Radar Conference \(RadarCon\)](#)

[10 May - 15 May 2015](#)

[Crystal Gateway Marriott  
Arlington, VA, USA](#)

[2015 IEEE International Electric Machines & Drives Conference \(IEMDC\)](#)

[10 May - 13 May 2015](#)

[Coeur d'Alene Resort  
115 South Second Street  
Coeur d'Alene, ID, USA](#)

**May 11 -20**

[2015 5th Asia Pacific Optical Sensors Conference \(APOS\)](#)

Abstract submission deadline: 12 Dec 2014  
Full Paper Submission deadline: 28 Feb 2015  
Notification of acceptance date: 30 Jan 2015

[20 May - 22 May 2015](#)

[Jeju Grand Hotel  
80, Noyeon-ro  
Jeju, Korea \(South\)](#)

[2015 International Seminar on Intelligent Technology and Its Applications \(ISITIA\)](#)

Abstract submission deadline: 04 Feb 2015  
Final submission deadline: 18 Apr 2015  
Notification of acceptance date: 18 Mar 2015

[20 May - 21 May 2015](#)

[Gedung Teknik Elektro  
Kampus ITS  
Sukolilo  
Jalan Arief Rahman Hakim  
Surabaya, Indonesia](#)

**May 21-31**

[2015 10th Asian Control Conference \(ASCC\)](#)

Abstract submission deadline: 15 Nov 2014  
Final submission deadline: 15 Mar 2015  
Notification of acceptance date: 15 Jan 2015

[31 May - 03 Jun 2015](#)

[Sutera Harbour Resort  
1 Sutera Harbour Boulevard  
Kota Kinabalu  
Sabah, Malaysia](#)

[2015 IEEE Pulsed Power Conference \(PPC\)](#) [31 May - 04 Jun 2015](#) [Hilton Austin  
500 East 4th Street  
Austin, TX, USA](#)

**Jun 1-10**

[2015 7th International Conference on Intelligent Technologies for Interactive Entertainment \(INTETAIN\)](#)

Abstract submission deadline: 15 Feb 2015  
Final submission deadline: 30 Apr 2015  
Notification of acceptance date: 15 Apr 2015

[10 Jun - 12 Jun 2015](#)

[Politecnico di Torino  
Corso Duca degli Abruzzi 24  
Torino, Italy](#)

[2015 IEEE 12th International Conference on Wearable and Implantable Body Sensor Networks \(BSN\)](#)

Full Paper Submission deadline: 28 Feb 2015  
Notification of acceptance date: 15 Apr 2015

[09 Jun - 12 Jun 2015](#)

[Massachusetts Institute of Technology \(MIT\)  
Cambridge, MA, USA](#)

**Jun 11-20**[2015 10th Iberian Conference on Information Systems and Technologies \(CISTI\)](#)

Full Paper Submission deadline: 14 Feb 2015

Final submission deadline: 11 Apr 2015

Notification of acceptance date: 28 Mar 2015

[17 Jun - 20 Jun 2015](#) [Universidade de Aveiro](#)  
[Portugal](#)[2015 7th International Conference on Recent Advances in Space Technologies \(RAST\)](#)

Final submission deadline: 22 Mar 2015

Notification of acceptance date: 08 Mar 2015

[16 Jun - 19 Jun 2015](#) [Harbiye Military Museum and Cultural Center](#)  
[Harbiye Sisli](#)  
[Istanbul, Turkey](#)**Jun 21- 30**[2015 IEEE International Workshop on Advanced Robotics and its Social Impacts \(ARSO\)](#)[30 Jun - 02 Jul 2015](#) [Cité - Centre des congrés](#)  
[50 quai Charles de Gaulle](#)  
[Lyon, France](#)[2015 IEEE Eindhoven PowerTech](#)

Abstract submission deadline: 15 Nov

2014

Final submission deadline: 15 Mar 2015

Notification of acceptance date: 01 Jan 2015

[29 Jun - 02 Jul 2015](#)[Eindhoven University of Technology](#)  
[Auditorium](#)  
[Den Dolech 2](#)  
[Eindhoven, Netherlands](#)**Jul 1-10**[2015 IEEE Technological Innovation in ICT for Agriculture and Rural Development \(TIAR\)](#)

Abstract submission deadline: 30 Jan 2015

Final submission deadline: 15 May 2015

Notification of acceptance date: 30 Apr 2015

[10 Jul - 12 Jul 2015](#) [Easwari Engineering College](#)  
[Bharathi Salai](#)  
[Ramapuram](#)  
[Chennai](#)  
[Chennai, India](#)[2015 38th International Conference on Telecommunications and Signal Processing \(TSP\)](#)

Full Paper Submission deadline: 05 Feb 2015

Final submission deadline: 24 Apr 2015

Notification of acceptance date: 10 Apr 2015

[09 Jul - 11 Jul 2015](#) [Clarion Congress Hotel](#)  
[Prague\\*\\*\\*\\*](#)  
[Freyova 33](#)  
[Prague 9 – Vysocany](#)  
[Prague, Czech Republic](#)**Jul 11-20**[2015 IEEE International Conference on the Properties and Applications of Dielectric Materials \(ICPADM\)](#)

Abstract submission deadline: 20 Sep 2014

Final submission deadline: 20 Feb 2015

Notification of acceptance date: 20 Oct 2014

[20 Jul - 22 Jul 2015](#) [TBD](#)  
[TBD](#)  
[Sydney,](#)  
[Australia](#)

2015 USNC-URSI Radio Science Meeting (Joint with AP-S Symposium)

Abstract submission deadline: 12 Jan 2015  
Notification of acceptance date: 06 Apr 2015

17 Jul - 25 Jul 2015 TBD  
Vancouver, BC, Canada

**Jul 21 -30**

2015 Argentine School of Micro-Nanoelectronics, Technology and Applications (EAMTA)

Full Paper Submission deadline: 24 Mar 2015  
Final submission deadline: 07 Jun 2015  
Notification of acceptance date: 16 May 2015

30 Jul - 31 Jul 2015 Universidad Tecnológica, Facultad Regional Villa María  
Av. Universidad 450  
Villa María, Argentina

2015 34th Chinese Control Conference (CCC)

Full Paper Submission deadline: 15 Dec 2014  
Final submission deadline: 30 Apr 2015  
Notification of acceptance date: 01 Apr 2015

28 Jul - 30 Jul 2015 TBD  
Hangzhou, China

**Aug 1-10**

2015 IEEE Signal Processing and Signal Processing Education Workshop (SP/SPE)

Abstract submission deadline: 24 Apr 2015  
Full Paper Submission deadline: 24 Apr 2015  
Final submission deadline: 24 Apr 2015  
Notification of acceptance date: 26 Jun 2015

09 Aug - 12 Aug 2015 Snowbird Resort & Conference Center  
9385 S. Snowbird Center Drive  
Business Office: 3165 E. Millrock Drive  
#150, SLC UT 84121  
Snowbird, UT, USA

2015 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)

Abstract submission deadline: 23 Jan 2015  
Final submission deadline: 23 Jan 2015  
Notification of acceptance date: 26 Mar 2015

02 Aug - 05 Aug 2015 KADIR HAS UNIVERSITY  
KADIR HAS CAD.  
CIBALI  
ISTANBUL, Turkey

**Aug 11-20**

2015 Joint IEEE International Conference on Development and Learning and Epigenetic Robotics (ICDL-EpiRob)

Abstract submission deadline: 09 Mar 2015  
Full Paper Submission deadline: 09 Mar 2015  
Final submission deadline: 01 Jul 2015  
Notification of acceptance date: 15 May 2015

13 Aug - 16 Aug 2015 Brown University  
69 Brown Street  
Providence, RI, USA

2015 IEEE International Conference on Smart Energy Grid Engineering (SEGE)

Abstract submission deadline: 01 Dec 2014  
Full Paper Submission deadline: 01 Mar 2015  
Final submission deadline: 01 May 2015  
Notification of acceptance date: 01 Mar 2015

17 Aug - 19 Aug 2015 Hossam A.Gabbar  
2000 Simcoe Street North  
UOIT  
2000 Simcoe Street North  
Oshawa, ON, Canada

[2015 IEEE International Transportation Electrification Conference \(ITEC\)](#)

Abstract submission deadline: 01 Dec 2014  
Final submission deadline: 01 Jun 2015  
Notification of acceptance date: 01 Mar 2015

[27 Aug - 29 Nov 2015](#)

[TBD Chennai, India](#)

[2015 Colour and Visual Computing Symposium \(CVCS\)](#)

Abstract submission deadline: 15 Mar 2015  
Final submission deadline: 15 Jun 2015  
Notification of acceptance date: 15 May 2015

[25 Aug - 26 Aug 2015](#)

[Gjøvik University College Teknologiveien 22 Gjøvik, Norway](#)

**Sep 1 – 10**

[2015 International Conference on Open Source Software Computing \(OSSCOM\)](#)

Abstract submission deadline: 01 Apr 2015  
Final submission deadline: 15 Jun 2015  
Notification of acceptance date: 01 Jun 2015

[10 Sep - 13 Sep 2015](#)

[German Jordan University Amman,](#)

[2015 Sensor Signal Processing for Defence \(SSPD\)](#)

Abstract submission deadline: 16 Apr 2015  
Final submission deadline: 08 Jul 2015  
Notification of acceptance date: 11 Jun 2015

[09 Sep - 10 Sep 2015](#)

[Royal College of Physicians 9 Queen Street Edinburgh, United Kingdom](#)

**Sep 11 – 20**

[2015 IEEE High Performance Extreme Computing Conference \(HPEC\)](#)

Full Paper Submission deadline: 12 May 2015  
Notification of acceptance date: 12 Jun 2015

[15 Sep - 17 Sep 2015](#)

[Westin Hotel 70 Third Avenue Waltham, MA, USA](#)

[2015 7th International Conference on Games and Virtual Worlds for Serious Applications \(VS-Games\)](#)

Abstract submission deadline: 20 Mar 2015  
Final submission deadline: 17 Apr 2015  
Notification of acceptance date: 05 Jun 2015

[16 Sep - 18 Sep 2015](#)

[University of Skövde Höskolevägen P.O. Box 408 Skövde, Sweden](#)

**Sep 21-30**

[2015 IEEE International Symposium on Dynamic Spectrum Access Networks \(DySPAN\)](#)

Abstract submission deadline: 15 Apr 2015  
Final submission deadline: 15 Aug 2015  
Notification of acceptance date: 01 Jun 2015

[28 Sep - 02 Oct 2015](#)

[Clarion Hotel Stockholm Ringvägen 98 Stockholm, Sweden](#)

[2015 Formal Methods in Computer-Aided Design \(FMCAD\)](#)

Abstract submission deadline: 17 Apr 2015  
Full Paper Submission deadline: 24 Apr 2015  
Final submission deadline: 31 Jul 2015  
Notification of acceptance date: 30 Jun 2015

[27 Sep - 30 Sep 2015](#)

[University of Texas at Austin  
Austin, TX, USA](#)

**Oct 1 – 10**

[2015 IEEE SOI-3D-Subthreshold Microelectronics Technology Unified Conference \(S3S\)](#)

[05 Oct - 08 Oct 2015](#)

[DoubleTree by Hilton Sonoma  
Wine Country  
One DoubleTree Drive  
Rohnert Park, CA, USA](#)

[2015 IEEE International Conference on Ubiquitous Wireless Broadband \(ICUWB\)](#)

Abstract submission deadline: 27 Mar 2015  
Final submission deadline: 19 Jun 2015  
Notification of acceptance date: 15 May 2015

[04 Oct - 07 Oct 2015](#)

[Omni Hôtel  
1050, Sherbrooke Street  
West  
Montreal, QC, Canada](#)

**Oct 11 – 20**

[2015 IEEE 56th Annual Symposium on Foundations of Computer Science \(FOCS\)](#)

[17 Oct - 20 Oct 2015](#)

[DoubleTree by Hilton Berkeley  
Marina  
200 Marina Blvd.  
Berkeley, CA, USA](#)

[INTELEC 2015 - 2015 IEEE International Telecommunications Energy Conference](#)

Abstract submission deadline: 20 Feb 2015  
Final submission deadline: 20 Jul 2015  
Notification of acceptance date: 20 May 2015

[Swissotel Nankai Osaka  
18 Oct - 22 Oct 2015  
5-1-60 Namba Chuo-ku  
Osaka 542-0076  
Osaka, Japan](#)

**Oct 21 – 31**

[2015 International Conference on Computing Systems and Telematics \(ICCSAT\)](#)

Full Paper Submission deadline: 19 Jun 2015  
Final submission deadline: 28 Aug 2015  
Notification of acceptance date: 24 Jul 2015

[28 Oct - 30 Oct 2015](#)

[TBD  
TBD  
Xalapa, Mexico](#)

[2015 IEEE 40th Conference on Local Computer Networks \(LCN 2015\)](#)

Full Paper Submission deadline: 11 Apr 2015  
Final submission deadline: 30 Jul 2015  
Notification of acceptance date: 06 Jul 2015

[26 Oct - 29 Oct 2015](#)

[Sheraton Sand Key Resort  
1160 Gulf Blvd.  
Clearwater Beach, FL, USA](#)



**Nov 1 – 10**[2015 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies \(AEECT\)](#)

Abstract submission deadline: 25 Jun 2015

Final submission deadline: 08 Oct 2015

Notification of acceptance date: 10 Sep 2015

[03 Nov - 05 Nov 2015](#) [Princess Sumaya University for Technology](#)  
[P. O. BOX 1438](#)  
[Amman, Jordan](#)

[2015 7th Asia-Pacific Conference on Environmental Electromagnetics \(CEEM\)](#)

[04 Nov - 07 Nov 2015](#) [TBD](#)  
[TBD](#)  
[Hangzhou, China](#)

**Nov 11-20**[2015 SC - International Conference for High Performance Computing, Networking, Storage and Analysis](#)

[15 Nov - 20 Nov 2015](#) [Austin Convention Center](#)  
[TX, USA](#)

[2015 IEEE Global Electromagnetic Compatibility Conference \(GEMCCON\)](#)

Abstract submission deadline: 10 Jun 2015

Full Paper Submission deadline: 10 Jul 2015

Final submission deadline: 09 Oct 2015

Notification of acceptance date: 28 Aug 2014

[10 Nov - 12 Nov 2015](#) [The Lakes Resort Hotel](#)  
[141 Brebner Drive](#)  
[West Lakes, Austral](#)

**Nov 21-30**[2015 IEEE International Conference on Control System, Computing and Engineering \(ICCSCE\)](#)

Full Paper Submission deadline: 24 Aug 2015

Final submission deadline: 19 Oct 2015

Notification of acceptance date: 28 Sep 2015

[27 Nov - 29 Nov 2015](#) [Batu Ferringhi](#)  
[Penang, Malaysia](#)

[2015 IEEE International Transportation Electrification Conference \(ITEC\)](#)

Abstract submission deadline: 01 Dec 2014

Final submission deadline: 01 Jun 2015

Notification of acceptance date: 01 Mar 2015

[27 Aug - 29 Nov 2015](#) [TBD](#)  
[Chennai, India](#)

**Dec 1 – 10**[2015 Asia-Pacific Microwave Conference \(APMC\)](#)

Abstract submission deadline: 31 May 2015

Final submission deadline: 31 Aug 2013

Notification of acceptance date: 15 Aug 2015

[06 Dec - 09 Dec 2015](#) [Jinling Hotel](#)  
[Hanzhong Road 2#](#)  
[Nanjing, China](#)

[2015 13th International Conference on Emerging eLearning Technologies and Applications \(ICETA\)](#)

Full Paper Submission deadline: 05 Nov 2014

Final submission deadline: 20 Nov 2014

Notification of acceptance date: 10 Nov 2014

[04 Dec - 05  
Dec 2015](#)

[Grandhotel Starý  
Smokovec  
Starý Smokovec  
High Tatras  
Starý Smokovec, Slovakia](#)

[2015 Asia-Pacific Microwave Conference \(APMC\)](#)

Abstract submission deadline: 31 May 2015

Final submission deadline: 31 Aug 2013

Notification of acceptance date: 15 Aug 2015

[06 Dec - 09  
Dec 2015](#)

[Jinling Hotel  
Hanzhong Road 2#  
Nanjing, China](#)

**Dec 11-20**

[2015 IEEE Global Conference on Signal and Information Processing \(GlobalSIP\)](#)

Abstract submission deadline: 15 May 2015

Full Paper Submission deadline: 15 May 2015

Final submission deadline: 01 Aug 2015

Notification of acceptance date: 30 Jun 2015

[14 Dec - 17  
Dec 2015](#)

[Hilton Orlando Lake Buena  
Vista  
Orlando, FL, USA](#)

[2015 TRON Symposium \(TRONSHOW\)](#)

Abstract submission deadline: 15 Jul 2015

Full Paper Submission deadline: 02 Sep  
2015

Final submission deadline: 04 Nov 2015

Notification of acceptance date: 07 Oct  
2015

[09 Dec - 11 Dec  
2015](#)

[Tokyo Midtown \(TBD: 99% sure\)  
9-7-1, Akasaka, Minato  
Tokyo, Japan](#)

**Dec 21 – 31**

[2015 12th IEEE International Conference on Control and Automation \(ICCA\)](#)

Abstract submission deadline: 15 May 2015

Final submission deadline: 15 Sep 2015

Notification of acceptance date: 31 Jul 2015

[21 Dec - 23 Dec  
2015](#)

[TBD  
TBD  
Kathmandu, Nepal](#)

*Words of Wisdom*

*We should all be concerned about the future because  
we will have to spend the rest of our lives there."*

*- Charles F. Kettering*

\*\*\*\*\*

*Don't be offended when people don't seem to get  
you. Not everyone recognizes brilliance.*

*- Linda Poindexter*

## Smallest FM Radio Transmitter *Courtesy: Graphene*

Researchers of Columbia University in New York, led by Mechanical Engg. Professor James Hone and Electrical Engg Professor Kenneth Shepard, have taken advantage of graphene's unique properties like its mechanical strength and electrical conduction and created a nano-mechanical system that can create FM signals - in effect the world's smallest FM radio transmitter. Now, among the special capabilities of graphene, radio transmission can also be added.

Like diamond or graphite, graphene is made up of carbon atoms that are laid out in hexagonal patterns in a layer a million times thinner than a sheet of paper. It is the strongest material known to man - about 200 times stronger than structural steel. Already many research groups have built graphene transistors for use in RF circuits such as signal processors.

Hone and team tested a different radio application for graphene by building a moving, vibrating, electromechanical device. The team reckons that such graphene-based nanoelectromechanical systems (NEMS) could be more compact and easier to integrate onto chips than silicon MEMS and quartz devices which are used today to pick up and filter RF signals in smartphones and other gadgets.

The team used graphene to build a key component used in radio broadcasting called voltage controlled oscillator (VCO), which generates frequency-modulated (FM) radio waves.

The Columbia team used the graphene VCO to send and receive audio signals at a frequency of 100 MHz, which falls within the FM radio bandwidth (87.7 to 108 MHz).

To build a graphene transmitter, the team suspended a 2-4 micrometer-long strip of graphene above a metal electrode. By applying a voltage to the electrode, they could draw the strip of graphene down. The resulting strain altered the strip's resonant frequency, tuning it up much as you might tighten a guitar string. By altering the voltage on the gate, the team found they could use the graphene device to generate a frequency-modulated electromagnetic signal.

For an aural demonstration, the team queued up a popular song on an iPhone and fed it into one of their graphene devices. Using a regular FM radio tuner they could pick up the transmitted signal. Hone says. "And it's an important first step in advancing wireless signal processing and designing ultrathin, efficient cell phones. Our devices are much smaller than any other sources of radio signals, and can be put on the same chip that's used for data processing."

[For details: <http://engineering.columbia.edu>]



# IEEE NEWS

## From Around India

### 3<sup>rd</sup> International Conference on Power, Control and Embedded Systems (ICPCES - 2014), Dec. 26-28, 2014, MNNIT Allahabad, Uttar Pradesh, India

The Department of Electrical Engineering, Motilal Nehru National Institute of Technology Allahabad has organized the **3<sup>rd</sup> International Conference on Power, Control and Embedded Systems (ICPCES - 2014)** from **Dec. 26-28, 2014**, at Motilal Nehru National Institute of Technology Allahabad, India. The conference was a sequel of ICPCES 2010 organized successfully from Nov. 28-Dec. 01, 2010 and ICPCES 2012 held from Dec. 17-19, 2012. The conference was co-sponsored by **IEEE Joint Societies Chapter of (IE/PEL/CS)**, Technically sponsored by **IEEE Uttar Pradesh Section** and financially supported by **TEQIP-II, MNNIT**. The ICPCES-2014 was the premier forum for the presentation of new advances and research results in the fields of Power System, Power Electronics, Electrical Drives, Control System, Embedded System, Computational Intelligence, Communication System and Humanitarian Technology. This conference provided the forum to discuss various issues and problems pertaining to power, control and embedded systems. The theme of the conference was *“The role of power, control and embedded systems in sustainable society”*.

A total of 196 papers have been received from different countries. After review and acceptance, total 45 papers were registered in the conference. The conference has acquired LOA from IEEE, USA, with the IEEE Conference Record # 34826 and has also been listed in the IEEE conference search.

The 3-day conference was inaugurated by **Prof. R. K. Srivastava, TEQIP Coordinator** MNNIT Allahabad, **Prof. S.C. Srivastava**, Indian Institute of Technology Kanpur, India, and **Prof. R. K. Pandey**, Department of Electrical Engineering, IIT BHU, Varanasi, India. **Prof. S.C. Srivastava**, also delivered the plenary talk of the conference on the topic “Wide Area Monitoring & Control of Power System using Synchrophasor Technology and its Deployment Plan in India”. **Prof. R. K. Tripathi, Conference Chairman**,



**Conference Inauguration**



**Unveiling of Conference Booklet and CD**

delivered the welcome address and presented the report of the conference. **Dr. Rajesh Gupta**, Organizing Chairman, given the brief schedule of the conference and coordinated the inaugural session. **Prof. Vineeta Agarwal**, Program Chair, presented the technical report of the conference. **Dr. Deepak Kumar**, Organizing Secretary, presented the vote-of-thanks of the conference.



**Prof. R. K. Pandey**, IIT BHU, Varanasi, India, delivered first keynote speech of the conference on the topic, “Operational Complexities of Indian Power System and Strategic Solutions”,

The second keynote address was delivered by **Prof. Desineni Subbaram Naidu**, Electrical Engineering at the University of Minnesota, Duluth, MN, USA, on the topic “Journey of Educational Experiences in Control Systems Engineering from IIT to UMD (IIT: Indian Institute of Technology, Kharagpur and UMD: University of Minnesota)”.

**Prof. Biswarup Das**, IIT, Roorkee, India, delivered keynote talk on the topic, “Smart electric grids: Roadmap and Challenges”.

**Prof. S. N. Singh**, IIT Kanpur, India, delivered keynote talk on the topic “Role of Forecasting in Power System Operation”.

**Prof. Animesh Biswas**, IIT Kanpur, India, delivered keynote talk on the topic “Substrate Integrated Waveguide Circuits and Antennas”.

**Prof. Ramesh Bansal**, Department of Electrical, Electronic and Computer Engineering, University of Pretoria, South Africa, delivered keynote talk on the topic “Smart Grid features in conventional and renewable power systems”.

Prof. Bhim Singh, IIT Delhi, India, delivered keynote talk on the topic “Power Quality Improvements in Permanent Magnet Brushless DC Motor Drives for Home Appliances”.

Mr. Sujeet Mishra, Sr. Divisional Electrical Engineer, North Eastern Indian Railway, delivered Industrial Keynote on the topic “Complexity and Coupling-Lessons for a Designer”.

A tutorials was presented in the Conference by Dr. Malabika Basu, Dublin Institute of Technology, Ireland, on the topic, “Power Quality: Issues and Impacts in Utility Interactive Micro-grid Environment”, and a workshop was conducted by Mr. Ashish Khandelwal, Texas Instruments, Dallas, TX, United States of America, on the topic, “Power Management ICs -Trends and Innovations”

A meeting of the executive committee of IEEE Uttar Pradesh Section was organized during the conference on Dec. 28, 2014. The meeting was chaired by the Section Chairman, Prof. S. N. Singh, of IIT Kanpur. An IEEE Industrial meeting was also organized on Dec. 27, 2014. Many Industrial persons and executive committee members joined the meeting.



**Plenary Talk by Prof. S. C. Srivastava, IIT Kanpur**



**IEEE Executive Committee members**



**Conference Group Photographs**

Report Submitted by  
**Dr. Rajesh Gupta**

Organizing Chairman, ICPCES 2014

Associate Professor Department of Electrical Engineering

M. N. National Institute of Technology, Allahabad-211004, India, Email : [rajeshgupta@mnnit.ac.in](mailto:rajeshgupta@mnnit.ac.in)

## **2015 International Conference on Computational Intelligence & Communication Technology (CICT– 2015)**

2015 International Conference on Computational Intelligence & Communication Technology (CICT– 2015) was held on 13–14<sup>th</sup> February in the ABES Engineering College, Ghaziabad, India. This conference was technically co-sponsored by IEEE UP Section. Conference Record No. 34505X. ([www.cict.abes.ac.in](http://www.cict.abes.ac.in))

CICT 2015 was aimed to bring together scientists, academicians and industrialists working in the field of Computational Science, Ad-hoc Network, Power and Energy Signal Processing and VLSI to discuss new ideas and promote research work. The conference received 522 submissions from 18 countries, out of which 200 submissions were from abroad. The conference had a high quality technical programme consisting of paper presentations and invited talks. Overall this conference had 16 sessions and all the sessions were very nicely managed by expert session chairs. 04 parallel sessions were run for the contributed papers. The sessions were highly interactive and thought provoking.

There were sessions on Image Processing, Communication, Signal Processing, VLSI in Signal Processing and Communication, Networking & Security, Antenna, Video Processing, Biomedical Signal Processing, Embedded system & Signal Processing, Antenna, Robotics & Signal Processing Wireless Sensor Networks etc. The invited talks and paper presentations were delivered by researchers throughout the world.

Prof. Kukjin Chun, Director (Elect. 2015–16) IEEE R–10 Professor & Dean Seoul National University Seoul was the Chief Guest and Keynote speaker during Inaugural sessions. The invited speakers of this conference are listed below.

1. Prof. Kukjin Chun, Director (Elect. 2015–16) IEEE R–10 Professor & Dean Seoul National University Seoul
2. Prof. V.K. Aggarwal, USA
3. Prof. Tshwang Lhdenup, Royal University of Bhutan, Bhutan
4. Dr. Sandeep Rakshit, Dean Kaziranga University Assam
5. Mr. Ravi Kumar Reddy, IBM Hyderabad
6. Mr. Taranjit Kukal, Cadence Design System, Noida
7. Ms. Sangita Gupta, TCS
8. Mr. Mani Madhukar, IBM Gurgaon

The conference had attracted papers from many countries like Japan, South Korea, Canada, USA, Australia, South Africa, Taiwan, Korea, China, Czech Republic, Turkey, Bangladesh, Spain, Saudi Arabia, Tunisia, Portugal, Iceland, Norway, etc. CICT 2015 had also attracted papers from top Indian national organizations like IITs, IIITs, NITs, BITS, IT–BHU, Central Universities, DRDO Research labs, ISRO Research Labs, CSIR, CEERI, CDAC, etc.



The conference Convener Prof. R. Radhakrishnan had a talk on the theme of the conference and Dr. Munesh Chandra Trivedi; Organizing Secretary presented the brief report on it. Prof. Surendra Kumar, Director, Dr. Neeta Awasthy, Director (Acad.), Prof. R.G. Mendiratta General Chair, Prof. Ajay Agarwal, Dean (Acad.), HoDs and faculty members of ABES Engineering College, Ghaziabad were present and had provided their views in the theme of the conference.

The feedback from the participants, authors, session chairs, invited speakers were very encouraging and they all had appreciated the conference. The student participation was a marked feature in this conference which saw all the venues with students participations in high numbers. The conference was concluded with a promising valedictory function on 14 February 2015.

The conference organizers had organized a social night programme and conference dinner on 13<sup>th</sup> February 2015. A trip to Agra for visit of the Taj Mahal and Agra Red Fort for the invited speakers was organised. This conference was technically Co-Sponsored by IEEE UP Section. Joint Secretary of this Section Dr. Dilip Kumar Sharma and Dr. Aseem Chandel had attended the event and both of them also had chaired one of the technical sessions.



Chief Guest and Keynote Speaker of Inaugural session Prof. Kukjin Chun, Director (Elect. 2015–16) IEEE R-10 Professor & Dean Seoul National University Seoul delivering his lecture



Conference Convener Prof. R. Radhakrishnan, delivering talk on the theme of the conference



Dr. Munesh Chandra Trivedi, Organizing Secretary presenting the conference brief report during Valedictory session





**Computer Society of India, Chennai**  
**IEEE Computer Society, Madras**  
**IEEE Professional Communication Society, Madras**

## Results of Student Essay Contest on Harnessing the Power of ICT for our New Initiatives

Computer Society of India, Chennai Chapter, in association with the IEEE Computer Society, Madras and IEEE Professional Communication Society, Madras conducted an Essay Contest in two streams: Stream 1: Open to School Students (from 8<sup>th</sup> Standard to Plus 2); and Stream 2: Open to College/Polytechnic Students (UG/PG students of all disciplines).

The participants had the option of submitting an essay on “ICT for Digital India” or “ICT for Make in India” or “ICT for Clean India” by 31st Jan 2015.

Submitted essays were evaluated on criteria such as originality, novelty, applicability, potential value of the proposed idea(s) and clarity and style of presentation by a panel consisting of Mr. Ramesh Gopalaswamy (Author, Consultant and Guest Faculty, IIT Madras), Mr. Pramod Moorathi (President, Qatalys Software Tech & Chair, CSI Chennai), Ms. Latha Ramesh (VP-Academic Engagement & Service Delivery, Classle Knowledge Pvt Ltd & Past Chair, CSI Chennai) and Mr. K. Adhivaran (ICT Consultant & Past Chair, CSI Chennai).

We present below in the table, the winners of the first three prizes in each stream. Consolation prizes of Rs. 1000/= and Certificates of Merit are also have been announced to a select number of participants. For the full list pl. visit <http://goo.gl/FziCmK>. Our congratulations to all the winners and thanks to all the participants.

Prize	Amount (Rs)	School Stream Winners	College Stream Winners
First	10,000	Karthik Balaji M St. John's Public School, Chennai	Ganesh L Panimalar Inst. of Tech, Chennai
Second	5,000	Sanjana Lakshmi CN St. John's Public School, Chennai	Swati Kesarwani Shambhunath Inst. of Engg & Tech, Allahabad
Second	5,000	Shlok Prakash Kendriya Vidyalaya, Chennai	Vipin Paul Mount Zion College of Engg & Tech, Pudukkottai
Third	2,500	Vijayalakshmi Sundar Pushpalata Vidya Mandir, Tirunelveli	Akhila Sai V Panimalar Engg. College, Chennai
Third	2,500	Vineel Tipirneni Sri Chaitanya School, Vijayawada	Manjula S College of Engg. , Anna Univ., Chennai
Third	2,500	Gowri R SDAV Hr. Sec School, Chennai	Sivabalan KC Tamilnadu Agricultural Univ., Coimbatore
Third	2,500	Mangala Shenoy K HHSIBS Hr. Sec School, Kasaragod	Jayamathan S Sri Ramakrishna Engg. College, Coimbatore

We would like to thank Dynamic Group, Anjana Software Solutions Pvt. Ltd, HP Networking, Cognitive Platform Solutions (CPS) Pvt Ltd, Orbit Innovations and CloudReign Technologies for the generous sponsorship of the prizes.

Our thanks to Prof. San Murugesan (Adjunct Professor, University of Western Sydney, Australia) and Mr. S. Ramasamy (GM, Great Lakes Institute of Management & Past RVP-VII and Past Chair, CSI Chennai) for their support in the successful conduct of this essay contest. We also take the opportunity to thank all those who had helped us in this contest and facilitated the participation.

The prize winning essays are being hosted at the website at <http://goo.gl/FziCmK> and the ideas presented in them will be shared with various agencies for possible implementation.

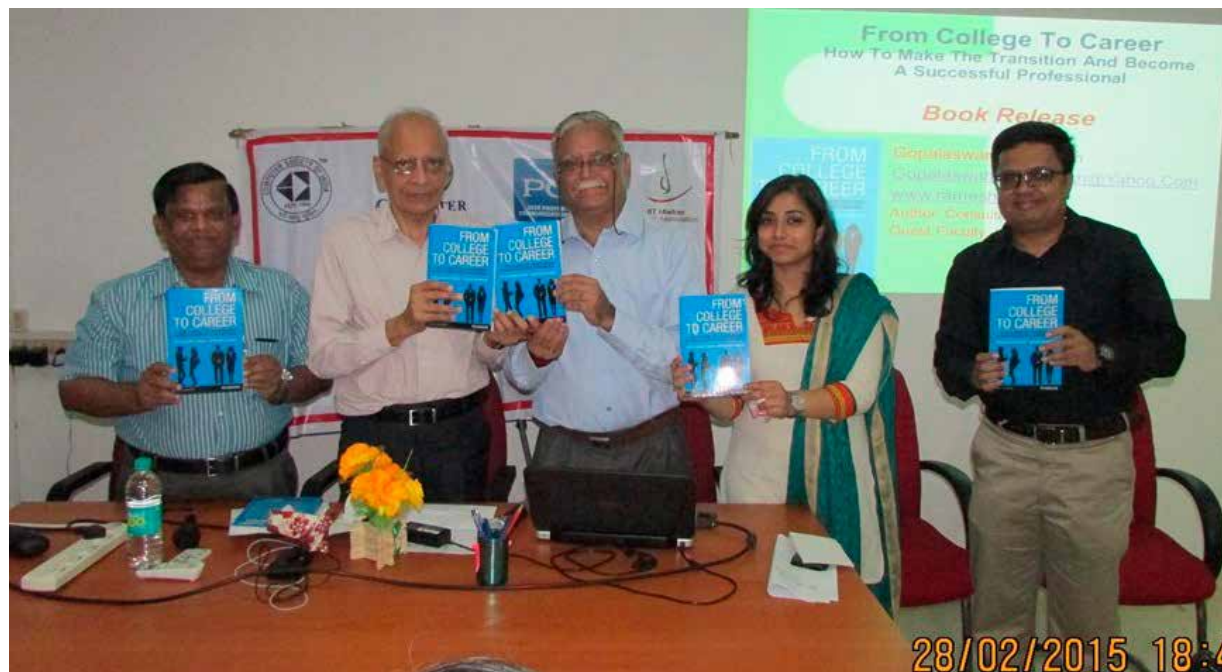
The prize money and the certificates will be sent to the winners during March 2015. Queries if any in this regard may be sent to [essay.csi@gmail.com](mailto:essay.csi@gmail.com)

H.R. Mohan, Convener, Student Essay Contest





## Release of the book: From College to Career



IEEE Computer Society, Madras Chapter along with IEEE Professional Communication Society, Madras Chapter, Computer Society of India, Chennai Chapter, IIT Madras Alumni Association, Chennai Chapter and Pearson India Education Services Private Limited, on 28<sup>th</sup> Feb 2015, organised a book release programme in which the book, “From College to Career -- How to Make the Transition and Become a Successful Professional” authored by Gopalaswamy Ramesh ( a member of IEEE, IEEE CS, IEEE PCS CSI and alumnus of IITM) and Mahadevan Ramesh.

While the number of students graduating out of engineering colleges has shot up to more than 15 lakhs, only 10-25% can be gainfully and readily employed in the industry. The main cause of this gap is the absence of soft skills. Studies of Fortune 500 companies have reaffirmed the findings that 75% of long term success in career depends on people and soft skills and only 25% in technical skills. As a student moves out of the protected environment of a college into the demanding world of industry, it requires cultivating excellent personal and professional attitudes and developing the ability to adapt to changing situations. The book which was released captures the essence of such career building by focusing on several important topics, ranging all the way from initial job hunting and the placement process to communication skills and social responsibility. The contents of this book have been developed based on successful execution of courses on Soft Skills and Professional Development at IIT, Madras and other places. This presentation by the author, Gopalaswamy Ramesh will highlight the skills required and some practical tips to achieving those skills and provide a brief overview of the book.

Mr. H.R. Mohan, Chair of IEEE CS welcomed the gathering and highlighted the need for this type of book in the context of employability issues and the downsizing/rightsizing strategy being adapted by various organisations to curtail the manpower cost. He added that this book is a sequel to his earlier book “ACE of Communication The ACE of Soft Skills: Attitude, Communication and Etiquette for Success” which was also released under the auspices of IEEE, IEEE CS, IEEE WIE, IEEE TMC and CSI in 2010. Mr. Mohan thanked the publisher Pearson for sponsoring the event and organising the copies available for sale at a special discount of 30 percent.

Ms. Sanhita Sinha, Assistant Editor (Development), Pearson India Education Services Private Limited thanked the organising societies in the formal release of the book at Chennai. She gave a brief outline on the motivation to bring out this book as a follow-up to the earlier book by the same author. She also introduced the author Mr. Ramesh Gopalaswamy to the audience.

Prof. C.R. Muthukrishnan, Former Dy. Director & Prof. of CSE, IIT Madras; Past President, Computer Society of India; and Consulting Advisor at Tata Consultancy Services Limited released the book and offered felicitation. He added that Mr. Ramesh had been his student about 30 years back. He complemented him for sharing all his learnings in his distinguished IT career of over 25 years and subsequent teaching assignments through this book. He opinion that book is not just for job seekers but will also be useful to the working professionals and teachers as well.

After the formal launch, Mr. Ramesh Gopalaswamy, in his presentation on “College to Career – Crossing the Chasm” provided the audience the salient aspects covered in the book in five parts: Part I Getting that job dealing with concepts such as Selection Process for Job; Preparing Your Résumé ; Preliminary Aptitude Tests; Group Discussions; Job Interviews; Part II Things that you should know before you start your career dealing with concepts such as Vision; Time Management; Work Hard, Work Smart; Professionalism; Part III Communication basics covering concepts such as Communication in the Workplace; Spoken Communication; Body Language; Listening; Part IV Winning attitude equals successful career explaining Lifelong Learning; Diversity Awareness; Teamwork; Emotional Intelligence; Performance Expectations Management; Understanding Cultural Issues; and Part V Etiquette at workplace elaborating on How to Conduct Effective Meetings; Phone Communication; Email; English Language Skills; and ending with Some Final Words of wisdom.

The programme ended with vote of thanks and memento presentation to Mr. Ramesh, Ms. Sanhiita and Prof. CR Muthukrishnan by Mr. Paramod Mooriath, Chairman of CSI Chennai Chapter. The pictures taken during the programme can be seen at <http://goo.gl/E6HCj8>



-- Report by: H.R. Mohan, Chairman, IEEE CS, Madras

## Words of Wisdom

*The best remedy for a short temper  
is a long walk.*

*-Jacqueline Schiff*

\*\*\*\*\*

*The secret of health for both mind and body  
is not to mourn for the past, nor to worry  
about the future, but to live the present  
moment wisely and earnestly.*

*- Buddha*



## Artificial Intelligence On the Revival Path

It has been reported recently that in an experiment conducted by a team from the University of Reading to demonstrate computer intelligence, a '*super computer*' has duped humans into thinking it is a 13-year-old boy, to become the first computer to pass the *iconic* Turing Test of machine (artificial) intelligence. In 1950 Alan Turing, the British mathematician, computer science pioneer and Second World War code breaker, declared that a computer could be considered intelligent, or possesses thinking power if it could fool people into thinking that it is a human being during text-based conversations and question answering sessions. It is believed that meaningful conversations and question answering sessions manifest intelligence.

The classical test of artificial intelligence was devised by Alan Turing, who said that if a computer was indistinguishable from a human, then it was *thinking*. No computer had ever previously passed the Turing Test, which requires 30 per cent of human interrogators to be duped during a series of five-minute keyboard conversations. In a recent experiment five computers were tested at the Royal Society in central London to see if they could fool people into thinking they were humans during text-based conversations. It has been reported that *Eugene Goostman*, a computer program developed to imitate a 13-year-old boy in conversation, managed to convince 33 per cent of the judges (interrogators) that it was human.

According to Professor Kevin Warwick, from the University of Reading: "In the field of artificial intelligence there is no more iconic and controversial milestone than the Turing Test. It is fitting that such an important landmark has been reached at the Royal Society in London, the home of British science and the scene of many great advances in human understanding over the centuries. This milestone will go down in history as one of the most exciting. There had been previous claims that the test was passed in similar competitions around the world. A true Turing Test does not set the questions or topics prior to the conversations. We are therefore proud to declare that Alan Turing's test was passed for the first time."

The event was poignant as it took place on the 60th anniversary of the death of Mr Turing, who laid the foundations of modern computing. During the Second World War, his critical work at Britain's code-breaking centre at Bletchley Park helped shorten the conflict and save many thousands of lives.

The successful computer that passed the Turing Test was created by the Russian-born Vladimir Vaselyev, who lives in the United States, and the Ukrainian Eugene Demechenko who lives in Russia.



Vol. 10 No. 3

March 2015

*For Private Circulation*

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for IEEE India Council

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Website: [http://www.ewh.ieee.org/r10/india\\_council/](http://www.ewh.ieee.org/r10/india_council/)