IEEE India Info
IEEE India Council Newsletter

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Chair: Deepak Mathur Editor: N T Nair

Message from Chairman

Dear Friends,

I am glad to share that India Council is now a registered society. This was possible due to untiring and persistent efforts of council volunteers with the support of IEEE India Office. With this registration, our Council is now having a legal status.

We are strengthening the team of Student Activities and have inducted a team of dedicated volunteers. I am overwhelmed by the enthusiasm of these young volunteers. I am sure these volunteers are going to add value. We are also inducting one representative from each section who would work closely with the Council Student Activities. These Section representatives will strengthen the Council and will be an interface between Students and the Council.

We have planned to organize Student Congress with Young Professionals at India Council level. The 'All India Student Congress with Young Professionals 2015' will be held at Kochi. The event is hosted by Kerala Section. In my view, the fusion of these two, students and young professionals, may address the issue of student retention in India. Joint activities by students and young professionals should also be encouraged at section level.

India Council is doing a 2 day workshop on Cyber Security at Bangalore. The workshop will address inherent vulnerabilities and emerging threats associated with global Internet connectivity and information and communication technology. The workshop is scheduled to be held on 22-23 August 2015.

India Council is working on various other technical and professional programs which are relevant to members in present scenario and looking forward to your suggestions on topics for future activities.

Deepak Mathur
Chair, IEEE India Council

N T Nair, Editor, writes from Nussbaumen, Switzerland…

Everything Works - Always, as originally intended

We create facilities with the best of intentions, spending money either from our pocket or public funds made out of taxes collected. And the entities so created are expected to serve the purpose for years. During my roaming through the places in Nussbaumen, a village in Switzerland, where I am put up for a few weeks now, I took time out to look for non-performing assets around - potholes on roads, rusted handrails, traffic lights, broken garden benches… and did not find them as eyesores. Also, I did not see workmen repairing these facilities, as they are originally made with best materials and well engineered as well, to ensure long periods of trouble-free service to the public.

We, in India, are yet to embrace this culture of making things for years of use without need for frequent servicing or support. Of course, globalization has brought in some semblance of quality culture and its best display is seen in automobile sector. We remember the Ambassador car days of 60s and 70s - Never ever all functions in Ambis worked. I had tried in vain to make sure that the dashboard always displayed the parameters - fuel, speed etc. with accuracy. Finally, I threw up my hands and did not waste time correcting their functions. Then came the Maruti car with a difference - every function for which we paid our hard-earned cash, was working flawlessly, always. A really rich experience! And then, there was no looking back and all car makers came with their best performing models. Thus the quality culture set in, slowly spreading to other products of daily use, as well. However, we have miles to go, as we are still seeing workmen with shovels and tools always engaged in repair work - the aftermath of not doing a job well first time with the right materials and engineering acumen. Once this culture catches up in all sectors, India will have enough resources freed from repair domain, to embark on new ventures, as part of nation building.

The repair culture has to vanish by doing things right first time and convert the repairmen as builders, instead.

N T Nair

From IEEE Region10 Director

Dear IEEE India Colleagues,

It is indeed my great privilege to reach you in this April 2015 edition of the IC Newsletter immediately following a message from Dr Howard Michel, IEEE President 2015.

We had an excellent meeting of all Section Chairs/Reps. of IEEE Region 10 in Dhaka, Bangladesh, March 6-8, 2015.On that occasion I had an opportunity to interact with the leadership of all 57 IEEE Sections in Asia Pacific including and communicate R10 support for reinforcing their valuable efforts for betterment of IEEE in R10. There is indeed a lot of enthusiasm evinced for IEEE and we must build upon this opportunity.

It is my endeavour to add value to the IEEE experience and enhance member benefits IEEE the professional platform of preference. We will strengthen the connect with Industry, Research & Academia and specifically focuson young professionals and students, facilitating student Internship / entrepreneur programs and improve student retention

The team at Region 10 Excom has put in place a plan to promote Technology Educational activities through MOOCs, to bring the AIYEHUM conference to a global platform and to engage members through digital and social media - in particular through the adoption of IEEE's unique Collabratec platform.

These are exciting times for India which has the largest concentration of IEEE members in any country outside the USA and the largest student membership anywhere. IEEE leaders have instituted task forces which are actively engaged in implementing strategic projects that will bring value to members in India.

I am glad to learn that IEEE India Council is now a registered Society under the statute. This will provide the necessary legal support for IEEE in India to engage with government as well as with industry and provide necessary space to conduct activities/projects to benefit members and the technical community at large.

I wish each and every one of you a great experience and continued success. I look forward to engage with you and your Sections in the coming months of my tenure as Director, Region 10.

"Everything you want is out there waiting for you to ask;
Everything you want also wants you;
But you have to take action to get it;"

Advance thanks to you all to join me in my efforts to make the IEEE spark and serve the Society at large.

With Kind Regards,
Ramakrishna Kappagantu
IEEE Region10 Director
www.kramakrishna.com

IT in March 2015

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

General

- Government's reform process gets into motion with Insurance and Coal Ordinance replaced by Bills in LokSabha on March 4, 2015 and finally making them into Law on March 19, 2015; Land Acquisition Bill unfortunately could not be made into a Law
- USA eases L-1B visa norms on March 24, 2015; likely to benefit Indian software companies
- J & K gets a new Government on March 1, 2015; Mufti Mohammed Sayeed is the new Chief Minister
- RBI gets free hand on March 5, 2015 to do inflation targeting; talks of 2-6% for the next 2 years
- Supreme Court quashes Section 66a of IT Act paving way for more online freedom on March 24, 2015
- Kashmir flood during the last week of March causes havoc
- Australia retains World Cup for the fifth time on March 29, 2015

Technology

- Solar Impulse 2 - the world's first Solar-powered plane to go around the globe - lands in Ahmedabad on March 11, 2015 and takes off from Varanasi on March 19, 2015
- ISRO launches successfully IRNSS-1D, the fourth in the series of seven navigation satellites on March 28, 2015
- IBM announces its decision to invest $ 3 billion in IoT (Internet of Things) Research on March 31, 2015

Products

- Samsung launches S6 during MWC (Mobile World Congress, Barcelona, Spain March 2-5, 2015); Microsoft launches low cost Lumia 640
- Apple launches Apple Watch on March 9, 2015; set to reach customers on April 24, 2015
- Swatch (world's largest watch manufacturer) announced the launch of low cost smart watches with payment capability using NFC in the year 2015 on March 13, 2015
- Samsung S6 India launch started on March 27, 2015
- Microsoft launches Surface 3 (Windows Tablet) on March 31,

Markets

- On March 4, 2015 RBI reduces Repo rate by 0.25% cheering markets; NIFTY crosses 8,500, Sensex crosses 29,500 for the first time; Sensex goes past 30,000 for the first time on March 4, 2015
- NASDAQ touches 5,000 after a 15-year gap on March 5, 2015
- HP acquires wireless mobility company Aruba Networks (founded by Hyderabad-boy KeertiMelkote) for $ 2.7 billion on March 2, 2015
- NXP and FreeScale merge to become a $ 40 billion enterprise - a large M&A activity in micro-electronics space - on March 2, 2015
- Ola acquires TaxiForSure on March 5, 2015
- Reliance Infra acquires 25% stake in Pipavav Defence for Rs 1,164 Crores on March 5, 2015
- Apple joins Dow Jones on March 6, 2015
- Coal auction generates more than Rs 1,00,000 crores (with more than Rs 10,000 crore upfront payment) in March 2015
- E-Commerce major Snapdeal acquires mobile recharge platform Freecharge for Rs 2,800 Crores on March 11, 2015, and acquires majority stakes in financial distribution platform RupeePower on March 31, 2015
- Philips sells lighting unit for $ 2.8 billion on March 31, 2015

Indian IT companies

- Infosys gets five year contract from Dutch logistics company TNT Express on March 5, 2015
- Airtel gets honored in World Mobile Congress for its inclusive web “One Touch Internet” on March 5, 2015

MNC IT companies in India

- Ericsson gets an extension of Airtel deal on March 5, 2015
- Shell starts global IT Centre in Bangalore on March 6, 2015
- Amazon puts into action its decision to invest in India; puts ₹1,125 Crore investment in March 2015: signs for 1.3 million square feet of space
- Bosch set to hire 3,200 engineers in India in the year 2015
- Ford plant in Sanand in Gujarat goes on stream on March 26, 2015; with investment of $ 1 Billion and spread over 460 acres, the plant with capacity to produce 240,000 cars and 270,000 engines per year would generate 10,000 jobs

Education & Research

- Database pioneer Professor Michael Stonebraker(currently at MIT)is the winner of 2014 ACM Turing Award(announced on March 25, 2015)

- Cryptographer Professor Dan Boneh of Stanford University is the 2014 ACM Infosys Foundation Award in the Computing Sciences (announced on March 31, 2015)
- Andhra Pradesh sees IIT and IISER in Tirupati and IIIT in Chittoor getting launched on March 28, 2015

Telecom

- 3-G Spectrum allocation started on March 4, 2015; gets ₹ 60,000 crores on day 1, ₹ 65,000 crores on Day 2; ₹ 77,000 Crores on Day 3; ₹ 86,000 Crores on Day 4; ₹ 94,000 Crores on Day 5; ₹1,02,000 Crores on Day 9; ends on March 25, 2015 at ₹ 1,10,000 Crores

Infrastructure

- 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

- Hubli Airport is back in action with a longer runway with SpiceJet re-starting their flight from Bangalore on March 1, 2015
- NTPC commissions Unit V of Barh project in Bihar (660 MW capacity) on March 4, 2015;taking NTPC installed capacity to 43,800 MW
- Coal auction bags ₹ 2.07 Lakh Crores on March 9, 2015
- Bangalore Namma Metro underground section testing starts on March 12, 2015

Startup scene

- Ola acquires TaxiForSure on March 5, 2015
- Quikr to join billion dollar club in 2015

People

- India-born Nobel Laureate VenkiRamakrishnan to head Royal Society UK
- IMF President Lagarde visits India during March 16-18, 2015
- Twitter CEO Dick Costalo visits India in March for the launch of Prime Minister Modi's offline "Samwad" (direct communications) using Twitter platform
- Professor Michael Stonebaker is the winner of 2014 ACM Turing Award

- ACM Infosys Award goes to Professor Dan Boneh of Stanford
- Prime Minister Modi and India's Nobel Prize winner Kailash Satyarthi in Fortune Magazine List of 50 of the world's greatest leaders in 2015
- Architect of Singapore Lee Kuan Yew passed away on March 23, 2015
- Chinese billionaire Jack Ma visits India on March 31, 2015
- SAP co-founder Klaus passed away on March 31, 2015

Interesting applications

- Ola launches Ola cash wallet-based auto service in March 2015; can use the App to order food items from nearby restaurants
- Digi-Locker App from Government of India gets more acceptance
- Indian Railways shutting down some Reservation counters in Bangalore as more passengers move to on-line train booking
- Twitter CEO kicks off "Samwad" for Prime Minister and others to communicate to citizens using Twitter platform
- Indian Railways and NPCI offer RuPay cards on March 23, 2015

Mobile Apps

- Housing.com puts out a massive 4-page Ad in newspapers on March 7, 2015
- Muthoot launches WebPay for gold purchases on March 4, 2015
- HDFC Bank to offer non-POS based card payment
- AIDMK party uses App to organize political party in March 2015
- Internet App-based food retail offer economical meal -FreshMenu, Spoonjoy and Eatio are interesting examples.
- Launched on March 11, 2015, ICICI Bank Pockets connects to multiple banks!
- Hop email (launched in March 2015) reformats email into Message format for easy viewing
- Twitter launches Periscope on March 26, 2015

Interesting numbers

- Telecom subscriber base on February 28, 2015 stood at 987.30 million with 960.58 million mobile subscribers and 26.72 million wire-line subscribers (with net addition of 8.24 million mobile subscribers and net reduction of 0.15 million wire-line subscribers in February 2015); of the 987.30 phone subscribers 578.75 were in urban area, while 408.55 were from rural area (TRAI Press Release No. 28/2015 dated April 10, 2015)
- India's Foreign Exchange on March 27, 2015 was at $ 341 billion (RBI)
- Indian Rupee stood at 62.50 against USD on March 31, 2015 (RBI)
- On March 31, 2015 BSE Sensex and NSE NIFTY 50 (Indian stock market indices) were at 27,957 and 8,491 respectively (Reuters)
- Apple might earn 93% of mobile handset profit!
- Fashion goods eCom company Myntra claims 90% is generated via mobile phones; shuts down the website on March 31, 2015
- IT department has ₹ 1.2 Lakh Crores refund
- 25% of the total 7 million square feet of warehousing space in India is used by e-commerce companies
- Inflation reaches -2.06%, the lowest since 2005
- BIAL welcomes its 15 Millionth passenger of the year on March 24, 2015
- With 88 million members BJP is the largest political party in the world even surpassing Communist Party of China by March end

Words of Wisdom

My own prescription for health
is less paperwork and more running
barefoot through the grass.

- Leslie Grimutter

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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

Information Resources

Compiled by
H.R. Mohan
Chairman, IEEE CS & PCS, Madras
ICT Consultant & Former AVP-Systems, The Hindu, Chennai
hrmohan.ieee@gmail.com

Video: The Top 10 Mistakes of Entrepreneurs: (1;23:57) The UC Berkeley Start-up Competition (Bplan) had a presentation by Guy Kawasaki, former chief evangelist, Apple and co-founder of Garage Technology Ventures. He explained the top ten mistakes that entrepreneurs make. His talk covered all stages of a startup from inception to exit. http://goo.gl/FLTyXM

Video: 50 Entrepreneurs share priceless advice: (18:39) Watch it at http://goo.gl/FKvCuK

Planet Google: How One Company Dominates Digital: Google is eating the world. It dominates several key tech industries and dwarfs competitors in each of these markets: 1. Digital advertising, 2. Desktop and mobile search, 3. Digital video, 4. Smartphone platforms .. Google's success has also allowed it to explore new ventures like self-driving cars, health tech, and drones. As part of Business Insider's Ignition event, Business Insider CEO Henry Blodget broke down the numbers driving Google's massive growth and global dominance. http://goo.gl/hf1gwD

56 Cognitive Biases That Screw Up Everything We Do: We like to think that we're totally logical when we make decisions. But over the past few decades, social science has uncovered a staggering number of cognitive biases that shape our behavior - whether we know it or not. We've collected a list of the most common ones. See the slide show at http://goo.gl/2DZaJg

15 Ways to Become a Better Person: Life is a journey and becoming better every day is the goal. "Make the most of yourself....for that is all there is of you."-- Ralph Waldo Emerson. We've all made mistakes throughout our lives that haven't exactly put ourselves in the best light--like bullying someone in school or telling what seemed like a little white lie. Chances are, however, that you probably had a little bit of guilt and learned how to grow from that situation. I'm an average guy that's trying to become better in both my work and my home life. I'll never be perfect but it doesn't mean I won't try. If you're looking to continue to grow as a person, then here are 15 ways that can use to make the most of yourself. http://goo.gl/09B2ER

10 Ways to Spot an Opportunity: Finding ways to compete differently is hard. This will make it easier. Once you come up with a promising insight, there is no guarantee that success will follow, of course. You need to turn a great insight into a thriving business, which is incredibly difficult. But with that throat-clearing out of the way, you can apply 10 simple tests to discover an idea worth pursuing. The best place to apply these tests is in areas that you understand. It takes a lot longer to come up with the perfect chocolate chip cookie recipe if you have never been in a kitchen. All of the tests we are about to discuss involve spotting a niche, which is nothing more than figuring a way to compete differently. If an entrepreneur looks at the marketplace and sees a small void he can fill, he has spotted a niche. But what he really has done is looked at the way others are competing and concluded he can be successful if he does things differently. Here are 10 ways you can compete differently to find a hole in the marketplace: http://goo.gl/5FWqGM

50 Top Entrepreneurs Share Their Founding Visions: Tim Finnigan, entrepreneur and founder of the book review site BlockShelf, shared a video on Reddit featuring 50 entrepreneurs telling how they came up with the founding idea for their companies. Among the video's star-studded cast is Brian Chesky, co-founder and CEO of this year's Inc. Company of the Year, Airbnb. "Start with the perfect experience of just one person," he said. "Get that right and then expand, instead of scaling something not so great." The video highlights other entrepreneurial luminaries, including Mark Cuban, Michael Dell, and LinkedIn founder Reid Hoffman. Inspiration for the video stemmed from Finnigan's yearning for easy access to entrepreneurial advice. "I believe there are so many valuable insights and pieces of advice out there," Finnigan told Inc. in an email. "But someone needs to curate them in order to make it all more accessible." Below is the video accompanied by a complete list of all of the entrepreneurs featured in Finnigan's video, with appearance times for easy reference. Watch this 18 min video at http://goo.gl/WKQB4K

Google Offers Cheap Storage for Certain Kinds of Data: Google is offering a new kind of data storage service – and revealing its cloud computing strategy against Amazon Web Services and Microsoft Azure. The company said on Wednesday that it would offer a service, called Nearline, for non-essential data. Like an AWS product called Glacier, this storage costs just a penny a month per gigabyte. Microsoft's cheapest listed online storage is about 2.4 cents a gigabyte. http://goo.gl/TzGPB6

Smart Luggage for the Connected Age: It wasn't long ago that the main selling point of a piece of luggage was its durability — think American Tourister and its rather excitable gorilla. Not for Kevin Harwood. Like many travelers today, he is looking for technology to go along with durability. He stumbled across a carry-on bag controlled by smartphone — with a Bluetooth-enabled lock, GPS tracking and a USB port for recharging a device. It has a built-in scale, too. http://goo.gl/5xkOE6

BBC Unveils Micro Bit Coding Device for Make It Digital Initiative: The BBC plans to offer a coding device to more than 1 million U.K. school children as part of its Make it Digital Initiative. The company wants to inspire young people to become the software engineers and technology leaders of the future. The tiny computer board, called Micro Bit, is similar to the Raspberry Pi or MITS, and is small enough to be an Internet of Things device. The prototype uses light-emitting diodes to flash lettering and make messages, and can be clipped onto clothing to act as a wearable device. The BBC has partnered with U.K. chip designer ARM and tech firms such as Google, Microsoft, Samsung, and BT to promote the digital initiative and make the device available to students for free and in time for the academic year that begins in September. "The initiative is our big education project for 2015 to get people to talk about digital creativity, to code, to build games, and shape our future," says BBC director-general Tony Hall. The BBC will tie the initiative in with programs such as "Children in Need" and "EastEnders." http://goo.gl/qmUf0m

A Computer Weekly buyer's guide to software-defined everything: While in theory the move to software-defined everything makes sense, the concept is in its infancy and finding the right mix is key. In this 10-page buyer's guide, Computer Weekly looks at the practicalities of the software-defined approach to everything including computing, networks, storage and more; how CIOs should steadily move to software-defined datacentres by adopting interim offerings and building on them as the technology advances; and why 2015 won't be the year of software-defined everything, as IT leaders ignore the hype and wait for the technical and market parameters to take shape. http://goo.gl/ftxFXq

Ten Significant Tech Innovations for 2015: Mobile, the cloud and cyber-security will continue to dominate tech headlines this year, but the following "critical tech innovations for 2015," adapted from a list compiled by the IEEE Computer Society, will recast these topics in a fresher, forward-focused light. They include wearable devices, 3D printing, what's called "augmented reality" and an anticipated redefinition of the Internet of things (IoT) and the Internet of everything (IoE). Combined, these technologies are expected to enable organizations to work faster and smarter, while driving down costs on products and services. "2015 should see real progress in these areas," says incoming IEEE Computer Society President Thomas Conte, who is also an electrical and computer science professor at Georgia Tech. "We are reaching an inflection point for 3D printing, which will revolutionize manufacturing, and the exponential growth in devices connected to the Internet makes interoperability and standards critical." The IEEE Computer Society is a leading global computing membership organization, which serves as an information and career-development source for professors, researchers, software engineers, IT professionals, employers and students. http://goo.gl/62jEOf

Get Ready for the Next Generation of Search Tech: Humans are creating enough data to fill 100 billion iPads (32 GB) every year. This means there's an overwhelming amount of information out there, and we're increasingly dependent on advances in search technologies to find what we seek. While the book Search: How the Data Explosion Makes Us Smarter (Bibliomotion/ available now) explores these advances, it also lends insights into more profound, near-future developments within search tech: the availability of tools that will deliver and manage information to make us smarter, happier and better connected. In one section, author Stefan Weitz casts an informed vision of the many ways these developments can influence our day-to-day personal and professional lives: how machines and people will interact to create incredibly sophisticated, fully customized user experiences that will routinely change according to our behaviors. The following "what's ahead" list of anticipated benefits from the next generation of search tools is adapted from the book, along with the challenges that must be addressed to reach this state of immensely intuitive search capability. Weitz is a senior director in the Search team at Microsoft. http://goo.gl/mDc0Af

The World's Top Brands Are Digital: As if you needed any more proof that technology products dominate all others, check out this recent revelation: Eleven of the top products in the world are digital, according to a recent top 100 list published by Brand Keys. (The only non-tech product cracking the top dozen brands is Dunkin' Donuts coffee, which must mean that the list is absolutely legit.) After taking into consideration more than 720 brands representing 65 consumer categories, Brand Keys ranked the products according to customer loyalty and engagement assessments. Among the top 11 are familiar tech heavyweights such Amazon, Apple and Samsung. But the list also includes dominant social media sites, as well as a ubiquitous search engine. (We're talking about Google, of course.) All told, no less than 45 of the top 100 brands represent "consumer outreach and engagement via cellular and social networks, and the phones, smartphones, computers and tablets needed to meet the ever-increasing expectations related to outreach and personal connectivity that the consumer uses as a yardstick to measure brands," says Robert Passikoff, founder and president of Brand Keys. We're including the top 11 digital brands here, along with interesting facts about them. Nearly 43,300 consumers took part in the research. http://goo.gl/3Fy67z

Which Tech Brands Are the Most Innovative?: A number of companies on this list of innovative technology leaders have blazed new paths in the use of computing hardware. Another vendor started out as a search engine, but has morphed into a mobile and cloud giant—all while promoting its famous "Don't Be Evil" motto. And two other companies have been nominated for Emmy Awards this year. Combined, these firms represent the 13 most dominant technology companies when it comes to innovation, according to a recent survey from Brand Keys. You may be surprised to learn that Google, the "Don't Be Evil" tech titan, makes the top three, but is not No. 1. Less surprising is the fact that innovation in the technology industry covers a vast range of content, business enterprise, cloud and mobile solutions, among other areas. And one well-known brand on the list is spending billions in attempts to recreate the human brain on a computer. An estimated 4,500 consumers took part in the research. The percentages accompanying each company reflect the overall innovation rating each brand received. http://goo.gl/AzPrUk

11 Ways to Become a Leader of Digital Technology: Not every IT employee can develop into a leader of technology transformation, but you're more likely to get to that level if you know which steps to take. The book Leading Digital: Turning Technology into Business Transformation (Harvard Business Review Press/available now) offers a wide range of strategies and actions that professionals can pursue to become a digital authority. To further illustrate the best practices to follow, authors George Westerman, Didier Bonnet and Andrew McAfee feature real-life examples from organizations such as Burberry, Caesars Entertainment, Lloyds Banking Group and Nike. The book also includes original research that helps define a "digital master." In essence, the authors explain, digital masters excel at both the "what" of technology and the "how" of leading change. "Neither dimension is enough on its own," they write. "Taken together, they combine to give digital masters a clear advantage over their competitors." Westerman is a research scientist with the MIT Sloan Initiative on the Digital Economy. Bonnet is a global practice leader at Capgemini Consulting and executive sponsor for Capgemini Consulting's Digital Transformation program. McAfee is the associate director of the Center for Digital Business at the MIT Sloan School of Management. The following 11 ways to develop digital leadership are adapted from their book. http://goo.gl/NSUUyx

Best Practices to Maximize the Internet of Things: When it comes to the Internet of things (IoT), think big. As in really, really big. As in a staggering number of online machines and devices—including those installed for network-enabled cars, shoes, washing machines, pets and virtually anything else in existence—connected by the next decade. For enterprises, this represents a watershed opportunity for cost reductions and new revenue, according to recent research from Deloitte. The resulting report, "The Internet of Things Ecosystem: Unlocking the Business Value of Connected Devices," reveals what companies are seeking from this developing technology. In addition, it presents a number of best practices for IT teams to maximize IoT's strategic value. "The Internet of things has the potential to offer business value that goes beyond operational cost savings," says Eric Openshaw, vice chairman and leader of Deloitte's Technology, Media and Telecommunications practice. "Providers in the IoT ecosystem have a largely unexplored opportunity to develop compelling solutions that explore how the ability to collect and analyze disparate data—in real time and across time—might transform the business. These developments will play out within and across enterprises, offering opportunities for sustained value creation, and even disruption for those who can imagine possibilities beyond the incremental." Deloitte compiled the statistics included in the following slides from research conducted by Gartner, the Economist Intelligence Unit and Deloitte's own analysis. http://goo.gl/2syyNX

Fascinating Facts About the Internet of Things: If something isn't connected to the Internet—whether human, animal, household appliance, automobile, factory tool, etc.—does it exist? If you're going all-in on the Internet of things, you may conclude that it doesn't. Simply stated, the Internet of things refers to the possibility of providing online connectivity for every "thing" on the planet. In addition to computing devices, the objects and products that can be connected include cars, ovens, bathtubs, washing machines, bridges, dams and hospital patient monitors. What else could come of this? "Paper towel dispensers in restrooms that signal when they need to be refilled," according to a recent report from the Pew Research Internet Project. "Municipal trash cans that signal when they need to be emptied. Alarm clocks that start the coffee maker." The phenomenon has even launched the concept of "smart creatures," which places homing devices on animals. In the case of honey bees, for example, the device would monitor their pollination productivity. Given the growing interest in these and other related tech developments, we're presenting the following 10 fascinating facts about the Internet of things. They were compiled from a variety of online research and infographics, including reports from Cisco, Gartner and the Pew Research Internet Project study. http://goo.gl/Nq7PkF

Predictions on the 2025 Data Center: What will data centers look like in a decade? For starters, you can expect them to be smaller, as the vast majority of data center and telecom professionals expect these facilities to take up no more than one-half of the space they do now, according to a recent survey from Emerson Network Power. Plus, thanks to the expanded use of solar power and other green initiatives, data centers are likely to use considerably less power. The accompanying report, "Data Center 2025: Exploring the Possibilities," provides an in-depth look at these and other driving topics about the future of data centers, including private power generation, backup power options, cloud migration and resource utilization. The report divides survey participants into three categories: conservative, moderate and progressive. More than two out of five of the respondents are considered moderates. They expect that data centers will be at least half the size in 2025 as they are now; that one-fifth of the power supply will come from solar energy; and that 70 percent of computing will be accomplished in the cloud. "The pace of change in the data center industry is only going to increase," says Steve Hassell, president of data center solutions for Emerson Network Power. "Whether that change is measured or transformative depends not only on the advances that come from manufacturers and operators, but on the industry's enthusiasm to accept and engage those innovations." More than 800 global data center and telecommunications professionals took part in the research. http://goo.gl/YVpa3v

11 Movies That Challenge Our View of Technology: You may not think of your day-to-day work life as an inspiration for great cinema, but it's actually not a big stretch. Filmmakers have constantly explored IT innovation in creative and often compelling ways. The resulting movies have challenged our world view of technology and its impact on society, while still providing vastly entertaining popcorn fare. With this in mind, we've come up with the following list of must-see movies about technology. They obviously include some sci-fi classics, but there are also films that reflect real-life applications of technology. In fact, three of them are considered nonfiction. Combined, these films present an eclectic array of the possibilities of computer-driven advances—from virtual worlds to artificial intelligence to social media-fueled entrepreneurialism to insider cyber-security threats. And we've even included a couple that are strictly for laughs. (If we can't occasionally chuckle about what we do, then what's the point?) Because our list is completely subjective—mixing classics with more recent releases—you may disagree with our selection. If so, please feel free to suggest your own picks in our comments section at the bottom of the page. http://goo.gl/HYHhcq

11 Tips for Giving a Great Speech: Does the prospect of making a public presentation send you into a state of panic? If so, then you're far from alone. In fact, three-quarters of people suffer from speech anxiety, which means that it's the most common phobia of all. That said, most employees and managers who are considered key contributors within their organizations and industries will need to make a speech from time to time, and that includes those in the IT profession. (Remember, it's not all about programming and other tech skills.) So, to help make the experience less stressful and more successful, we're presenting the following 11 tips for giving a great speech. They include best practices for calming the nerves, as well as advice about delivery, preparation and the overall presentation. As is the case with most professional pursuits, the more time you invest up front in researching, planning and practicing for your big event, the more likely it is that you'll be a hit with your audience. Our tips are compiled from a number of online resources, including those posted by The Leader's Institute and Lifehack.org. http://goo.gl/YSQxFy

Ten Tips to Help You Give a Great Presentation: If you're like many professionals, the prospect of giving a presentation may unnerve you. But you're not alone. Fear of public speaking is the No. 1 phobia, topping fears such as spiders, heights, plane flights and even death! However, if you intend to advance your career, it's unlikely that you'll be able to completely avoid speaking before a large group. Fortunately, the new book, Your Perfect Presentation: Speak in Front of Any Audience Anytime Anywhere and Never Be Nervous Again (McGraw-Hill/available now), offers great guidance to help you pull off a winning speaking engagement. To put your mind at ease, author Bill Hoogterp reveals that only a select few are "born speakers"—even those who are great at it. Instead, he believes that virtually anyone can learn how to give an effective presentation. What's key, he writes, is crafting your words and delivery in a manner that puts the audience first. To get you started, we've adapted 10 tips for public speaking from his book. Hoogterp is a public speaking coach for corporate executives and has been featured on programs such as the Today show. http://goo.gl/mCvHtm

Ten Golden Rules of Leadership From Real Legends: Wouldn't it be great if we could learn from ancient legends such as Plato, Aristotle and Sophocles? Obviously, they have nothing to teach us about software code, the cloud or data analytics, but they certainly would inspire lively discussions about self-determination, character and other leadership-related themes. Of course, we can't make such a time-travel-enabled opportunity happen. But in the recent book The Ten Golden Rules of Leadership: Classical Wisdom for Modern Leaders (Amacom/available now), authors M.A. Soupios and Panos Mourdokoutas posit that the philosophies of classic thinkers remain relevant in today's workplace. By reading and examining their teachings, today's professionals and executives may discover that they don't have to compromise their values to pursue success. In fact, they may find that their integrity, as well as their dedication to the organization and colleagues rather than just themselves—will advance their career. Soupios is professor of political philosophy at Long Island University, and Mourdokoutas is professor and chair of the department of economics at Long Island University. The following "golden rules of leadership" quotes are adapted from their book. http://goo.gl/SyrUUG

Nine Steps That Can Help You Move Into Management: Have you always considered yourself management material, but are still waiting for that elusive promotion? It's a universal challenge for employees: Many professionals want to move into management, but there are obviously only so many of those positions available. And organizations need to be circumspect when it comes to making such promotions, especially when you consider the fact that four out of five people who become managers turn out to be wrong for the position, according to industry research. Clearly, if you do get that promotion, you want to be ready for the job. So you may want to read Becoming the Boss: New Rules for the Next Generation of Leaders (HarperCollins/available in September). This book provides concrete, actionable guidelines to help you attain a management position—and excel at it. Author Lindsey Pollak positions the book for Gen Y readers, but her advice on presentations, social media, project leadership and professional presence applies to a broad range of demographics. What's key is to understand that to be considered for career advancement, you have to go beyond simply doing your job well. You also have to inspire others to perform better at their jobs. The following nine takeaways were adapted from Pollak's book. She is a speaker and consultant who specializes in career topics for Millennials. http://goo.gl/YMnn5W

Résumé Deceptions Jeopardize Job Opportunities: A majority of hiring managers and HR professionals say they have caught applicants in a lie on their résumé, according to a recent survey from CareerBuilder. And many of these employers say the incidents are increasing. Unfortunately, IT ranks third in the list of industries in which such deception is frequent, beat out only by financial services and leisure/hospitality in the first and second spots, respectively. There's a lot at stake when a professional lies on a résumé. Most hirers say that a résumé lie will automatically eliminate an applicant from consideration. "Trust is very important in professional relationships," says Rosemary Haefner, vice president of human resources at CareerBuilder. "By lying on your résumé, you breach that trust from the very outset. If you want to enhance your résumé, it's better to focus on playing up tangible examples from your actual experience. Your résumé doesn't necessarily have to be the perfect fit for an organization, but it needs to be relevant and accurate." To offer a lighter side to this topic, we're also including some outrageous résumé lies that CareerBuilder compiled. Nearly 2,190 hiring managers and HR professionals took part in the research. http://goo.gl/Rf7EC7

IEEE India Council
Executive Committee 2015

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Technology News

Kirlian Photography

The Myth and its Science

What is now known as Kirlian photography had in fact been observed during the 18th century. It was only in 1939, that two Czechs, S. Pratt and J. Schlemmer published photographs showing a glow around leaves. The phenomenon got its name from the Russian electrical engineer, Semyon

Davidovitch Kirlian who together with his wife Valentina, is officially credited with its discovery in the same year.

The Kirlians noticed a strange glow, similar to that of a Neon Discharge Tube, near the skin of patient receiving treatment a high-frequency electric field. They continued with further experiments in which a photographic film and an object like a leaf were sandwiched between two metallic plates. When the plates were then energized by a high frequency, high voltage electrical source creating a strong electric field in between, an image was formed on the photographic film. It showed a colored halo around the object resembling an aura. They reported the results of their experiments for the first time in 1958.

The Myth

They Kirlians offered much of the initial myth. They claimed the aura in the photographs to represent the *life-force* that allegedly surrounds all living things. They were convinced that these photos could accurately predict emotional and physical states and could be used to diagnose illnesses. Their work was virtually unknown until 1970, when two Americans, Lynn Schroeder and Sheila Ostrander published a book, *Psychic Discoveries behind the Iron Curtain*. Spiritualists soon picked up the thread and attributed great significance to the aura. They believed that specially trained aura-readers

could get deep insights into a person's spiritual, emotional and physical state.

The Science

One does not require a camera or lens to take a Kirlian photo. It is really contact photography. First, there is a metallic plate over which a photographic film is placed; over the film is kept the object to be photographed. A high frequency strong electric field is created between the object and the metal plate below the film. The electrical corona discharge from the object is captured on the film. The resulting photograph shows a glow around the object. This is Kirlian photography, in simple terms.

So, these photos are real and show some phenomenon at work. Auras are seen around living and non-living objects, too. This is often ignored by those favoring a supernatural explanation. So then, if it is not *life-force* that causes the aura, then what does? The answer is: or moisture. The strong electric field ionizes the moist air surrounding the object being photographed. Then there will be a luminous "corona discharge", which in the photograph appears as a glowing silhouette around the object. Kirlian effect does not happen in a vacuum where there are no atoms to be ionized.

When a person is sweating, Kirlian photographs of his hand will show a pronounced glow. Conversely, a cold dry hand will give rise to a weaker glow. Changes in skin moisture (which may reflect changes in emotions), surrounding (barometric) pressure or electric field strength will produce

different auras. Kirlian photographs the same person taken only minutes apart have been seen to be significantly different. The aura in Kirlian photographs can thus be explained using knownscientific principles.

Summing Up

Over the years, the value of Kirlian photography as a diagnostic tool has substantially diminished, though. Yet, there are still some alternative medicine practitioners who claim it useful for healing various emotional and physical conditions. Paranormal researchers try to establish connection with some unexplained phenomena such as telepathy, which they proposed was the result of auras of people communicating with one another. Research, however, is going on in various places.

Interestingly, some artists take advantage of Kirlian photography for creating beautiful, if bizarre, images. Like traditional photography, this also leaves a lot to explore.

IEEE Events Calendar

May - December 2015

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 Tecnlógica, 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

Aug 21 – 30

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 Högskolevägen 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	18 Oct - 22 Oct 2015	Swissotel Nankai Osaka 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

IEEE India Council Student Coordination Team

India Council has constituted a team of volunteers for the Student Activities. Team will report to the Vice Chair IEEE India Council Student Activities, Dr Preeti Bajaj.

Member- **Arjun R.Pillai**	Role: **Mentor**
Member- **Aswin Shibu**	Role: **Coordinator**
Member- **Gitansh Anand**	Role: **Industry Relations**
Member- **Nithin Samuel**	Role: **Communication**
Member- **ChelliahRamachandran**	Role: **Networking**
Member- **Apoorva M. Sonavani**	Role: **Networking**
Member- **Vamsi J. Krishna**	Role: **Webinar & Online Training**
Member- **Alvin Zachariah**	Role: **Web Team**
Member- **Emil George**	Role: **WebTeam**

All sections are requested to nominate one representative from their respective sections.

Vice Chair
IEEE India Student Activities

Words of Wisdom

I said to the almond tree,
'Sister, speak to me about God,'
and the almond tree blossomed.

- Nikos Kazantakis

****

Simplicity and clarity - these are the attributes
that give our lives power and vividness and joy.

- Richard Halloway

2015 International Conference on Signal Processing and Integrated Networks (SPIN 2015)

The second International Conference on Signal Processing and Integrated Networks (SPIN 2015) was held on 19-20 February in the Amity University Campus, Noida Delhi NCR, India. This conference was technically co-sponsored by IEEE UP Section. Conference Record No. 34634X. (www.spin2014.com)(http://www.ieee.org/conferences_events/conferences/conferencedetails/index.html?Conf_ID=34634X)

SPIN 2015 was aimed to bring together scientists, academicians and industrialists working in the field of Signal Processing and Integrated Networks to discuss new ideas and promote research work. The conference had a high quality technical programme consisting of 197 contributory papers and 25 invited talks. Overall this conference had 35 sessions and all the sessions were very nicely managed by expert session chairs. Five parallel sessions were run for the contributed papers. The sessions were highly interactive and thoughtful. There was huge participation of students from the organizing Institution as well as many other institutions. In addition to the regular sessions, there were two special sessions, one on "Biometric based security" organized by Surya Prakash, IIT Indore, K.V Arya, IIITM Gwalior and other special session on " Current Status and Progress on Global Navigation Satellite Systems" organized by Chris Rizos, The University of New South Wales, Sydney, Australia and P.Banerjee, Amity University, Noida , India.

There were also 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 were delivered by researchers throughout the world from countries like United States, Canada, Japan, U.K, France. Spain, Sweden, Hungary, European Union ,Australia , Czech Republic, Iceland ,Germany, Portugal ,Norway etc.

Prof. Ljiljana Trajkovic, President, IEEE Systems, Man and Cybernetics, IEEE USA, Science Simon Fraser University, University Drive, Burnaby, Canada, **Dr. Masahito Togami**, Senior Researcher, Intelligent Media Systems, Research Department, Central Research Laboratory, Hitachi Ltd., Japan, and **Prof. David M. Nicol**,Director, Information Trust Institute, Franklin W. Woeltge Prof. of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois, United States were the Guest of honor in the inaugural ceremony of the Event on 19th Feb 2015.

The invited speakers of this conference are listed below.

1. Prof. David M. Nicol, University of Illinois, United States
2. Prof. Stephen Pistorius, Cancer-Care Manitoba, Canada
3. Dr. Masahito Togami, Central Research Laboratory, Hitachi Ltd., Japan
4. Professor Cham Athwal, Birmingham City University, Birmingham, U.K
5. Prof. Magdy A. Bayoumi , University of Louisiana at Lafayette (UL Lafayette), USA

6. Prof. Vincent Vigneron, UFR ST Equipe STIC et Vivant, France.
7. Prof. Jorge Casillas, University of Granada, E-18071 Granada, SPAIN
8. Prof. Bengt Lennartson, Chalmers University of Technology, SE-412 96 Göteborg, Sweden
9. Prof. Ljiljana Trajkovic, Simon Fraser University, Canada
10. Prof. Carlos M. Travieso-González, Las Palmas de Gran Canaria, SPAIN.
11. Prof. János MIZSEI, Budapest University of Technology, Hungary, European Union
12. Prof. Philip Hall, The University of Western Australia, Australia
13. Prof. Radim Burget. Brno University of Technology, Czech Republic, European Union.
14. Professor Kiyoshi Toko, Kyushu University, Fukuoka, Japan
15. Prof. Mort Naraghi-Pour, Ph.D. Louisiana State University, Baton Rouge, LA, USA
16. Prof. Tsuyoshi Isshiki, Tokyo Institute of Technology, Tokyo 152-8552, JAPAN
17. Prof. Károly Farkas, Budapest University of Technology, Hungary, European Union
18. Prof. Björn Þór Jónsson , Reykjavík University, Iceland
19. Prof. Juan Luis Castro, University of Granada, Spain
20. Prof. Yukio Ohsawa, School of Engineering, University of Tokyo, Japan
21. Prof. C.P.Schnorr, Johann Wolfgang Goethe Universität , Frankfurt, Germany.
22. Dr. Kamil Riha,Brno University of Technology , Brno, Czech Republic, European Union.
23. Prof. Paulo M. Mendes,University of Minho, Portugal
24. Professor Torbjorn Svendsen, Trondheim, Norway
25. Professor Ilangko Balasingham, University of Science and Technology, Norway.

The conference had attracted papers from many countries like USA, UK, Germany, Italy, Sweden, Japan, Australia, South Africa, Taiwan, Korea, China, Czech Republic, Turkey, Bangladesh, Spain, Saudi Arabia, Tunisia, Portugal, Iceland, Norway, etc. SPIN 2014 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 chair Prof. M.K.Dutta had a talk on the theme of the conference and a small report on it. Prof. B.Shukla, Vice Chancellor of Amity University, Prof. Ravi Prakash, Director of Engineering, & Dy. Director of Engineering Prof. K.M. Soni 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 nice and they all had appreciated the conference. The student participation was a marked feature in this conference which saw all the venues flooded with students. The conference was concluded with a promising valedictory function on 20 February 2014. This function was addressed by Prof. Philip Hall, MIAEM Distinguished Lecturer, IEEE Society on Social Implications of Technology (SSIT), Chair, Faculty of Engineering, University of Western Australia, followed by Prof. Carlos M. Travieso-Gonzalez, Vice Dean, University of Las Palmas de Grand Canaria, Universitario de Tafira, Spain and Prof. Stephen Pistorius, Cancer-Care Manitoba, Canada

The Conference valedictory was also blessed by Dr. Ashok K Chauhan, Founder President, Amity Education Group and Chairman, AKC Group of Companies. The conference organizers had organized a complementary gala dinner in Hotel Radisson Blu Noida on 19th February 2015 and a trip to Agra for visit of the Taj Mahal and Agra Red Fort for all the Invited speakers and delegates of this conference on 21st Feb 2015. This conference was technically Co-Sponsored by IEEE UP Section. Secretary of this Section Dr. Nischal Kr. Verma and Joint Secretary Dr. Dilip Kumar Sharma had attended the event and both of them also had chaired one of the technical sessions.

Conference Chair Dr. M.K.Dutta addressing in the Valedictory Session of the conference.

Conference Chair Prof. . M.K.Dutta, Vice Chancellor Prof. B.Shukla & Director Engineering, Prof. R. Prakash Presenting a Memento to Invited Speaker Prof. Ljiljana Trajkovic.

SPONSORSHIP OPTIONS @ NATIONAL WORKSHOP ON CYBER SECURITY BENGALURU (22-23rd August 2015)

Sponsoring organizations of this workshop will be benefitted with a set of special privileges with a clear focus on showcasing their products, services, technologies and solutions and explore opportunities to outreach potential customers and touch base with them during the event.

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- Acknowledgement to the sponsors during inaugural welcome/closing event of the Workshops

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IEEE INDIA COUNCIL
3rd NATIONAL WORKSHOP ON CYBER SECURITY
22-23rd August 2015, Bengaluru

Seats are limited....

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Contact
Dr Amit Kumar
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Email: www.amit.kumar@ieee.org
Website:
http://ewh.ieee.org/r10/india_council/

IEEE INDIA COUNCIL

ABOUT THE WORKSHOP

India is leader in supplying software that controls the critical infrastructure and businesses throughout the world. The Internet connects people, systems and galaxy of networks and an effort is required to protect digital systems from online threats as we defend our bodies from illness. After the two successful editions of cyber security workshops in Ahmedabad (2013) and Bangalore (2014) 3rd Edition is scheduled in **Bangalore** again. This timely workshop is aimed to offer awareness for the Government and Private sector, aspiring Hacking and Cyber Security enthusiasts. This year too we will address inherent vulnerabilities and emerging threats associated with global Internet connectivity and information and communication technology. This two-day event will explore the various means that an intruder uses to gain access to computer resources. Mission of this workshop is to establish cooperation actions by multi-stakeholders that can bring together individuals, industry, policy makers and academic interests in an effort to reduce the security risks for governments, service providers and users on both a domestic and international level.

Underwater Technology 2015 (UT-15)

Prof. R. Bahl, Chair, IEEE OES India Chapter and Dr. M. A. Atmanand, Director,National Institute of Ocean Technology (NIOT), Chennai, India and Vice Chair, IEEE OES India Chapter

The International Symposium on Underwater Technology 2015 (UT15) was held during February 23rd–25th, 2015 at Earth System Science Organization -National Institute of Ocean Technology (ESSO-NIOT), Chennai, India. The symposium was jointly organized by IEEE/OES India Council,IEEE/OES Japan Chapter and IEEE/OES. The vision for this symposium is to provide a thematic umbrella for the researchers working in underwater systems across the world to discuss the problems and potential long term solutions that concern not only the Indian Ocean regional countries, but the world in general.

Students, scientists and professionals from 17 countries participated in the symposium, consisting3 Plenary and 11Keynote talks from Eminent Researchers in the Field, 80 Oral Presentations in 14 Technical sessions and 41 Poster presentations from students and professionals. Three best poster presentations of the students were awarded with prizes.The presentations covered 8 broad themes of Marine Sensors; Special Session on In-situ Sensors; Ocean Resources and Mining; Ocean Observations; Ocean Acoustics; Ambient Noise, Localization and Tracking; Underwater Vehicles; and, Marine Systems Technologies.

UT15 Group Photo

Inaugural

The Inaugural function was presided by Dr. ShaileshNayak, Chairman, Earth System Science Organization (ESSO) and Secretary, Ministry of Earth Sciences, Government of India.Dr. M. A.Atmanand, Vice Chair, IEEE/OES India Chapter and Director, ESSO-NIOT welcomed the gathering,briefed the achievements of ESSO-NIOT and introduced the team at Antarctica who were watching the function on line. The Chief Guest, Dr. Susan K. Avery, President and Director of Woods Hole Oceanographic Institute (WHOI), USA,

inaugurated the Symposium and delivered the inaugural speech on "Ocean and AtmosphereInteraction". Dr. Hitoshi Hotta, Director, Japan Agency for Marine Science and Technology (JAMSTEC), presented the technological advances at JAMSTEC. Dr. ShaileshNayak recalled the first International Indian Ocean Expedition (IIOE), and announced plans for a second IIOE by the year end to commemorate the 50th anniversary, along with a conference at Goa. An overview of the IEEE-OES activities by Dr. René Garello, IEEE-OES Japan Council activities by Prof. Tamaki Ura, and IEEE-OES India Chapter activities by Prof. RajendarBahl were also presented. A Souvenir and CD of the Symposium Proceedings were released by Dr. Susan K. Avery on this august occasion.

Release of the Souvenir & CD

From Right to Left: Prof. RajendarBahl, Pro. Tamaki Ura, Dr. Hitoshi Hotta, Dr. ShaileshNayak, Dr. Susan K. Avery,Dr. René Garello, Dr. M.A. Atmanand

Plenary Sessions

The plenary session covered talks on "The Evolution of Subsea Vehicles" by Dr. James R. McFarlane, International Submarine Engineering Ltd., Canada; "Submarine Cabled Real-time Seafloor Observation" by Dr. Katsuyoshi Kawaguchi, JAMSTEC, Japan; and, "Recent Advances & Future Challenges in Underwater Systems / Technologies – India's perspective" by Dr. V. BhujangaRao, Defence Research and DevelopmentOrganization (DRDO), India.

Technical Sessions

Eleven keynote speeches, 80 papers and 41 posters were presented at the symposium. Keynote speeches were interspersedbetween technical sessions which were conducted atfour venues in NIOT campus. A special session on "In-situ sensors" was organized by Institute of Industrial Science, Underwater Technology Collaborative Research Center, The University of Tokyo, Japan.

The Special Session on "In-situ sensors" and the Poster Session

Exhibition

Dr. ShaileshNayak, Chairman Earth System Science Organization (ESSO) and Secretary Ministry of Earth Sciences, Government of India inaugurated the exhibitionparticipated by the manufacturers, suppliers and representativesof International Oceanographic Equipment and Services.

Inauguration of the Exhibition

Valedictory Function

The well attended symposium concluded with the Valedictory function and Prize distribution. A panel discussion was held, which was moderated by Prof. RajendarBahl, Chair, IEEE OES India Chapter,and participated byDr. René Garello, Prof.TamakiUra, Dr.WilliamKirkwood, Prof. P. R. S. Pillai, Dr.M. A. Atmanand and Mr. Dineshbabu. The panel discussed at length on issues such as the importance of industrial participation in research activities through Research parks, increased academic involvement in the professional bodies such as IEEE. Dr. René Garello distributed the prizes to the three student poster competition winners. Mr. Tata Sudhakar (Organizing Secretary) presented the report on the Symposium

in a lucid manner, detailingthe statistics such as the number of delegates, country representation, etc.The symposium ended with the vote of thanks from Dr. M.A.Atmanand. All the delegates wholeheartedly appreciated Mr. Tata Sudhakar with a standing ovation for the successful completion of the UT-15 Symposium.

Mr. Yogang Singh receiving the award for Best Student Poster Presentation from Dr. René Garello

Mr. Tata Sudhakar (Organizing Secretary)being presented with a token of appreciation for the successful completion of UT-15 Symposium.

Socio-Cultural Events

Ice breaker reception was held on 22nd February 2015 at the cross cultural living museum of art and architecture, "DakshinaChitra", about 25 km from Chennai.The museum showcased the lifestyles, crafts and performing arts of South India and presented a special performance for the visitors."SamudraManthan", a mythical South Indian style BharataNatyam dance drama depicting the "Extraction of resources from the Oceans" was performed for the participants in NIOT campus followed by a banquet dinner on 23rd February 2015.

Ice Breaker Reception at "DakshinaChitra" with Dr.RenéGarello, President IEEE-OES and new Beacon editorial team member Harumi Sugimatsu.

A still from "SamudraManthan" – Dance drama

4th Indian National competition on Student Autonomous Underwater Vehicle (SAVe), January 24, 2015

The National Institute of Ocean Technology (NIOT), under the Ministry of Earth Sciences, jointly with IEEE-Oceanic Engineering Society - India Chapter and Ocean Society of India, conducted the 4th National competition on Student Autonomous underwater Vehicle (SAVe) at the swimming pool of Indian Institute of Technology Madras, Chennai on 24th January 2015. Six colleges participated and demonstrated their working model of AUVs in the final phase.

1. Indian Institute of Technology, Kharagpur,
2. National Institute of Technology, Rourkela,
3. Indian Institute of Technology Madras, Chennai
4. Hindustan University, Chennai,
5. SRM University, Chennai
6. Ambedkar Institute of Advanced Communication Technologies & Research, Delhi

NIOT Director, Chief Guest, Judges and the winning team "SRM University, Chennai"

The National expert committee evaluated the demonstration of AUVs and selected "**SRM University, Chennai"** as the winner of the final competition.

SRM University Team with their AUV

Dr.M.A.Atmanand, Director NIOT welcomed the Chief Guest Dr.N.R.Alamelu, Chairman, IEEE of Madras Section and participants of this competition. Dr.M.A.Atmanand said that the aim of this competition is to attract young talented students to work on under water technology, new frontiers of ocean technology and kindle their innovative thinking in the unexplored area of ocean environment and observation. Chief Guest Dr.N.R.Alamelu urged the students to contribute to the national building exercise in particular in underwater technology. She also emphasized that this competition would help the students in their career and soon this competition would reach all over the student community of India.

Dr.R.Venkatesan, Scientist In-charge of the competition said that this capacity building exercise in underwater technology is being continued by NIOT & IEEE-Oceanic Engineering Society - India Chapter by giving technical support to the student teams for developing their AUVs and sponsoring the winning team of SAVe to participate in the International ROBOTICS competition at San Diego USA.

Millimeter Wave Communications for 5G

Millimeter Wave communication is a promising framework towards next generation mobile broadband communication systems. With ever growing volume of smart mobile devices, the increase of mobile data traffic is envisioned to explode 1000-fold increase by 2020.One of the key benefits for mm-wave technology is that large number of antenna elements can be packed into a small physical size leading a larger aperture and achieving to high antenna array gains. The key requirements are larger volumes of data per user, larger number of users/devices, multi-Gbps mobile access, above 10 Gbps backhaul, more spectrum, dense access points distribution with ease deployment of capacity where/when it is needed.

The key drivers in the next generation mobile Broadband networks are Uniform user experience for all users across a 5G network; minimum 1Gbit/s data rate and anywhere Support for ultra-high data rates up to 5 and 50 Gbit/s for high mobility and pedestrian users ,Support for real-time services and Support for cloud based services and proximity based services. There is an additional 200 GHz of spectrum in the mm-Wave frequency range that today is mainly under-utilized around 6 GHz. This spectrum band has channel sizes capable of supporting wireless data speeds of 10-50 Gbps. A significant proportion of enormous radio spectrum could be unlocked within the next 5 years for 5G cellular and Wi-Fi communications. For higher part of mm-wave band, there is also 7GHz unlicensed spectrum surrounding 60GHz.As technology scales up, current spectrum for mobile services becomes fragmented which causes problems in the mobile device design. Furthermore, existing spectrum for new mobile services becomes overcrowded. On contrary, mm-wave spectrum, i.e. 30-300 GHz, opens up an attractive opportunity to harvest large continuous chunks of spectrum with emerging mm-wave technologies for ultra-high data rate wireless communication.

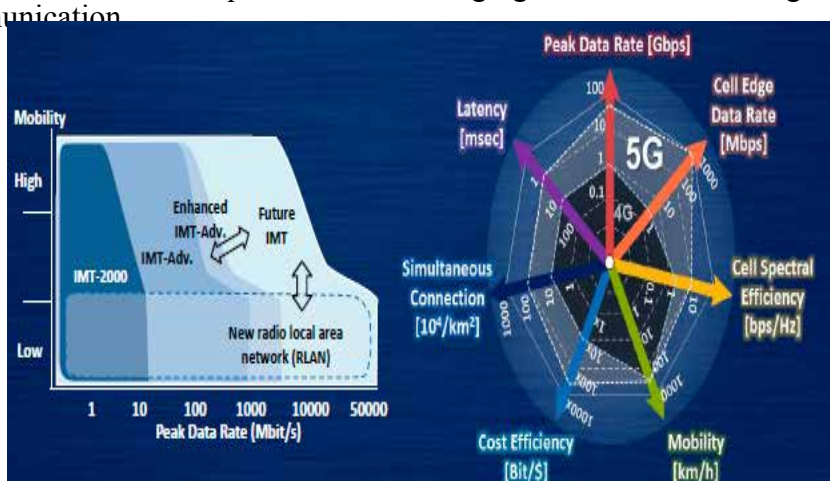

Figure.2 .5G requirements. Source: DMC R&D Center, Samsung Electronics Corp.

Multi-antenna transceivers and heterogeneous networks (HetNet)s have been identified as one of the key components to enhance network efficiency which provide a paradigm shift to enhance network efficiency. Generally speaking, the elements of HetNet can be different type of network nodes equipped with different transmit power budgets, processing capabilities, and support for different radio access technologies. HetNet consists of mm-wave network nodes for access and backhaul and device-to-device (D2D) communication, as well as devices connected to other RATs than mm-wave. HetNetlayers becomes reduced enabling mm-wave small layers to be ultra-densly deployed. By enabling mm-wave devices to directionally communicate with each other in the proximity, traffic offloading from overlaying layers can be obtained. So, device to-device (D2D)/proximity communication can be seen as an integral part of network densification in 5G networks. Dueto highly directive transmission and reception of mm-wavecommunication, the mm-wave D2Dcommunication enables additional security as well as efficient leveraging of radio resources of overlaying network.

Regards,

V.P.Sampath
Ram Innovation Labs, Chennai.

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

Mr. Ramesh Gopalaswamy (gopalaswamy_ramesh@yahoo.com)
and
Mr. H.R. Mohan (hrmohan.csi@gmail.com)

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 8th 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 Mooriath (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. Adhivarahan (ICT Consultant & Past Chair, CSI Chennai).

It was indeed very refreshing and encouraging to see the response of the students. More than 200 essays were

received from various parts of India. In this article, we share some of the highlights of these essays. All the prize winning essays which are referred in this article are hosted at the website at http://goo.gl/FziCmK

On the topic of ***Digital India***, some essays had sectorial focus. There were applications for travel planning [alag19940818], use of ICT for road safety [dany19930820], digitization to make sure buses stop at designated bus stops [a real problem indeed!], use of Aadhaar numbers for an easy and foolproof way of getting birth / death certificates and other Government services [amar19941014] and also for "Smart Travel Card" systems [para19920912] an e-Attendance system to ensure students are not only physically but also mentally present in a class room. [Amit19940508]. The essay [jana19951127] presented an interesting concept of "Demat" for academic certificates. The essay [Manj19940611] covered a very wide variety of possibilities including politically sensitive areas like fisherman safety. Similarly the essay [saravana19930929] also covered a wide ground including healthcare, disaster management, e-Governance, etc. There was also an interesting system to connect common man to the Government called "Online Common Panchayats And Palikas Information System" [neel19941007]. [prin19950403] touches areas like digitization of elections and digitization of law and order. [sand19940508] brought out an innovative idea of "Biometric Voting Machines" to replace the current Electronic Voting Machines to minimize fraud and impersonation. The essay [srej19940727] went into the architectural details of various current success stories like e-Choupal. The essay [swet19950907] touched upon the important aspect of educating people about digital technologies. Very innovative methods of modernizing education using ICT were brought out in [vini19940901]

For "***Make in India***" initiative, there were some good suggestions too, belying the myth that students do not know much about manufacturing. An example was [chit19930531] which outlined the use of ICT for the entire product life cycle starting from investments through planning, product design, production, human resources and marketing. Some of the essays transcended just the technology borders in formulating solutions. For example, [dami19930930] proposed an application of the Crowd Funding model to secure investments for "Make in India". Another essay [resh19940913] focused on the importance of ICT for agriculture by discussing the application of robotics to agriculture like SLUGBOT, ACROBATS, etc. Realizing the importance of ICT in defense, [sind19960608] stresses the role of "Make in India" for Defense Manufacturing. The importance of promoting entrepreneurship for the success of "Make in India" initiative was brought out in [sona19940709]. The essay [mana19921126] brought out the importance of ICT for Make in India and its relevance to the common man, the *aam aadmi*.

In terms of "***Clean India***" too, there were several interesting essays. One of the essays [ashw19920604] made a very poignant and thought provoking observation that the number of mobile phones in India may exceed the number of toilets! This essay went on to propose novel methods of harnessing ICT to promote awareness and an attitudinal change in the minds of people about cleanliness. One of the most talked about technologies today is the use of drones. The essay [gaya19950228] suggested some innovative methods of using drones to address one of the most common problems we encounter – that of open pits and drains. Another essay [ram19871213] went beyond the traditional "ICT" to even take concepts from Chemistry to real life problems

in areas in Chennai like Perungudi Dump Yard. The essay [shiv19950721] touched upon a very real problem for Chennaiites – namely cleaning of the Cooum River! The fact that there are already laudable initiatives like the m-bin initiative in Andhra Pradesh which significantly increased the productivity of the people working in sanitation was brought out in [ramv19990617]. The role of leveraging the appeal of film stars and cricketers through ICT media was brought out in [sona19940215]. The fact that "Clean India" transcends all religion was amply brought out by using quotations from Gita, Quran and Bible by [thaf19930429]. The use of ICT for the full cycle of waste management was discussed in [swat19930910].One of the essays [vipi19951120] went into a fair amount of implementation details of how to implement an important aspect of Clean Toilets. At the end of the day, cleanliness is a habit. This was nicely brought out by [gane19970607]. "Clean India" goes beyond just sanitation. It covers problems faced by the current generation like e-Waste. The essay [priy19950917] presents the importance of e-Waste management for Clean India.

Some of the essays also showed creativity and ingenuity in the presentation styles which augur well for the long term future. For example, [chan19931008] coined nice and catchy acronyms for several initiatives – like DIC for Digital India Classrooms, a model for hybrid learning, combining MOOCs with traditional class rooms. The essay [jaya19951003] also used relevant quotes from Mahatma Gandhi "Sanitation is more important than independence" to drive home the point of cleanliness. One student [MONI19940808] even coined a nice poem to bring out the importance of Clean India! After all, in the modern world, style is as importance as substance!

This spark of creativity and humour is aptly brought out in the conclusion of the essay [shub19930629]. "To conclude this article in a lighter vein, in one of the famous cartoons of Dennis the Menace, the irrepressible boy tells his father with logic beyond his years: "Dad, if everything is made in China, then God must be living in China". When the Prime Minister's vision of "Come, Make in India" is realised, and India becomes an enviable manufacturing hub of the world, Dennis may perhaps find God shifting his residence to India!"

It is proposed that the enthusiasm of the students be recognized appropriately and some of their well thought out suggestions and ideas presented in these prize winning essays will be taken up for exploring the feasibility of implementation through governmental agencies.

The essay contest was sponsored by Dynamic Group, Anjana Software Solutions Pvt. Ltd, HP Networking, Cognitive Platform Solutions (CPS) Pvt Ltd, Orbit Innovations and CloudReign Technologies. 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) extended support in the successful conduct of this essay contest. Mr. H.R. Mohan (Former Associate Vice President (Systems), The Hindu and President, CSI) was the convener of this contest.

On 30th March 2015, in a function organized at the CSI Education Directorate at Chennai, the Chennai based contest winners in each stream were awarded the following prizes & certificates:

- One 1st Prize: Rs. 10000/-
- Two 2nd Prizes: Rs. 5000/- of each
- Four 3rd Prizes: Rs. 2500/- of each
- Consolation Prizes: Rs. 1000/- each
- Certificate of appreciation: For short listed essays based on a certain cut-off score over and the above prize winning essays.

Mr. S. Arjun, a student of class 9 from Chennai, who had received the 'National Child Award for Exceptional Achievements (for Computer Technology) 2014" from the President of India was also felicitated and awarded a cash prize of Rs. 5000/- and a certificate of appreciation.

Mr. S. Mahalingam, Past President of CSI and Director and Former Executive Vice President & CFO, TCS was the chief guest at this felicitation function. Mr. Prakash Damodaran IAS, first IT Secretary to the Government of Tamil Nadu and Director, UTI Infrastructure Tech Services Ltd was the guest of honour. Both of them wished and encouraged the prize winners and highlighted the opportunities in the areas of information and communication technologies which are playing a major role in or day to day life.

Mr. H.R. Mohan, President, CSI & Chairman, IEEE CS & PCS welcomed the prize winners and the parents and teachers accompanied the winners. He then outlined the genesis of this essay contest and explained the process adopted for the evaluation. Mr. Mohan briefly explained about the Computer Society of India and its services to the student community and elaborated the various benefits of the membership in CSI. He also highlighted about the recently launched initiative of CSI which offers institutional membership to the schools facilities a host of benefits including the computer clubs in the school, mentoring the students by the senior CSI members, faculty development programmes for the teachers, sensitizing the students on cyber security and e-Waste, career counselling, contests in programming, applications & websites development, project expos etc., and urged the schools to join CSI as institutional members and requested the parents and teacher to publicize this initiative among their contacts.

The judges, Ms. Latha Ramesh and Mr. K. Adhivarahan shared their views and appreciated the contest participants for their ideas presented in the essays. Mr. Pramod Mooriath, the chairman of CSI Chennai Chapter thanked the sponsors of the contest, the parents, teachers and the students for making this contest a meaningful and useful exercise.

For the details of the prize winners and the pictures taken at the prize distribution function, pl. visit the website at http://goo.gl/FziCmK

IEEE Computer Society Madras Chapter congratulates & felicitates the recipients of Richard E Merwin Scholarship

The IEEE Computer Society Madras Chapter felicitated two of its student members Mr. B. Sharath and Mr. P.R. Vishnu from St. Xavier's Catholic College of Engineering, Nagercoil for having received the prestigious Richard E Merwin Scholarship for the 2014 October Cycle during the recent national conference held at CSI Institute of Technology, Thovalai on 6th Apr 2015. Mr. H. R. Mohan, Chairman, IEEE CS presented the mementos to them,

Felicitation to Mr. B. Sharath

Felicitation to Mr. P.R. Vishnu

Inauguration of IEEE SB at Bharath Institute of Science and Technology, Bharath University

Mr. S.P. Vijayaragavan, Sir. Dr. M. Ponnavaikko, Dr. P. Suresh Chander Pal, Mr. H.R. Mohan and Mr. B. Karthik with Student Branch Office Bearers

The formal inauguration of the IEEE SB was done on 17th Mar 2015 with Dr. P. Suresh Chander Pal, Former Vice-Chairman, IEEE India Council, Life Senior Member, IEEE & Ombudsman, IEEE Madras Section, Member, IEEE Power & Energy Society, Madras Chapter as the Chief Guest and Mr.H.R. Mohan Vice-chair IEEE Madras Section & Chair IEEE Computer Society Madras chapter & President, Computer Society of India as the Guest of Honour.

After the introduction of the guests and the lighting of the lamp symbolizing the formal inauguration of the SB, Sir. Dr. M. Ponnavaikko, Vice-Chancellor, Bharath University and the Former Chairman, IEEE India Council, in his presidential address briefed about IEEE and its benefits.

Dr. P. Suresh Chander Pal, in his inaugural address highlighted the roles and responsibilities of the SB council, how to go about oranising activities and report them. He then installed the office bearers of the IEEE Student Branch of Bharath University for the year 2015.

Mr. H.R. Mohan in his keynote address briefed on the trends and the rapid developments in the information and communications technology and urges the students to consider becoming members of the IEEE CS at the discounted rate and get the benefit of full access to its digital library which will be very useful for them to be updated in the fast developing field. Mr. S.P. Vijayaragavan, AP/EEE, IEEE SB Counselor proposed the vote of thanks.

Report by: Mr. S.P. Vijayaragavan, vijayaragavan.eee@bharathuniv.ac.in

Oxford College of Engineering

OxyTech 2K15 – National Level Student's Convention and Techno-Cultural Fest

"OxyTech2K15", a national-level student's convention and techno-cultural fest, was organized by the students of MCA and ISE Departments of The Oxford College of Engineering under the aegis of the Student Branches of Computer Society of India (CSI) & IEEE This fest, offered an awesome platform for the students to showcase their innovative talents.

Oxy-Tech 2K15 started with the ceremonious inaugural function presided by the honourable Chief Guest Sri. H.R. Mohan, President, CSI & Chair, IEEE CS, Madras and Former Associate Vice President (Systems), The Hindu. The Guest of Honour was Sri. Sundar Ramakrishnan, Director of Engineering, CISCO Systems, Bangalore.

The fest was an amalgamation of technical and cultural events such as – 'Web Weaver', 'Code Warriors', 'Online Treasure Hunt', 'Brain Scratch – IT Quiz', 'Innovative App Challenge', 'Kurukshetra – NFS & CS', 'Just a Minute', 'East meets West – Group Dance', 'Take One – Documentary Movie' and 'Gully Cricket'.

The alluring events magnetized students from all over India. A total of 742 students from across 43 colleges participated.

'Innovative App Challenge' was introduced for the first time. The judging panel was astonished by the performance of students. 'Web Weaver', 'Code Warriors' showcased the finest techies. Participants of 'Brain Scratch – IT Quiz', 'Take One' and 'Just a Minute' enthralled the audience with their amazing knowledge and creativity.

The energy packed performance of participants, in 'East meets West', electrified the viewers. 'Gully Cricket' was flooded with enthusiastic participants.

Student Coordinator Aaditya, said, "Expertise planning and dedicated execution of volunteers made the fest a grand sensation. We thank our Founder Chairman Sri. S. Narasa Raju and Executive Director Sri. S.N.V.L. Narasimha Raju for being our pillar of support. We thank Dr. M.S. Shashidhara, HoD-MCA and Dr. D. Jayaramaiah, HoD-ISE for their able guidance and untiring efforts in successful completion of this fest.

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Inauguration of

IEEE Student Branch & Communications Society Chapter

11.03.2015

The IEEE Student Branch was inaugurated at Ganadipathy Tulsi's Jain Engineering College (GTEC), Vellore on 6/03/2015 (Friday) at the college premises. The Inaugural function started at 11AM with Invocation. Prof. A. Manimegalai, HOD/ECE gave the welcome address for the Inaugural Ceremony. Presidential address was delivered by Dr. R. Varatharajan, Principal. Chief Guest Dr.R.HariPrakash was introduced by the Student Branch Counselor Prof. V.Jayaprakasan.

Dr.R.HariPrakash, Vice Chair (Professional Activities) IEEE India Council -2014 and Member Execom IEEE Madras Section inaugurated the IEEE Students Branch and the IEEE Communication Society chapter at Ganadipathy Tulsi's Jain Engineering College (GTEC), Vellore.

Dr.R.HariPrakash in his inaugural speech emphasized the needs of establishing an IEEE Student Chapter in an Engineering and Technology Institution and presented to the audience a PPT presentation on the variety of resources available for the members joining this society.

During the presentation Dr.R.HariPrakash, briefed on the importance of IEEE Student Chapter and the benefits available for the student members joining the Communication society. He also informed the students about the IEEE Spectrum, IEEE Potential Magazine – Institute, Google apps, scholarships, fellowships and job opportunities available for them. He insisted the students to browse my IEEE and update themselves of the latest innovation and keep technically current, develop professional networking, utilize the Jobsite etc. He then distributed Certificates and Identity Cards to the approved student members. Dr.R.HariPrakash also distributed

IEEE Brochures and application forms to the student's audience and invited them to join IEEE.

HOD in her felicitation speech requested the staff and students to join IEEE and get benefited for their professional development. Branch Counselor Prof.V.Jayaprakasan also offered his felicitation. After the Introduction of Office Bearers, M.Nivetha as Branch Chair, D,Nivetha as Branch Vice-Chair, S.Sameer Ahmed as Branch Secretary, K.T.Jeevitha as Branch Treasurer, T.Preethi as Society Chair, S.Priyanka as Society Vice-Chair, K.Sripriya as Society Secretary, V.Abirami as Society Treasurer, IEEE Student Branch and IEEE Communication Society, M. NIVETHA, Branch Chair delivered Vote of Thanks.

Report by:

Branch Counselor of Students Chapter

GTEC, Vellore.

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Captions:

Sitting (left to right): 1.Prof.A.Manimegalai, Chapter Advisor, 2.Mr.NandaKishore, (Rtd) IAS Advisor, GTEC 3. Dr.R.HariPrakash, Vice Chair (Professional Activities) IEEE India Council -2014 and Member Execom IEEE Madras Section 4. Prof.V.Jayaprakasan, Branch Counselor and 5. Prof. G.Ilanchezhia Pandian, Academic Dean/GTEC.

Standing (left to right): 1. S.Sameer Ahmed, 2. V.Abirami 3. K.Sripriya, 4. S.Priyanka, and 5. T.Preethi, 6. K.T.Jeevitha, 7. D,Nivetha and 8. M.Nivetha (Students Branch and Society Office Bearers)

12th IEEE India International Conference

INDICON 2015

Electronics, Energy, Environment, Communication, Computer, Control, (E^3-C^3)

17-20 December 2015, Jamia Millia Islamia, New Delhi, INDIA

Patron:
Talat Ahmad, Vice Chancellor, JMI

General Chairs:
Mini S. Thomas JMI & Bhim Singh IIT Delhi

Technical Program Committee Chair:
Shiban Koul, IIT Delhi
Organising Chair:
Majid Jamil, JMI
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Anil Roy, Treasurer, IEEE India Council
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M. Shakeel, Dean, Faculty of Engg, JMI
Tasneem Menai, D.S.W., JMI
Mehtab Alam, Proctor, JMI
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S. Mukhopadhyay, GTBIT, R. Joshi, TPDDL
A. Q. Ansari, JMI, Zaheeruddin, JMI
Technical Program Track Chairs:
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Energy & Power: Sukumar Mishra, IIT Delhi, Anwar S. Siddiqui, JMI, Rachana Garg, DTU
Environment & Electrical Engg :
S. Mukhopadhyay, GTBIT, H. E. Akhter, JMI, Daman D Sood, Con & Resilience
Communication & Signal Processing: Manav Bhatnagar, IIT Delhi, Z. A. Jaffery, JMI
Computer & Information Technology:
K. Subramanian, Ex NIC, Shabana Mehfuz, JMI, M N Hoda, BVP
Control & Instrumentation: Anuj Dhawan, IIT Delhi, Tariqul Islam, JMI
Publication Chairs:
Prerna Gaur, NSIT, P. K Gupta, C DOT, Shakeb A. Khan, JMI, Ahteshamul Haque, JMI
Tutorial Chairs:
B K Panigrahi, IIT Delhi, Shabana Urooj, GBU, Manaullah, JMI, Naimul Hasan, JMI
Exhibition Chairs:
J B V Reddy, DST, Rakesh Mallik, ST Micro
Shahida Khatoon, JMI, Abrar Ahmad, JMI
Haroon Ashfaq, JMI, Arunesh K. Singh, JMI
Sheeraz Kirmani, JMI, Rajveer Singh, JMI

Call for Papers

Background:
INDICON is the annual conference of the IEEE India Council, and IEEE Delhi Section is hosting it a fourth time in 2015 after the successful organisation in 2006, and its previous version (ACE) in 2001 and 1996. Since INDICON is intended as a conference to serve all the IEEE members and associated industries, the conference will have paper presentations, Industry Panels sessions, Tutorials and an exhibition.

About Jamia Millia Islamia:
Jamia Millia Islamia (JMI) was founded in 1920 during the Khilafat (Non-Cooperation) Movement in response to Mahatma Gandhi's call during India's freedom movement and is one of the Central Government Universities in India. JMI currently has around 19,000 students, runs 220 courses and has 220 acres of lush green campus in the heart of Delhi.

Conference Theme:
Electronics, Energy, Environment, Communication, Computer, Control (E^3-C^3)
INDICON 2015 will be held from December 17 to 19, 2015 at Jamia Millia Islamia, New Delhi. The conference focuses on original research work and its industry application intended for exchange of ideas, research outcomes and practical experience. Leading experts from Academia and Industry will participate and deliberate on the challenges faced in the respective fields and innovative solutions.

Area to be covered, but not limited to:
Authors are requested to send original papers based on the research work/field experience in the categories listed below:

Track-1: Electronics & Nano-technology: Allied Electronics, Circuits and Systems, Digital System Design, Biomedical Electronics, Embedded systems, Mechatronics, Applications of Nano-technology, VLSI, Device modelling and simulation, biosensors, Tetrahertz Technology.

Track-2: Energy & Power: New and Renewable Sources of Power Generation, Power System Deregulation, Energy Markets, Modelling and Simulation of Large Power Systems, Electricity Infrastructure Modelling and Control, Power Electronics Applications in Power Systems and Electrical Machines & Drives Systems, Power System Automation- SCADA/EMS & Synchro-Phasor Measurements, Distribution Management Systems, Smart Grids and Smart Cities.

Track-3: Environment & Electrical Engineering: Standards, Regulations and Policies, Power Systems and Environmental Impact, Electromagnetic Compatibility and Application, Novel Materials for Energy Harvesting, Nearly Zero Energy Buildings, Sustainable Transport Systems, Designing for Safety, Grounding, Lightning, Hazard – Electric Shock, Arc Flash, Fire and Explosion, Sustainable Living in Growing Digitalization, Out-of-Life Equipment Disposal.

Track-4: Communication & Signal Processing: Cognitive Radio & Dynamic Spectrum Management, Mobile and Wireless Technologies, Smart Antennas, Multiple Access Techniques, Image, Audio & Video Processing Techniques, Compression & Coding, Multimedia Tools, Applications & Security, Artificial Intelligence in Signal & Image Processing, Biomedical/Genomic Signal& Image Processing, Pattern Recognition and Machine Learning, Multi-Channel Signal Processing.

Track-5: Computer & Information Technology: Computational Intelligence, Mobile and Pervasive Computing, Data Mining & Warehousing, Parallel, Distributed and Cloud Computing, Visualization & Computer Graphics, Information Technology & Software Computing.

Track-6: Control & Instrumentation: Robust, Stochastic and Multivariable Control, Time-Delay Systems, Intelligent and Artificial Intelligence-Based Control, Control Algorithms implementation, Control Applications, Motion Control, Optimal Control, Adaptive Control, Real-Time Systems, Modelling and Simulation, Recent Developments in Measurement Techniques, Sensors, Smart Sensor, Sensor Array, Electronic Instrumentation, Signal Conditioning, Virtual and Biomedical Instrumentation.

Deadlines:

Submission of Full Length Paper	**: 15th June, 2015**
Notification to acceptance	**: 15th August, 2015**
Early Bird Registration	**: 1st September, 2015**
Camera Ready Manuscript	**: 1st October, 2015**
Conference	**: 17th – 20th December, 2015**

URL: http://indicon2015.in/ **Email ID: indicon2015@jmi.ac.in**

First International Conference on
Computing, Communication, Control and Automation ICUBEA-2015,
26-27 Feb, 2015, PCCOE, Pune, India

The First **International Conference on Computing, Communication, Control and Automation 'ICCUBEA – 2015'** was organized by PCET's Pimpri Chinchwad College of Engineering **PCCoE, Pune, India** on **26th and 27th Feb 2015.**

The Conference was technically co-sponsored by IEEE Pune section and supported by Savitribai Phule Pune University (SPPU), Indian Society of Technical Education (ISTE) and Quality Circle Forum of India (QCFI). The proceeding of the conference is published through IEEE Conference publishing Service IEEE CPS and submitted to IEEE Explore. IEEE Conference Record is #34886 and has also been listed in the IEEE conference search (www.iccubea.com).

ICCUBEA-2015 was an international open forum for the researchers and technocrats in academia as well as in industries from different parts of the world to interact, exchange concepts, prototypes, innovative research ideas and share the outcomes of their research work which could contribute to the academic arena and further benefit the business and industrial community.

The 'ICCUBEA – 2015' has received overwhelming response from all Sectors including Academia, Industry Professionals and Research Scholars. Total 599 Research Papers were received. Authors of these papers are from Abroad (Australia, Denmark, Germany, USA, Iraq, Nepal etc.), various states of India (Odisa, WestBengal, Rajasthan, Gujrat, Delhi, Karnataka, Tamilnadu, Uttar Pradesh and Madhya Pradesh etc.) and major places of Maharashtra (Akola, Amaravati, Nasik, Nagpur, Mumbai, Shegaon, Sangli, Satara, Shirpur etc.) including Pune and PCCOE. After very critical review by Experts in the particular Domain; 202 Papers were accepted, leading to an acceptance ratio of 33%.

This Conference was **inaugurated on 26th Feb 2015** in the gracious presence of dignitaries like **Padma Bhushan Dr. Vijay Bhatkar, Dr. Surendra Pal** and others. Their highly charged speeches were very motivating for all.

Conference Inauguration and Welcome to Dr. Bhatkar by Shri D. P. Landge

Padma Bhusha Dr. Vijay Bhatkar, in his inaugural speech, shared his vision of self-sustainable technical growth of the nation and is very well taken by all. He also made mention of National Knowledge Network, wherein the budding researchers will take pride contributing to the mainstream development of the Nation.

Chief Guest Address by Padma Bhushan Dr. Bhatkar

Address by Dr. Fulambarkar, Principal, PCCoE delivering talk on the "Theme of the conference"

Keynote speeches by various renowned personalities like **Dr. Surendra Pal from ISRO, Dr. G.S. Mani from DRDO, Dr. Pramod Kumar Meher from NTU Singapore** have indeed given a new dimension to this Conference. Their knowledge and experience culminated in generating several productive inputs for the attendees.

Keynote Address by Dr. S. Pal Eminent Scientist-ISRO, VC-DIAT

Keynote Address by Prof. Mani Scientist- DRDO

Dr. Surendra Pal shared his experience with ISRO and touched upon the fields of communication computing and control. He also suggested the Researchers to contribute in the ISRO's Satellites Design and Development program.

Dr. G. S. Mani acquainted us with defense technologies. He also briefed us about the technologies used in DRDO that gave us a hope and confidence to contribute at national level with great pride.

Keynote Address by Dr. PK Meher
Professor, NTU, Singapore

Presentations by delegates
at ICCUBEA-2015

Dr. Meher deliberately took us on a journey of HPC and architectural trends which helped us to think tangibly about the different dimensions for performance enhancement. It also made us aware of the challenges posed to the human kind in terms of access to the better livelihood, human comfort, security, search of the sister planets, etc., and much remains to be done. The keynote speeches were really motivating and indeed gave new dimension to this Conference.

The Research Papers were presented in 4 Sessions and 7 Parallel Tracks in various Areas of Research like High Performance Computing, Cloud Computing, Database Systems, Data Mining, Software Engineering, Project Management, Communication, Cryptography, Networking, Speech, Image, Video Signal Processing, VLSI, SoC, Embedded Systems, Robotics Process Control and Automation.

All the presentations were very carefully listened, critically reviewed and very well deliberated on by our respected Session chairs. One Paper from each track is selected as the best paper.

Valedictory Function on 27th Feb 2015 was chaired by **Dr. H. K. Abhyankar,** Vice President, VIT, Pune. His speech was mainly focused on 'Never ending thirst for learning' and very well received by all.

Dr. Bhandari, General Chair
Presenting brief Report on ICCUBEA-2015

Address by Dr. H. K. Abhyankar
Vice President VIT, Pune

Best paper awards given away during Valedictory Function

Delegates sharing their experiences during Valedictory Function

Best Papers were selected among each track and awards were given to authors of Best papers. We also received feedback from the attendees; the efforts of the Organizing Committee and PCCoE Team were appreciated.

We are sure that all attendees of the 'ICCUBEA – 2015' have gained maximum leanings from the two days of the Conference.

This wouldn't have been possible without the perfectly coordinated efforts of all organizing committee members of ICCUBEA-2015 and members of 'Team PCCoE' including our entire Academic and Administrative Staff Members and Student volunteers.

Report Submitted by:

Dr. Sheetal Bhandari
General Chair, ICCUBEA 2015
Dean Students Development and Associate Professor Department of Electronics & TC Engineering
Pimpri Chinchwad College of Engineering, Nigdi, Pune-411044, India
Email : Sheetal.bhandari@pccoepune.org

Words of Wisdom

I've spent a good part of my life studying economic successes and failures. I've learned that everything takes a back seat to innovation.

- Tom Peters

Technology News

Unmanned Aerial Vehicles

To Save Our Lives

These drones differ from ordnance and missiles in that the air vehicle is designed to come back and be re-used. They also operate out of line of sight and at altitudes where a person on the ground cannot readily see them. Also, autonomously following a pre-programmed mission, they are sophisticated systems incorporating lightweight airframes, advanced propulsion systems, secure data links, high-tech control systems and payloads. These air vehicles still need a pilot who rather than being seated in the aircraft itself is located in a control centre on the ground.

Most early UAVs are not autonomous at all. Autonomy is commonly defined as the ability to makedecisions without human intervention. To that end, the goal of autonomy is to teach machines to be "smart" and act more like humans. This may be associated with the developments in fields like artificial intelligence, expert systems, neural networks, machine learning and natural language processing. However, this technological development in autonomy arena has mostly followed a bottom up approach, and recent advances have been largely driven by the practitioners in the field of control science, not computer science. Similarly, autonomy has been and probably will continue to be considered an extension of the controls field. In the foreseeable future, however, the two fields may merge and researchers from both disciplines will work together.

Some important aspects of autonomy technology:

Sensor fusion: Combining information from different sensors for use on board the vehicle.

Communications: Handling communication and coordination between multiple agents even with incomplete information.

Path planning and Trajectory Generation: Determining an optimal path to follow while meeting certain objectives as well as obstacles

Task Allocation and Scheduling: Determining the optimal distribution of tasks amongst a group, with time and equipment constraints.

Cooperative Tactics: Formulating an optimal sequence and spatial distribution of activities between agents in order to maximize chance of success in any given mission scenario.

Because UAVs are not burdened with the physiological limitations of human pilots, they can be designed for maximized on-station times. The maximum flight duration of unmanned aerial vehicles varies widely. Now the roles of the drone are changing. In the not too distant future, we may hear the friendly hum of a drone's rotors as it descends upon us, to offer relief at a time and location when we are in difficulty.

Research at the University of Cincinnati could soon enable unmanned aerial vehicles (UAV) to track down missing persons on search-and-rescue missions, to penetrate curtains of smoke during wildfire suppression or possibly even to navigate urban landscapes for online retailers like Amazon to deliver goods ordered - all done autonomously with a human acting only as a supervisor, sitting in his office. Kelly Cohen, associate professor of aerospace engineering and engineering mechanics at UC and a team of researchers have developed an experimental capability to capture the dynamic behaviour of the UAV platform.

For now, Federal Aviation Administration regulations greatly limit the use of drones. Cohen predicts that in the next few years FAA guidelines will adapt to this technology, and he believes disaster management and public safety officials such as fire fighters and police will be among the first to be licensed to operate drones in national airspace.

[Courtesy:http://www.uc.edu, http://www.uavs.org/]

Technology News

Home Elevators for the Disabled

Vacuum and Gravity Driven Cabs

Many multi – storied homes provide a chair lift for the movement of those confined to wheel chair. But they have to depend on help from others to shift from wheel chair to the lift at the entrance and exit while changing floors. Now, a company called Nationwide Lifts, Glens Falls, N.Y., has developed a home solution for those who lose mobility. This is a wheelchair accessible home elevator which uses vacuum and gravity to move the elevator cab up to 35ft at speeds to 20fpm inside a 53 in tube.

This elevator has no pit, machine room, ropes, pulleys, chains or counterweights. The tube is made of aluminium and polycarbonate. The elevator's driving mechanism is an electrically driven air turbine installed at the top of the shaft. On activation, a vacuum is created above the cabin as the turbine pulls air from there. This causes the cab being pushed up into the vacuum by the air inside the tube at the bottom of the cab. In fact, the cab is like a piston moving inside a rodless pneumatic cylinder. Steel brakes mounted on the top of the cab is used to stop the cab at desired floors.

For going down, the turbine is energised for a short duration so as to lift the cab. Once the turbine is de-energized, the cab travels down slowly. Magnetic sensors located at the top of the cab track its position and the cab is signalled to stop at desired floors.

[For details: http://www.home-elevator.net/]

IEEE India Info

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