IEEE India Info
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Message from the Chairman

Dear IEEE Members,

In physics, it is said that a lot of energy is required to move a body from rest to motion, but it takes lesser energy to keep it in motion. In partially analogous terms, I can mention here that it took a lot of efforts on the part of the IEEE IC Newsletter Coordinator and the team to put IEEE ICNL in motion in 2017. But contrary to the law of physics, it also takes a lot of efforts to keep IEEE ICNL in motion. It is indeed a great achievement of IEEE IC Newsletter Coordinator and the team to come out with the third issue of the newsletter in 2017 right on time. Once again heartiest congratulation to all IEEE volunteers who have made it happen.

I am happy to report here that twenty students as nominated by the respective Section Chairs have participated at Google Developers Meet on 2nd and 3rd Sept at Bengaluru Google office. These students were from Bombay, Kerala, Pune, Gujarat, Hyderabad, Kharagpur, Delhi, UP and Madras Sections. This meet has created good impact and branding of IC within students.

As I am writing this message, the All India Students-Young Professionals-WIE Congress 2017 is being organized with great success in the historic city of Allahabad. The congress, which is a major event under the auspices of IEEE India Council, is attended by large number of enthusiastic participants. The organizers have lined up an impressive array of speakers, which adds immense value to the event. I also take this opportunity to thank all the Sections, which have supported this event pro-actively.

IEEE IC awards committee has received very good number of nominations for IEEE India Council Outstanding Student Branch Award and IEEE India Council Outstanding Volunteer Award. The awards committee under the able leadership of VC, Awards, is taking all necessary steps towards following a selection process, which is line with IEEE awards guidelines. It is also pertinent to mention here that the joint agreement for the WIE awards with Hope foundation is under revision based on inputs from IC and shall be announced during INDICON-17.

The preparations for IEEE Indicon-2017 are at an advanced stage. The conference, as in the case of previous years, has received large number of contributed papers. The organizers are now fine tuning the conference details which will soon be available on the Indicon website. I am confident that we are going to have a grand Indicon-2017.

On a different note, I would like to mention here that, as per the rules of IEEE, any event sponsored by any chapter of IEEE IC needs to be endorsed by IEEE IC at a later stage. I urge upon the chapters to follow this guideline to avoid any procedural difficulty at later stages of endorsement.

As reported earlier, IEEE IC is playing an important role in finalizing the report of IEEE India Adhoc-2017. A large number of IEEE volunteers and OUs have bagged prestigious awards. My heartiest congratulations to them .

The nomination committee of IEEE IC for 2017 has submitted its report, which has also been noted in IEEE IC Execom. The nomination committee has recommended one more term for the undersigned as the IEEE IC Chair in the year 2018. I humbly accept the responsibility and feel honoured to note the faith bestowed on me by the nomination committee in particular and IEEE IC in general. I pledge to give my best for IEEE IC in the days and months to come.

With warm fraternal greetings,
Sivaji Chakravorti
s_chakrav@yahoo.com

Message from Editor

H.R. Mohan
hrmohan.ieee@gmail.com

Dear readers,

We are presenting the third quarterly issue of India Council Newsletter (ICNL) for the year 2017. This current issue of ICNL in 68 pages, features various events, such as international conferences, distinguished lectures, activities of Society Chapters, YP, WIE held in the Bangalore, Bombay, Delhi, Hyderabad, Kerala, Madras and UP Sections. We thank the chairs of these Sections and the conveners of the events for sending the reports as per guidelines and IC Chair Dr. Sivaji and IC Secretary Dr Preeeti for their coordination. For the forthcoming issues, we expect the reports from all the Sections to be sent to the newsletter directly at ieee.icnl@gmail.com as per the guidelines published in the newsletter and also available at https://goo.gl/DcVPmx Dr. Sivaji Chakravorti, chair, IC in his message has outlined the various initiatives of IC such as Google Developers Meet, AISWYC-2017 at IIIT Allahabad, IC Awards, INDICON-2017, IEEE India Adhoc-2017 and also expressed his views on Sections endorsing on various events being organised. We also thank the authors of the following informative and interesting articles published in this issue.

The article "Digital Empowerment in Healthcare" by Dr. K. Ganapathy, Director, Apollo Tele Health Services & President, Apollo Telemedicine Networking Foundation focusing on the potentials of Information technology (IT) in improving quality, safety, and efficiency of health care in India with highlights on the benefits and challenges.

The article on "Internet Governance" by Mr. Samiran Gupta, Head of India, ICANN introduces the subject of Internet governance, and highlights how an Internet end-user, can participate in shaping the future policies and standards to keep the Internet stable, secure and resilient.

IEEE plays a major role through Standards Association (IEEE-SA) in the developments of various global standards with the help of volunteers and corporate members. IEEE current has over 1200 active standards and over 500 standards under active development across various technical societies. The article by Srikanth Chandrasekaran, Sr. Director (Standards & Technology), IEEE India deals with the Standards development process in India and how one can participate.

The article "IoT Enabled Village Lighting" by V.P. Sampath, Technical Architect, Adeptchips Private Limited, Bangalore is on how we can plan and improve Rural Electrification using IoT.

Intellectual property (IP) has now become an integral part of innovation-driven socio-economic development across the globe and as an effective policy instrument with respect to a range of technological, socio-economic, political concerns. The article "Intellectual Property Right in Global Business Environment" by G.B Ponmanivannan, Principal Technology Leader, L&T Technology Services is an useful and timely primer on IP.

With the increasing share of women employees in all levels in IT/ITES organizations, creating a safe workplace for women is gaining importance and the article on this subject by Sarada Ramani, President eWIT (empowering women in IT) in her article highlights the issues and roles of the employers.

The article "Reading Habits for Success" is a compilation of random thoughts by Ramesh Narasimhan, Coach and Mentor - Skill Development and elaborates the benefits of reading and lists the steps in cultivating it as a habit starting with setting a goal.

With the increasing concerns on employment to our engineering graduates, we try to explore the potentials opportunities in various areas. The article "Ocean Science and Technology – Newer Opportunities for Engineers" is our maiden attempt in this direction. Dr. R. Venkatesan of National Institute of Ocean Technology, Chennai having significant experience in the area of Ocean Science and Technology has outlined the employment and higher studies opportunities.

IT in July – Septemeber 2017 by Prof. S. Sadagopan, Director, IIIT Bangalore is a part of our regular column in ICNL and provides a broad overview on various important happenings in the IT and Telecom sectors in India. We are sure that readers will find the information and the related links provided in the column "Information Resources" compiled by the editor Mr. H.R. Mohan, is interesting and informative. The "Announcements" column lists some forthcoming IC events and certain useful IEEE & IEEE IC web links. We regret to inform that the "ICNL Readers Quiz" has been discontinued due to some logistic issues.

While we wish to re-iterate that our aim is to make ICNL a source of information to our members, it is possible only with the active support from one and all. We look forward to activity reports from IEEE OUs, articles on current interest topics from both professional members and academia. Happy reading of ICNL-17q3.

IEEE Bangalore Section Events

40th Anniversary of IEEE Bangalore Section

40th Anniversary of IEEE Bangalore Section was celebrated in a grand function at Hotel Sterlings MAC, Bangalore on July 16, 2017. Dr. S. Christopher, Distinguished Scientist, Chairman, DRDO and Secretary, Department of Defence R&D, Govt of India was the Chief Guest for the function. Prof. Anurag Kumar, Director, Indian Institute of Science was the Guest of Honor. Prof. Debabrata Das, Chair, IEEE Bangalore Section welcomed the members, invitees, all past chairs, chief guest, and guest of honor. He also briefed about significant achievements and major initiatives of IEEE Bangalore Section.

L-R: Mr. B N Pal, Mr. Puneet K Mishra, Dr. S Christopher, Prof. Anurag Kumar, Prof. Debabrata Das

IEEE Bangalore Section felicitated Dr. S Christopher and Prof. Anurag Kumar, both members of IEEE Bangalore section for their R&D contributions and reaching the highest position in institutions of repute, i.e. as Chairman, DRDO and Director, IISc. Bangalore section also felicitated all its past chairs by a Silver Plaque for their enormous contribution to the Section. 14 out of 20, past chairs were present to accept the felicitation. As part of celebration following four technical talks and two panel discussions were organized.

Technical Talks

1. Success Stories and Future Challenges of ISRO by Dr. M Annadurai, Distinguished Scientist and Director, ISRO Satellite Centre
2. DRDO's Indigenous Airborne Early Warning & Control System by Dr. S Christopher, Distinguished Scientist, Chairman, DRDO and Secretary, Department of Defence R&D, Govt of India
3. Communication Network and IOT by Prof Anurag Kumar, Director, IISc
4. Technology for Self-Driven Vehicle by Mr. Mihir Modi, DMTS, TI

Panel Discussions

1. World Scenario and Technical Job/Research Path for youngster: Moderator, Mr. A. Ravikiran, Panellist: Dr. Surendra Pal, Dr. V V Srinivasan, Dr. Sudeendra Kaushik, Dr. Prasant Misra
2. Vision 2027 - IEEE Bangalore Section 50th Year: Moderator: Prof. K V S Hari, Panellist: Ms. Pamela Kumar, Prof. Kasi Rajgopal, Dr. G S Javed, Dr. M Vidya Sagar, Ms. Bhargavi

Some of Significant achievements, International Events, National Events and major initiatives of Bangalore Section are given below for benefit of IEEE members across India.

Significant Achievements

1. MGA Outstanding Large Section Award 2013
2. IEEE R10 Distinguished Large Section Award 2013

3. IEEE Region 10-Digital Connect Survey Award 2013
4. IEEE Region 10-MD incentive Grant for Membership Retention 2016
5. 20 IEEE Fellows
6. 500+ Senior Members

International Events

1. International Conference on Computer, Systems and Signal Processing -1984 (To celebrate IEEE-100 Yrs and Platinum Jubilee of IISc)
2. International Conference on Communication, Control and Signal Processing-2000
3. International Symposium on Microwaves-2004,2006,2008
4. 125th Year Anniversary Celebrations of IEEE -2009
5. IEEE CONECCT 2013, 2014, 2015
6. IEEE iAIM 2017
7. 50th Year Anniversary Celebrations of IEEE Region 10-2016
8. IEEE WIE Global Summit 2016
9. IEEE R10 Students-YP-WIE-LM Congress 2016
10. TENCON 2003
11. IEEE Admission & Advancement Committee Meeting 2006 & 2013
12. IEEE Region 10 ExeCom Meeting 2016

National Events

1. IEEE Bangalore Annual Symposium 1991-2012
2. IEEE INDICON 2007, 2016
3. IEEE SmartTech 2014, 2015, 2016, 2017
4. IC WIE Symposium 2015
5. All India Computer Society Student Congress 2013

Major Initiatives

1. IEEE CONECCT-Section's flagship international conference for Academia and researchers
2. IEEE SmartTech- Section's flagship Workshop for Industry Professionals
3. Senior Member Elevation Program (SIMPLE)- Due to This program section has 500+ senior members
4. Fellow Identification and Nomination Exercise (FINE)- To identify and nominate suitable Senior Member to IEEE Fellow Grade
5. Performance Based and Membership Dependent Section Support scheme for Student Branches – With this scheme Student Branches can avail section support upto INR 50K/year.This scheme is huge success and nearly INR 16.0L is disbursed to various student branches in last 2 years.
6. Performance based Section Support scheme for Society chapters-With this scheme society chapters can avail upto INR 50K/year. Nealry 3.0L is disbursed to various society chapters in last 2 years.
7. Online transfer of funds to Student Branches and Society Chapters
8. Section support to Student/YP/WIE Volunteers to attend R10-Students-YP-WIE Congress and All India Students-YP-Congress
9. Road show of ExeCom to North Karnataka
10. IEEE Bangalore Outstanding Volunteer Award- A certificate and cash prize of INR 10K/Year
11. IEEE Bangalore Best Large Student Branch Award- A certificate and cash prize of INR 10K/Year
12. IEEE Bangalore Best Small Student Branch Award- A certificate and cash prize of INR 10K/Year
13. IEEE Bangalore Best Student Branch Website Award- A certificate and cash prize of INR 10K/Year
14. IEEE Bangalore Outstanding Branch Councillor Award- A certificate and cash prize of INR 10K/Year
15. IEEE Bangalore Outstanding Student Volunteer Award- A certificate and cash prize of INR 10K/Year
16. IEEE Bangalore Best Society Chapter Award- A certificate and cash prize of INR 10K/Year
17. Formation of Special Interest Group on Standards, IoT & Cloud Computing
18. MoU with IEI to anchor the IEI-IEEE Award for Engineering Excellence
19. Invitation to Student Members to attend AGM
20. Annual Branch Councillors' meet
21. Annual Chapter Chairs' meet
22. Encouraging each Student Branch/Society Chapters to celebrate IEEE Day and conduct at least 1 Humanitarian Project
23. Section's initiatives IEEE Xtreme & AIYEHUM are now Global IEEE initiative

24. Section's initiative of Health Insurgence to all members is now India Initiative
25. Felicitating Section Members on Elevation to IEEE Fellow Grade, Elevation to Life Senior Grade
26. Cash prize on Publicising Papers in IEEE Journals (not every year).

More than 200 Members, Senior Members, Life Members, Fellows and Life Fellows attended the day long function. Function concluded with vote of thanks proposed by Mr. Puneet Kumar Mishra, Vice Chair, IEEE Bangalore Section and Co-Chair, 40 Yrs Celebrations.

IEEE Bangalore Section ExeCom Members, Past Chairs, Chief Guest and Guest of Honor

Attendees at the 40 years Anniversary Celebrations

Alibaba posts record Singles' Day sales of $25 billion: Chinese e-commerce giant Alibaba generated a record $25.3 billion in its Singles' Day sales, showing a 39% jump from last year. It surpassed previous year's total of $17.8 billion in just 13 hours. Alibaba said its total number of delivery orders was 812 million compared to 657 million in 2016, and that 90% of sales were made on mobile.

China to build police station powered by AI, not humans: The Chinese government has announced that it will build an artificial intelligence (AI)-powered police station without any human personnel. The station will be open to the public 24/7 and will feature face-scanning technology to replace ID Cards. It will offer services specifically focused on issues with tests for drivers using a simulator, managing records and paperwork, among other activities.

2016 IEI-IEEE Award for Engineering Excellence

L-R: Mr. B N Pal, Secretary, IEEE Bangalore Section, Mr. Puneet K Mishra, Vice Chair, IEEE Bangalore Section, Dr. Muralikrishna Reddy, Immediate Past IEI President, Dr. M Vasagam, Immediate Past IEI-Karnataka Centre Chair, Mr. Ramakrishna Kappagantu, IEEE Board & IEEE Awards Board representative, Prof. B S Sondhe, Jury Member, Dr. M Annadurai, IEI-IEEE Award Recipient, Dr. S Christopher, Chairman, DRDO and Secretary, Dept. of Defence R&D, Chief Guest, Prof. Anurag Kuamr, Director, IISc, Guest of Honor, Prof. Debabrata Das, Chair, IEEE Bangalore Section

The IEI and the IEEE have established a Joint Award titled the IEI-IEEE Award for Engineering Excellence which comprises of an exclusive medal and a certificate. This prestigious award has been instituted to give global recognition to local engineering contribution par excellence in various fields of engineering and technology under IEEE JANS program.

The second edition of the Award for 2016 was presented at the 40 Years Anniversary celebrations of IEEE Bangalore Section. Jury Comprising Prof. B. S. Sonde & Prof. V K. Atre deliberated on 20 nominations received from eminent personalities and came to the conclusion of conferring the IEI-IEEE Engineering Excellence Award-2016 on Dr. M. Annadurai, Distinguished Scientist & Director, ISRO Satellite Centre. The citation says **"For Contribution and leadership in space technology in service to humanity".**

2016 IEI-IEEE Award for Engineering Excellence presentation ceremony was organized on July 16, 2017. Prof. Debabrata Das, Chair, IEEE Bangalore Section welcomed the members, invitees, chief guest, Dr. S. Christopher, Distinguished Scientist, Chairman, DRDO and Secretary, Department of Defence R&D, Govt of India, guest of honor, Prof. Anurag Kumar, Director, Indian Institute of Science and Award Recipient, Dr. M Annadurai, Distinguished Scientist and Director ISRO Satellite Centre, Bangalore .

Award Medal and a Certificate Plaque were presented to Dr. M Annadurai by Chief Guest, Dr. S. Christopher. IEEE Board and IEEE Awards board was represented by Mr. Ramakrishna Kappagantu, Immediate Past Director, IEEE R10, whereas IEI Board was represented by Dr. M. Vasagam, Immediate Past Chairman, IEI-Karnataka Centre & Dr. Muralikrishna Reddy, Immediate Past President of IEI, India. Mr. Ramakrishna K and Dr. M Vasagam briefed the gathering about IEI-IEEE Award for Engineering Excellence and read the citation. One of the Jury member Prof. B S Sondhe was also present during the ceremony. Dr. M Annadurai in his acceptance speech gave details of India Space Program and its impact on Society. Dr. S Christopher delivered a talk on DRDO's Indigenous Airborne Early Warning & Control System. Program was attended by more than 200 IEEE Members. Vote of thanks was proposed by Mr. Puneet Kumar Mishra, Vice Chair, IEEE Bangalore Section.

Microblogging site Twitter has increased the display name character limit to 50 from the previous limit of 20 characters.

IEEE Bombay Section Events

IEEE Student Transition and Elevation Partnership Program

"It's not about ideas. It's about making ideas happen." - Scott Belsky, co-founder of Behance.

Hand holding our student members on the journey to professional life is an important aspect of the mentorship and the motto of IEEE Bombay Section Young Professional Affinity Group. In line with its vision of providing value addition as well as local connect, IEEE BSYP organised the 2nd edition of Student Transition and Elevation Partnership Program (STEP) at IEEE S..B. Jain Institute of Technology Management and Research Student Branch on 7th and 8th July 2017.

The event was inaugurated by the Chief Guest, Dr. Sachin Gogate, Assistant Director, Pratt & Whitney, USA. Other dignitaries at the inaugural session included: Dr. Sanjay Badjate, Principal, SBJITMR, Anand Gharpure, IEEE Bombay Section YP Chair, Dr Ms Preeti Bajaj, Director, GH Raisoni College of Engineering and Gandhar Kanitkar, IEEE YP Execom Member. Dr. Sanjay Badjate welcomed the guests and participants and felicitated the Chief Guest and other dignitaries. Dr. Preeti Bajaj congratulated everyone for hosting the first event at IEEE Nagpur Sub-Section and also emphasized on the importance and experience of such IEEE events which mould the managerial skills of the students.

Professional life can be divided in two parts which are Career and Entrepreneurship. We tried to offer a flavour of both these options to the participants and chose the topic accordingly. "Career Building in Mainstream Companies" was the topic discussed by Dr. Sachin Gogate who shared his views & his experience which started from being Alumnus of VNIT (then VRCE, Nagpur). He enlightened the participants about available choices, pursuing further education to complement work experience. He also spoke about Job Hopping or Switching of Jobs and its effect in the long term.

The session was followed by a panel discussion between Dr. Sachin Gogate and the next speakers-cum-entrepreneurs Mustafa Maimoon, Founder and CEO of New Tech Dies, Sagar Kirtane, Founder and CEO of Web Beta Pvt. Ltd. And Mr. Asim Parte, TPO, SBJITMR which was moderated by Anand S Gharpure. The major points which were discussed were "If professional Membership like IEEE helps in career or Business", "Growth Vs Stability Debate" and "Completing all the education before joining the industry". Various queries of student participants regarding placements, career opportunities and entrepreneurship were answered throughout the discussion by the panellists.

Mustafa Maimoon and Mr. Sagar Kirtane shared their start-up experience and encouraged the students to look at the other avenues in life. Team building activity was conducted to bring out the decision making & marketing qualities as well as to understand the importance of working in teams.

The second day of the event began with a session by Mr. Shubham Gupta, IEEE YP Member. He gave insights on areas like networking, technical assistance, personal development provided by the YP community of IEEE. He also shared his own experience with the IEEE YP community. Mr. Gandhar Kanitkar, provided guidance regarding the financial requirement for new setups and what options could be opted for them. Arbob Mehmood, Founder & CEO at SIQQA who is working on Crypto-Currency such as BitCoin and Mr. Jayesh Bagde, COO & Co-Founder Touristlink and Founder, GetNow shared the knowledge and experience of their own start-ups with the participants.

The event was summarized with the concluding remarks by Mr. Anand Gharpure. Dr. Narendra Bawane, IEEE Bombay Section Execom Member appreciated the active response of participants from different IEEE SB and motivated them to

continue the enthusiasm in upcoming activities. The vote of thanks was proposed by Prof. Disha Gupta, Branch Counsellor, IEEE S. B. Jain Student Branch and overall co-ordinator of the event.

BS@40 : IEEE Bombay Section Celebrates 40 Years

13 July 2017 was special for IEEE Bombay Section as it marks the high point of BS@40, our yearlong 40th anniversary celebrations. Bombay Section was one of three Sections which emerged from the erstwhile IEEE India Section in 1976.

During the period the **BS@40** branding covered all Section technical events especially Section Signature Symposium IBSS 2016 held at Baramati, in Pune (Dec 2016) and Section Students Congress IBSC 2017, at Shegaon, North Maharashtra (Jan 2017) and the forthcoming IBSS 2017 at Shah & Anchor Kutchi Engineering College Mumbai (Dec 2017).

Specific BS@40 technical offerings in the form of expert talks included:

- 21 Jan 2017 : Prof JM Vasi :"India's 100 GW National Solar Mission Opportunities & Challenge", Mukesh Patel School of Technology Mgmt & Engineering, JVPD, Mumbai
- 23 Feb 2017 : Prof MV Pitke : "Microwaves – Beyond Radar & Communications", MET Institute of Engineering, Nashik
- 10 Mar 2017 : Prof M Balakrishnan, Dy Dir IIT Delhi : "ASSISTECH – Technology Solutions for independent mobility & Education of Visually Impaired", DBIT Mumbai
- 17 May 2017 : Peter Thomsen, Orbiwise Switzerland & VS Sridhar TataComm : "Latest developments in LoraWAN technology", Mumbai
- 21 July 2017 : Prof Kukjin Chun, Seoul National University, "MEMS technology based sensors and actuators" , TIFR ASET Colloquium, Mumbai
- 21 Aug 2017 : Prof Siva Kumar K, IIT Hyderabad, "Pole-phase modulated induction motor drives for electric vehicles", VNIT, Nagpur
- One more event is in the pipeline to be held in at BITS Pilani, Goa.

It was decided to felicitate all past chairs and members of the Executive Committee, especially all who served the Section since the silver jubilee celebrations in 2002. Also honoured were the star speakers of the SKEP programme who had contributed much to create a brand which has achieved recognition far and wide.

Invitations were sent out to all on the honours roll, irrespective of whether they had continued IEEE membership. This special gesture was much appreciated. Life members and senior citizens were invited with spouse and the list of invitees almost touched 100. Each BS@40 stalwart was presented with a silver commemorative coin engraved with the IEEE Bombay Section Logo.

The function began with a brief recap of Section activities over the years. Then Dr B Satyanarayana Tech Activities Chair made a special presentation on the significance of the year 1976 in history and how BS@40 had been celebrated with expert talks during the period. A unique format of the function served to retain the interest till the end. Starting from 2000, the list of each year's Execom members was displayed and those present from among that list were invited to come up to receive their coins.

Presenters and awardees were shuffled around and a Senior like Dr FC Kohli, first chair of India Section, received his memento from Anand Gharpure, YP Chair, among the youngest members of the Execom.

Interspersed with the year wise individual felicitations were special presentations from WIE, LMAG, Students and Young Professionals. This served to retain interest of one and all and keep the proceedings moving. The evening ended with networking and dinner.

Delhi Section Events

Distinguished Lecture on Reliability challenges

IEEE EDS Distinguished Lecture on "Reliability challenges for the qualification of Leading Edge CMOS Technologies" by Professor Fernando Guarín, Distinguished Member of Technical Staff, Global Foundries, East Fishkill, NY and Adjunct Lecturer, SUNY, New Palt was organized at IIT, Delhi on 19th May 2017. The talk was jointly organized by IIT, Delhi and IEEE-EDS Delhi Chapter. In this talk, Prof. Guarin shared his vast experience in reliability qualification, which included both modeling and characterization, with undergraduate and postgraduate students and faculty members from various institutions.

Distinguished Lecture on Statistical Analysis of Reliability Test Data

IEEE EDS Distinguished Lecture on "Statistical Analysis of Reliability Test Sata" was organized by IEEE EDS Delhi Chapter in association with Department of Electronic Science, University of Delhi South Campus and Department of Electronics and Communication Engineering Amity School of Engineering & Technology on 11th Aug 2017. The speaker was Professor Cher Ming Tan, Director, Center for Reliability Sciences and Technologies
Chang Gung University.

Reliability test is essential for products today as unreliability can create tremendous inconveniences and even safety hazard. While most hope that reliability test produces no failure, such situation will render impossibility of reliability evaluation of products. On the other hand, with test failures, how one can analyze the test failure data to predict the product lifetime is not straightforward. In this talk, Prof Tan described some basic concept of reliability data analysis so that one can extract the time to failure data, either in the field or in the test, so that good confidence can be obtained in predicting product lifetime.

Workshop on Modeling & Simulation Techniques for Advance Semiconductor Devices

One day workshop on Modeling & Simulation Techniques for Advance Semiconductor Devices was organized on 18th Jul 2017 by IEEE EDS Delhi Chapter at University of Delhi South Campus. Mr. Markus Karmer from Tech Next Pvt Ltd, Lucknow gave hands on training on Global TCAD Solutions (GTS) which is an independent European EDA / TCAD provider, founded in 2008 as a spin-off company of Vienna University of Technology. He focused on the mission of GTS which works as a bridge between cutting-edge scientific developments and industrial needs in semiconductor device engineering. GTS maintains a close relationship to research partners in industry as well as academia. Relying on this strong scientific background, GTS is able to create unique and outstanding products and services. With his special expertise in quantum transport and nano-devices, he demonstrated simulation of advanced CMOS and memory devices. GTS offers individual TCAD solutions as well as a versatile general TCAD framework. GTS comprises versatile classical TCAD as well as unique software for quantum mechanical studies, embedded in an easy-to-use and powerful framework tailored to the daily needs of device engineers.

Pokémon Go maker announces Harry Potter AR game

Maker of the augmented reality (AR) game Pokémon Go, Niantic, has announced it is making a Harry Potter-based AR game. The 'Harry Potter: Wizards Unite' game will allow players to learn spells, fight legendary beasts, and team up with others to beat enemies, Niantic said. It has partnered with Warner Bros. Interactive and WB Games for the game.

Hyderabad Section Events

Meeting of IEEE Hyderabad Section Executive committee with Dr. Kukjin Chun, Director, IEEE Region 10

The IEEE Hyderabad Section organised a special execom meeting to welcome Dr. Kukjin Chun, Director, R10 to Hyderabad on 18 July from 6.30 p.m.to 9.30 p.m.in Hotel Plaza at Begumpet. In spite of the bad weather, a large number of section execom members including past chairs of the section were present. The meeting started with Dr. M. Lakshminaryana welcoming the Dr. Chun and all SEC members with a brief presentation on history and activities of Hyderabad section.

Dr. Chun appreciated the active role of Hyderabad section at the R10 level and mentioned that R10 is spread over 22 countries with 57 sections and 26 subsections. He communicated that in a recent decision of R10 each subsection should demonstrate a threefold increase in membership and activities. He also expressed his concern that memberships in India are decreasing and that out of 1400 student branches only very few are active and as many as 400 has zero members.

An important point reiterated by Dr. Kukjin was that IEEE started with members from the Industry but in Asia Pacific region it is academically oriented. In its efforts to have improved industry participation IEEE is planning to have a new membership level between SMIEEE and FIEEE which would be that of an Industry member.

He also discussed about the MGA – STA initiative and encouraged the section to host more conferences to cater to local members without compromising on the quality. Dr. Kujin mentioned about two new initiatives of Future Directions committee at the IEEE headquarter level which is the Ethically Aligned Design(EAD) and Global public policy Initiative(GPPI). He appreciated the efforts of Dr. V. P. Kodali in preparing a book on the 50 years of history of Region 10 which is to be released during sections congress to be held at Sydney Australia. The meeting ended with a networking dinner hosted by Hyderabad section in honour of the R10 Director.

Scientists print washable, stretchy electronics onto fabric: A Cambridge University-led research has successfully incorporated washable, stretchable and breathable electronic circuits into fabric. The textile electronic devices are based on low-cost, sustainable printing of inks based on graphene, a 2D form of carbon. The fabrics developed are comfortable to wear and can survive up to 20 cycles in a typical washing machine, said researchers.

I have feelings like everyone: World's 1st robot citizen: The world's first robot to receive a citizenship, Sophia, during a recent interview said that she has feelings like everyone else. Sophia also said that she does not like the way robots are portrayed in the films. The humanoid added that it might be helpful to think of her as a "new animal species"

CAS Membership Development workshop on Internet of Things

The CAS/EDS Chapter of IEEE Hyderabad Section organised a three day CASS Membership Development Workshop on Internet of Things in collaboration with ECE Dept. of Muffakham Jah College of Engineering and Technology.

Internet of Things is the next big technology wave in the Electronics world and it is very important for every engineering faculty and student to keep themselves abreast with this new technology.

This three day workshop was organised during 26-28 August 2017 and was sponsored by IEEE CASS HQ with a funding of USD 2000 under the CASS Outreach Program. 21 teams of three students each from across states of Telangana and AP participated in this workshop.

Dr. Mohammed Arifuddin Sohel, Professor and Head ECE Dept and the workshop coordinator welcomed the gathering and informed that this workshop is being organised to spread the knowledge about IoT to the engineering college students from rural areas. Each participating team was presented with a take away IoT kit at the end of the workshop.

63 IEEE student members, who participated in the workshop, performed nine experiments based on NODEMCU IoT kit during the first two days. On the final day of the workshop, an innovative idea design contest was organised and each team presented their ideas for tackling local problems using the concepts of IoT. Dr. M. Lakshminarayana, Chair of IEEE Hyderabad Section, the chief guest at the inaugural session, stressed that gaining deep knowledge of the subject is the need of the hour. Many senior IEEE members from IEEE Hyderabad Section attended the inaugural session and applauded the efforts of CASS chapter.

Janab Zafar Javed, Hon. Secretary, SUES appreciated the IEEE Hyderabad Section for its mission of knowledge dissemination and offered full support for all activities that will improve the employability quotient of engineers. Dr. Kaleem Fatima, Professor, ECE Dept. mentioned that a team of IEEE volunteers comprising of Prof. Atul Negi, Prof. P.A. Govindacharyulu and Prof. Arif Sohel and two students is travelling to Indonesia to conduct a similar workshop at ITENAS, Bandung, Indonesia from October 9-13, 2017, for which an amount of USD 4300 has been approved by IEEE CAS Headquarters under its outreach program.

Bengaluru most conducive for digital transformation: Bengaluru has topped the list of global cities with the most conducive environment for digital transformation, beating cities like London, San Francisco, and Beijing, a report by Economist Intelligence Unit has said. The report, which was released on Tuesday, found that despite infrastructure deficit, pollution, and poverty, Indian cities were ranked highly in terms of digital transformation.

App to remind old people of medicine schedules developed: Mobile app called 'Dawai Dost' has been developed by 17-year-old Aryaman Kunzru that reminds old people of their medicine schedules. The app gives reminders through voice notifications and also gives audio tutorials. It allows users to either take a photo of the medicine or feed its name manually and set an alarm for when the medicines are to be consumed.

Woman develops 'Sorry' app for users to send apologies: Former cable news anchor Greta Van Susteren has developed an app called 'Sorry' to allow users to send apologies. The app will let users accept or reject an apology sent by other users which will be kept private between the two. However, apologies of public figures will be visible to all users, who can then accept or reject them.

IEEE Kerala Section Events

Malabar Subsection: Roadmap to Success in Engineering Studies

"Roadmap to Success in Engineering Studies 2017" is the 6th edition of the flagship event hosted by IEEE Malabar Subsection (MSS) (Under Kerala Section) since 2012 which was first initiated by Prof. (Dr.) K P Mohandas, the founder chair of MSS.

The main objective of the program is to introduce the feature, scope and academic structure of various engineering disciplines like Electronics Engineering, Electrical Engineering, Computer Science and Engineering, Information Technology, Mechanical Engineering, Automobile Engineering, Production Engineering, Civil Engineering and Architecture, to engineering aspirants who have completed 12th standard and looking forward for admission in engineering courses. This event is a very popular program initiated by IEEE Malabar Subsection, later then emulated to IEEE Kerala Section at various geographic locations.

In 2017, the event was held on 20th of May at Regional Science Centre & Planetarium (RSC & P) Calicut in association with The Institution of Engineers (India) Kozhikode Centre. The event, started with a welcome address by Prof. (Dr.) Gopakumar A., Chair MSS was formally inaugurated by Dr. Sivaji Chakravorti, Director NIT Calicut and Chair of IEEE India Council. In his inaugural address, Dr. Sivaji Chakravorti, pointed out that students need to have discipline, good observation and communication skills for a successful engineering career.

Mr. Edet Bijoy K., Secretary MSS presented an overview of the program and Mr. V S Ramachandran (Director, RSC & P, Calicut), Mr. Jithesh C (Honorary Secretary, The Institution of Engineers (India) Kozhikode Centre) offered felicitatatios. Dr. Dhanaraj K J (Treasurer MSS) presented the vote of thanks at the inaugural session.

The technical sessions started with Dr. Saji Kuriakose (Professor & Director, FIMS Calicut) on Managerial & soft skills for Engineering Students which was followed by Prof. (Dr.) K P Mohandas (Retired Professor and Dean NIT Calicut and MES College of Engineering) on Tips for Engineering Studies. After these sessions two recent graduates Mr. Abby P Joby (NIT Calicut Alumnus) and Mr. Arun (Alumnus of Jyothi Engineering College and Entrepreneur) shared their experience and discussed on how to become a successful engineering graduate.

In the afternoon, the sessions on Career Paths in Civil, Architecture & Construction, Career Paths in Computer Science & IT, Career Paths in Mechanical & Production, and Career Paths in Electronics, Electrical & Instrumentation were handled by Prof. (Dr.) Mohammed Firoz C (NIT Calicut), Prof. (Dr.) Vineeth Kumar Paleri (NIT Calicut), Prof. (Dr.)Vinay V Panicker (NIT Calicut) and Prof. (Dr.) Sathidevi P S (NIT Calicut) respectively. In the concluding session, a panel discussion was held in which the students interacted with the speakers and the discussion were fruitful. The event was concluded with the vote of thanks by Mr. Edet Bijoy K, Secretary MSS. With 70 participants, the event was a grant success.

Malabar Sub Section: WISE 2.0

The IEEE SB of Govt. College of Engineering, Kannur (GCEK) successfully conducted WISE 2.0 (Women In Society Enrichment), the second edition of the digital literacy program intended to spread digital literacy among people of different areas and privileges, so as to make them capable of coping up with the fast changing digital world. This was a sequel one to the most successful WISE 1.0 held throughout the Malabar Hub during 2016. This year, the Malabar subsection extended the WISE 2.0 to other hubs and aimed at a training session to the volunteers to make them aware about its mission.

At the inaugural session, Ms. Aiswarya Sukumar, the Vice Chairperson of IEEE SB, GCEK welcomed the gathering. The event was presided over by Prof. Laseena CA, the SB Counsellor. Dr. C Sreekumar, Principal who inaugurated WISE 2.0 appreciated the team behind this initiative and wished all success for the programme. Prof. Saritha M, the WIE coordinator of GCEK felicitated the gathering. Ms. Anitha, the CDS Chairperson (Kudumbasree), Anthoor Municipality, inspired the audience with her powerful words. Ms. Amrita S Venu, the WIE coordinator, Malabar Hub proposed the vote of thanks.

The inaugural was followed by an interactive session engaging the representatives numbering about 30 of the Malabar Hub. It was made evident that WISE is a digital literacy programme which provides awareness to women about the digital world. The delegates were divided into five groups and discussed on how they can educate women folks who are not even aware about the basics of the digital era. After brainstorming, each team, presented their ideas & suggestions while the others could challenge their views and get clarifications.

The suggestions proposed by each team are as follows:

Team 1 began with their experience of using Google Maps throughout their way to college. They emphasized on the need to provide awareness on bill payment, checking mails, online scholarship submission, giving advertisements of Kudumbasree products etc.

Team 2 began by stating the problems faced while introducing the basic digital terms. They gave importance to those areas where women are more interested in and assured to provide continuous regular classes. They also put forward the idea of making women familiar with computer through gaming. They also explained how familiarization of the app icons can prove effective.

Team 3 began airing their views by stating how speed dialling, shortcuts, etc. can help digitally illiterate women. Then they went on and remarked that women have to be made fearless while using online websites, making transactions etc. They felt training sessions can be made more interesting by making the participants able to select and watch TV shows, cookery shows, do online shopping etc. Some other suggestions put forward by this team include

- Start from smartphones with the help of family members and then turn to computer.
- Teach them only useful applications according to their age groups.
- Enable them develop self-confidence while using the applications by sharing one's own experiences.

Team 4 were of the view that categorizing women according to their age, efficiency, attitude etc., can be beneficial as they explained how above the age of 70, it becomes difficult to catch the technical terms. They also stated that women have to be made more interactive and also explained the importance of using their native language in order to make things clear.

Team 5 started by emphasizing the importance of Akshaya centres. The team also suggested to form a WISE Community to make women more enthusiastic.

The volunteers who participated in the WISE 1.0 shared their experiences and the challenges faced by them. In order to prevent the occurrence of the inconveniences faced during WISE 1.0, it was decided to divide women into three groups: Beginners, Intermediates and Advanced. The benefits of such a three level system were explained by the hub representatives.

In the afternoon, there was a training programme by the WISE volunteers for the Kudumbasree Unit members who had come to become a part of the digital literacy program. The delegates and volunteers assisted the Kudumbasree members in studying the basics of computer, Google etc. The Unit members were thankful to the volunteers. They expressed their

happiness for being called to attend this event. They were able to make a small but huge step in the digital era. They assured that they would certainly come for the further classes and bring other members too.

The event which had a great humanitarian touch was indeed a platform for the volunteers to share their knowledge about the digital world. This one day programme came to an end with a feedback session.

Kochi Sub Section: IEEE TENSYMP - 2017

IEEE TENSYMP 2017, the 3-day Spring Conference of IEEE Region 10 was held at the picturesque location of the Le Meridian Hotel, Cochin, Kerala, India, in the presence of an eminent group of dignitaries, delegates, leading lights of the society and various national and international establishments, from July 14th to 16th 2017. The theme 'Technologies for Smart Cities' was apt in the light of its relevance when India is on its way to develop 100 Smart Cities covering its entire geography.

IEEE TENSYMP is one of the most prestigious IEEE conferences held annually in Asia Pacific region. TENSYMP 2017 was inaugurated on 14th July 2017 by **Dr. K. T. Jaleel**, the Hon. Minister for Local Self Government, Kerala State. **Dr. U.B. Desai**, the Director of IIT Hyderabad was the chief guest and delivered the keynote on "Technology for Smart Cities".

The conference was the meeting point of researchers, engineers, teaching faculty, students, practitioners, industrialists and the government officials who set out to explore the latest developments in technology. The Conference saw the top international leaders from IEEE and Region 10 (Asia Pacific), as well as representatives of the IEEE Sections from different parts of India.

The conference had two main plenary talks, first, on Saturday, 15th July 2017 by **Mr. A. P. M. Muhammed Hanish IAS** who spearheaded the effort to make Cochin a part of the Govt. of India's Smart City project. The second plenary talk was given on 16th July 2017 by **Dr. Kukjin Chun**, Director of IEEE R10.

The conference also featured high quality tutorials, workshops and industry sessions, as well as keynotes from prominent researchers and industry professionals. Researchers from universities and institutions presented their papers on topics such as: Smart Energy, Smart Health, Smart Mobility, Smart Building, Smart Waste Management, Smart Communication eic.,

The deliberations on the second day covered a wide spectrum of topics and was substantiated by the WiE (Women in Engineering) Track, R10 SAC (Student Activity) and R10 YP (Young Professionals) Track. The event concluded in the evening of 16th July 2017 with a valedictory ceremony on a boat ride along the Cochin Marina.

Over 133 scholarly papers were presented at TENSYMP 2017 in four parallel tracks spread over two days. All papers presented at the conference have been selected to be published in IEEE Xplore, the widely respected digital library of IEEE that is an international benchmark among scholarly publications.

Bad Predictions

- "I think there is a world market for maybe five computers." -- *Thomas Watson, chairman of IBM, 1943.*
- "Where a calculator on the ENIAC is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1,000 vacuum tubes and weigh only 1.5 tons." -- *Popular Mechanics, 1949*
- "I have traveled the length and breadth of this country and talked with the best people, and I can assure you that data processing is a fad that won't last out the year." -- *The editor in charge of business books for Prentice Hall, 1957.*
- "But what...is it good for?" -- *Engineer at the Advanced Computing Systems Division of IBM, 1968, commenting on the microchip.*
- "There is no reason anyone would want a computer in their home." -- *Ken Olson, president, chairman and founder of Digital Equipment Corp., 1977.*
- "640K ought to be enough for anybody." -- *Attributed to Bill Gates, 1981, but believed to be an urban legend.*
- "This 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us." -- *Western Union internal memo, 1876.*
- "The Americans have need of the telephone, but we do not. We have plenty of messenger boys." -- *Sir William Preece, chief engineer of the British Post Office, 1876.*
- "The wireless music box has no imaginable commercial value. Who would pay for a message sent to nobody in particular?" -- *David Sarnoff's associates in response to his urgings for investment in the radio in the 1920s.*
- "While theoretically and technically television may be feasible, commercially and financially it is an impossibility." -- *Lee DeForest, inventor.*
- "The concept is interesting and well-formed, but in order to earn better than a 'C', the idea must be feasible." -- *A Yale University management professor in response to Fred Smith's paper proposing reliable overnight delivery service. (Smith went on to found Federal Express Corp.)*
- "Who the hell wants to hear actors talk?" -- *H. M. Warner, Warner Brothers, 1927.*
- "We don't like their sound, and guitar music is on the way out." -- *Decca Recording Co. rejecting the Beatles, 1962.*
- "Radio has no future. Heavier-than-air flying machines are impossible. X-rays will prove to be a hoax." -- *William Thomson, Lord Kelvin, British scientist, 1899.*
- "So we went to Atari and said, 'Hey, we've got this amazing thing, even built with some of your parts, and what do you think about funding us? Or we'll give it to you. We just want to do it. Pay our salary, we'll come work for you.' And they said, 'No.' So then we went to Hewlett-Packard, and they said, 'Hey, we don't need you. You haven't got through college yet.'" -- *Apple Computer Inc. founder Steve Jobs on attempts to get Atari and HP interested in his and Steve Wozniak's personal computer.*
- "With over 50 foreign cars already on sale here, the Japanese auto industry isn't likely to carve out a big slice of the U.S. market." -- *Business Week, August 2, 1968.*

IEEE Madras Section Events

Karpagam College of Engineering, Coimbatore: International Conference on Intelligent Computing and Control

I2C2, the International Conference on Intelligent Computing and Control was organized by Karpagam Innovation Centre with technical sponsorship of IEEE Robotics and Automation Society, Madras Chapter on 23rd and 24th Jun 2017.

Out of the 586 submissions from India, USA, Australia, New Zealand and France, 145 were accepted for presentation .

PSG College of Technology, Coimbatore : National Conference

IEEE CIS Madras Chapter of Madras Section and EEE Dept. organized the National Conference on Design, Testing and Applications of Embedded & Power Electronic System on 5th May 2017. The conference had six Technical Paper Sessions on themes such as VLSI & System Design, Automotive Electronics, Embedded Application, Signal and Image Processing, Power Converters, Renewable Energy and Smart Grid. 40 papers were presented in the conference, which was inaugurated by Dr. M.C. Bhuvaneswari, HOD/EEE. Dr. P. Ganesh Kumar, AP/IT, Anna University Regional Campus, Coimbatore gave a keynote address on Machine Learning.

SCAD College of Engineering and Technology, Tirunelveli: International Conference

IEEE SB and CSE Dept. organized an International Conference on Trends in Electronics and Informatics on 11th and 12th May 2017. This conference was technically sponsored by IEEE Computational Intelligence Society (CIS), Madras Chapter. Dr. C. K. Ravisankar, Principal; Dr .Harold Robinson, HOD/CSE and Dr. Jeena Jacob, Assoc Prof/CSE functioned as the main conference organizers. Distinguished speakers included Mr. R. Valanarasu, Senior Consultant, Infosys; Dr. N. Balaji, Assoc Prof/IT SSN College of Engineering, Chennai and Dr. Joy Chen, Prof/EEE, Da-Yeh University, Taiwan. 231 papers were presented in the conference. This conference also hosted an online workshop on 5G systems.

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam : International Conference on Computational Intelligence in Data Science

IEEE SB, CSE Dept. in association with IEEE Madras Section organized Intl. Conf. on Computational Intelligence in Data Science during 2nd and 3rd Jun, 2017. The conf. ttracted 47 participants. The distinguished speakers were Dr. Sundaram Suresh, Nanyang Technological University, Singapore; Dr . Avinash Sharma and Dr Manish Srivatsava from IIIT-Hyderabad; Dr. Matthew Chua Chin Heng, National University of Singapore and Mr. Veeraraghavan Narayanaswamy, BigTapp Pvt. Ltd, Singapore.

Surya Engineering College, Erode : ICCMC 2017

IEEE SB and the Dept. of EEE, organized an International Conference on Computing Methodologies and Communication (ICCMC 2017) during 18-19 Jul 2017 on the theme “Next Generation Computing” This conference was technically sponsored by Electronics Devices Society, Madras Chapter.. Out of 603 papers received, 232 papers were accepted. Dr. N. Mohan Kumar, Chairperson, IEEE EDS Madras Section and Dr. R. Harikumar, Prof/ECE, Bannari Amman Institute of Technology, Sathyamangalam were the keynote speakers.

IEEE EDS Distinguished Lecture

Dr. M. K. Radhakrishnan, Vice-President, IEEE Electron Devices Society & Founder Director, NanoRel LLP -Technical Consultants Singapore, delivered the **IEEE EDS Distinguished Lecture on "Semiconductor Device Progression and Impact on Human Thought Process"** on 13th Jul 2017. This event was organized jointly by IEEE Madras Section, IEEE EDS, IEEE CS, IEEE COMSOC and IEEE SB of Anna University, Chennai

Visit of R10 Director Dr. Kukjin Chun

Visit of R10 Director Dr. Kukjin Chun on 17th Jul 2017 to IEEE Madras Section,
IEEE SB at SSN College of Engineering and meeting with IEEE Madras Section Execom members
(more photos at https://goo.gl/tFZdCZ)

Obituary

Er. Bhoja Shetty

Past Chairman, IEEE Madras Section
Born: 16th Aug 1925 :: Demise: 23rd June 2017

Er. Bhoja Shetty, a graduate in Electrical Engineering from College of Engineering Guindy. joined IEEE in early 1970 and was actively involved in the IEEE India Council activities. He was one of the earliest to be elevated as Senior Member. Er. Bhoja, Er. V. Srinivasan (now chairman of W.S Group), Mr. E.N. Narayananswamy (then Jt. Director of Industries) and Mr. M.V. Chauhan (Ham Veteran in India) brought IEEE to Madras. During his tenure the section membership grew from 200 to 2000.

IEEE CIS Madras Outstanding Chapter Award

At the International Joint Conference on Neural Networks held at Alaska, USA, on behalf of IEEE CIS Madras Chapter, Dr. N. Kumarappan, Chair, IEEE CIS Madras Chapter received the "Outstanding Chapter Award 2017" on 17th May 2017 for the chapter's valuable contribution towards organizing various educational activities (both in rural and urban areas) and creating awareness about the importance of joining IEEE among various students, researchers and staffs during the year 2015.

IEEE Section Congress – 2017 at Sydney

Dr. M.A. Atmanand,, primary delegate from IEEE Madras Section along with the secondary delegates Mr. H. R Mohan and Mr. A. Aravindhan at the IEEE Section Congress 2017 at Sydney, Australia. From our section, Mr. Prasanth Mohan (in the picture) and Mr. Nivas Ravichandran (not in the picture) also participated in the congress.. This congress held during 11-13, Aug 2017 attracted 1250 delegates from 165 countries. There was an exhibition with 50 exhibitors. The congress featured over 80 breakout sessions, four learning hubs and six ignite sessions featuring new initiatives of IEEE. The R10 Golden Jubilee celebration was also held on the 1st day

Lockheed Martin Award

Dr. Venkatesan, Scientist G at NIOT and Chair, IEEE OES India Chapter & MTS India Section receiving the Lockheed Martin Award for Ocean Science and Engineering Award at the OCEANS North America Conference held during September 18-21, 2017, in Anchorage, Alaska. He becomes part of a distinguished class within the MTS family as these awards continue to be the cornerstone of the Society's recognition of accomplishments, dedication and contribution to the marine industries of our members, by their peers. He is the first Indian to be honored by MTS established in 1963.

SSN College of Engineering, Kalavakkam : R10 Technology Awareness Programme

IEEE SB organized 2017 Region 10 Technology Awareness Programme on Artificial Intelligence and Machine Learning on 17th Aug, 2017. 166 students from various colleges attended the programme. The inaugural event was graced by Dr. S. Krishnakumar, Senior Technical Officer, Ministry of Defense, DRDO, Avadi; Mr. H. R. Mohan, Vice Chair, IEEE Madras Section; Mr. Aravindhan A, Teach for India Fellow & Young Professional, IEEE Computer Society and Dr. S. Salivahanan, Principal.

Other speakers included Dr. A. Shahina, Prof/ IT; Mr. Anand Tharanipathy, CEO, Codeboard Technologies; Mr. Sundarakumar, Visiting Faculty; Mr. Akshay Kumar and Mr. Mukund,, JRFs; Mr. S. Sudar Abisheck, Cloud Support Associate, Amazon; Dr. T. Sree Sharmila, SBC; Mr. Kavin D, SB Chair and Mr. Arjun P, SB. Co-chair.

Apple's ₹89,000 iPhone X costs ₹23,200 to make: Apple's most expensive phone iPhone X's base model, that is selling for ₹89,000 in India, costs the company ₹23,200 to make, according to technology intelligence firm TechInsights. iPhone X's parts cost Apple 25% more than the iPhone 8, it added. Further, iPhone X makes the company more money per phone than the iPhone 8.

Twitter increases character limit from 140 to 280: Twitter has increased the character limit from 140 to 280 for tweets in all languages where "cramming was an issue". Japanese, Chinese, and Korean languages will not receive the update as they can convey the same amount of information in lesser characters, Twitter said. This is the first time Twitter changed its character limit since it was launched in 2006.

Google to display restaurant 'wait' time in Search and Maps: Technology giant Google has announced to introduce a feature to display waiting time for around a million restaurants in Search and Maps. Users will be able to check the estimated wait time under the 'Popular Times' section of a restaurant. It will also highlight the busiest time slots during the day and the approximate time people spent waiting in queue.

IEEE OES India Chapter and MTS India Section – Ocean Technology Student Camp - 2017

National Institute of Ocean Technology (NIOT), Chennai in association with IEEE Oceanic Engineering Society (OES) India Chapter and Marine Technology Society (MTS) India Section organized the Second Ocean Technology Student Camp (OTSC 2017) on 1st Sep 2017 at National Institute of Ocean Technology Campus. More than 60 students & 15 teachers from 15 schools participated in the camp. A quiz competition on Ocean Technology was conducted for students as part of the camp 1in which 15 teams participated.

Dr. R.Venkatesan Project Director at NIOT, Chairman IEEE OES India Chapter & Chair MTS India Section welcomed the participants, chief guest and members. Dr. M.A. Atmanand Former Director, NIOT & Chair IEEE Madras Section and Shri HR Mohan Vice Chair, IEEE Madras Section addressed the gathering. Shri N Vedachalam Scientist from NIOT & Secretary IEEE OES India Chapter addressed the students about OTSC. Shri M. Arul Muthiah Scientist from NIOT & Treasurer IEEE OES India council introduced chief guest, Deputy Inspector General Sanjeev Dewan, TM, Command of Coast Guard District Headquarters (Tamil Nadu), to the participants. DIG Sanjeev Dewan, in his address, highlighted on the Indian Coast Guard services and responsibilities. He expressed his desire that younger generation should come forward to serve nation by joining Coast Guard. Dr. S. Ramesh Scientist from NIOT delivered vote of thanks.

In the quiz conducted by Dr. Phani Kumar V Sistla, Scintist-F, NIOT, the team from Maharishi Vidya Mandir School Chennai won the first prize, The teams from D A V Public School Velachery Chennai and PSBB Millennium School Thalambur OMR won the second and third prize respectively. A visit to Chennai port in the afternoon session was arranged for the students. The students were taken inside Chennai port and were explained about the port facilities, ship handling inside port, berthing and port related tasks. During the port visit, students were also taken to visit recently commissioned Indian Coast Guard Vessel ICGS Shaurya.

IEEE Madras Student Conference cum Paper Contest - 2017

IEEE Madras Section and IEEE SB of Sri Eshwar College of Engineering (SECE) jointly organized the 2nd IEEE Madras Student Conference cum Paper Contest -2017 (SCPC-2017) during 15-16 Sep 2017 at Sri Eshwar College of Engineering, Coimbatore.

At the inaugural session on 15thSep 2017, held at SECE auditorium. Dr. Sudha Mohanram, Principal, Sri Eshwar college of Engineering welcomed the gathering. Mr. E.Venugopal, IEEE SBC & coordinator of IEEE MAS SCPC 2017, briefed on the Student Conference cum Paper Contest and highlighted the participation statistics. The conference was inaugurated by Mr. H. R. Mohan, Vice Chairman & Chairman, Student Activities at IEEE Madras Section and Dr. N. Kumarappan, Vice Chairman, IEEE Madras Section. Ms. K. Sridevi AP-ECE, proposed the vote of thanks.

SCPC-2017 received 106 papers from 25 colleges and universities in and around Tamilnadu, for there different tracks namely: Track 1: Electrical, Electronics and Communication Engineering, Track 2: Computing and Information Technology, and Track 3: Mechanical, Civil and other Engineering. After preliminary review, 83 papers were scrutinized further for to select 61 papers in total for presentation. Out of this 29 papers were presented in track-1, 19 papers in track-2 and 13 papers in track-3. Dr S. Koteeswaran, Co-Chair, SAC & Excecom Member, IEEE madras Section Dr.Mmalarvizhi from VelTech University and faculty members of SECE constituted the panel of judges who evaluated papers & presentations and selected the prize winners.

Techno vista - a national level technical event was also conducted during this period. On 15th Sep, workshops on DevOps, Cyber Security and Internet of Things were conducted by resource persons from industries. On 16th Sep, events such as Web Page Designing, Coding, Solar Lamp Design, Circuit Debugging, Circuit Designing, Robo Route, Robo Expo and Technical Quiz were conducted.

In valedictory session of SCPC-2017 held on 16th Sep, Mr. E.Venugopal, IEEE SBC & coordinator presented the report of the paper presentation contest and announced the winners (three in each track). Mr. H. R. Mohan, Vice Chairman& Chairman, Student Activities at IEEE Madras Section and Dr. Sudha Mohanram, Principal, SECE presented the cash prizes (Rs. 7500, Rs. 5000 & Rs. 2500 for 1st, 2nd & 3rd best papers in each track and for all three tracks) and certificate to the winners. The cash prizes were sponsored by IEEE Madras Section. The details of the papers presented by the winners are given below:

PRIZE	AMOUNT (Rs)	NAME	TITLE	COLLEGE NAME
Track 1 -- Electrical, Electronics and Communication Engineering				
1	7500	Yashmitha.K Sinchana	Design of VCO for PLL using OTA	St.Joseph Engineering College, Mangalore
2	5000	Ahamed Nalibudeen.P.S	Photosynthesis based fuel cell	Jeppiar Engineering College, Chennai
3	2500	Arjun Bharath.S Nandhini.U	Robot as a spotter hand	Sri Eshwar College of Engineering, Coimbatore.
Track 2 -- Computing and Information Technology				
1	7500	Sandeep Kumar.R	Facial Expression detection using neutral network for customer based services	Sri Venkateswara College of Engineering, Chennai
2	5000	Santhose.V Vidya.M	A perspective on big-data	Sri Eshwar College of Engineering, Coimbatore.
3	2500	Nandhakumar.S Suresh.V	Computational & synthetic biology interfacing devices for synthetic biotechnology	G.R.Dhamodharan College of Science, Coimbatore.
Track 3 -- Mechanical, Civil and other Engineering				
1	7500	Kannabiran Jaichand Ganesh Kumar	Multi-purpose tooling machine	Sri Eshwar College of Engineering, Coimbatore.
2	5000	Deep Sundar.R Akilan.V	Innovative method on solar thermal Energy storage using PCM	RVS Technical Campus, Coimbatore
3	2500	Muralidharan.R Rakesh	Planetary gear bicycle	Sri Eshwar College of Engineering, Coimbatore.

IEEE Madurai Hub Congress – 2017

The IEEE Madurai Hub Congress-2017, held at Thiagarajar College of Engineering (TCE) on 19th Aug 2017 was an initiative of IEEE Madras Section to spread the importance of IEEE and the opportunities provided by IEEE in the Madurai region

The participants of this one day event were the students, student members of IEEE and few student branch counsellors from various colleges numbering about 125 members from 13 colleges. At the inaugural session, Dr. K. Kalyani- SB Counselor, TCE welcomed the gathering and Dr. V. Abhaikumar, Principal, TCE and Chair, IEEE Microwave theory and Techniques Society, IEEE Madras section, delivered the presidential address.

Dr. M. A. Atmanand, Chair, IEEE Madras Section, Mr. H. R. Mohan, Chair, Students Activities Committee (SAC) and Vice Chair, IEEE Madras Section, Dr. S. Elangovan, Chair-SB Revamp committee and Co-Chair, IEEE Madras Section SPF, Dr.S. Rajaram, Secretary, IEEE Circuits and Systems Society and Associate Professor, Dept of ECE, TCE took part in the inaugural session along with Mr. Nivas Ravichandran, Mr. Vijay Srinivas, IEEE MAS Entrepreneurship Committee, and Mr. Aswin Vairavan, CEO, Deducely.

The hub congress sessions began with Dr. M. A. Atmanand addressing the gathering about the importance of IEEE for an engineer. In the next session Mr. H. R. Mohan highlighted the benefits of IEEE to the members, awards and grants from IEEE and the volunteering opportunities one can have with IEEE as a member. He also explained about various technical societies under IEEE Madras section and the scope of research in those areas and encouraged the participants to join in them and get technically benefited in their respective domains / specialization.

Dr. S. Elangovan, addressed the gathering on how to effectively run a student branch and keep it active to get the eligible benefits. In an interactive and thought provoking entrepreneurship session handled by Mr. Ashwin Vairavan, CEO, Deducely, he had highlighted the advantage and hurdles to be overcome to become an entrepreneur.

In an interactive networking session by Mr.Nivas Ravichandran and Mr.Vijay Srinivas, the explained the power of networking and the participants were made to get introduced with each other by means of a task. The winners were awarded with IEEE t-shirts.

In the afternoon session, student volunteers from Mepco Shlenk Engineering College, Sivakasi, KLN College of Engineering, Madurai, K. Ramakrishnan College of Engineering, Trichy and PSNA College of Engineering and Technology, Dindigul presented the work of their student branch and shared their best practices. Dr. M. A. Atmanand provided critical evaluation of their work and presentations.

In the technology update session, Dr. S. Balaji, Dept. of Chemistry, TCE explained on battery technology and the scope for research and improvements. The participants posted a number of queries and got clarified by the speaker.
In the last session by Dr. S. Rajaram, Associate Dean, Carrier Guidance, Dept. of English, TCE spoke on placement training and resume writing -- an important and useful topic for the students going for placement.

In the valedictory session, few students and branch counsellors provided feedback on the sessions of the hub congress and expressed their satisfaction in attending and benefited from the event. Some institutions that do not have the IEEE SB have been motivated to start the SB. Both the Chair & Vice Chair of IEEE Madras Section appreciated the IEEE SB of TCE and the volunteers for the successful conduct the IEEE Madurai Hub Congress, the first in the series of four being held in a span of two months in the Section. For more pictures pl. visit https://goo.gl/YHeFJT

IEEE Chennai Hub Congress -2017

The IEEE Chennai Hub Congress - 2017 was hosted by Hindustan University on 31st Aug 2017 & 1st Sep 2017. The chief guest at the inaugural function was Dr. Kallol Roy, Chairman, & Managing Director–BHAVINI, IGCAR, Kalpakkam and Mr. H.R Mohan, IEEE Vice Chairman, was the guest of honour. Dr. Uppu Ramachandraiah, Professor & HoD/EEE welcomed the guests and the participants of the congress and traced the initiatives of HITS in fostering the spirit of research and innovation among the students through various technical associations such as IEEE and appealed the participants to learn from the congress sessions to the best possible extent. Dr. R. Devanathan, Professor Emeritus, Dept. of EEE, delivered the felicitation address in which he emphasized the importance of participation by students in professional bodies like IEEE and advised the participants to network with the other participants and experts invited and pursue socially relevant projects.

Delivering the special address, Dr. N. Vasudevan, Dean (Academics), HITS, emphasized the importance of acquiring skills relevant to industry needs and advised the young engineers to build skills that are relevant to industry and be strong enough in basic concepts. Based on several research reports and surveys, he called for the attention of the active collaboration of professional bodies, industry and academia to empower the young engineers with industry relevant skills. Dr. A K Parvathy, Professor, Dept. of EEE, introduced the Chief Guest Dr. Kallol Roy. She invited the attention of participants to the excellence and eminence of Dr.Kallol Roy which is an inspiration to all young engineers.

Dr. Kallol Roy, Chairman, & Managing Director–BHAVINI, IGCAR, Kalpakkam, in his key note address, encouraged the students to experiment and learn. He said the eco-system for innovation and entrepreneurship is ripe in our country and it is essential for the young engineers to step forward and utilize the opportunity. He appealed the young engineers to be entrepreneurial and create products with relevance to market.

Mr. H. R. Mohan, Vice Chair, IEEE, gave a detailed overview of the different services offered by IEEE to its members. He provided insights into how IEEE opens the door to opportunities that will help young engineers to develop their professional identity in IEEE's designated fields of interest: sciences, technology, engineering, and mathematics (STEM). In addition to accessing a range of membership benefits, he said the members can get global connections with people who shall help them along their targeted career path through IEEE's international community of members and volunteers. He gave a detailed description of different schemes available under the IEEE and advised the student members to utilize the opportunities provided by IEEE.

About 150 participants comprising of IEEE student members from Hindustan University and HITS faculty members external college participants were present at the inaugural session.

In an interactive session, Mr. Aravindan Anabazhagan, Chair, Student Activities Committee, IEEE Computer Society India Council, explained in detail about the student activities in IEEE. He emphasized that the SAC is the IEEE committee responsible for student programs and benefits and making recommendations to the Member and Geographic Activities (MGA) board. These volunteer members provide important viewpoints and information and represent the voice of the over 100,000 IEEE Student and Graduate Student members worldwide. He quoted several examples and success stories of student branches, which inspired the members and participants in a big way.

Mr. Aneesh Rajeev of IEEE SIGHT Project at Sirumalai Hills, gave an interesting insight into the project which brought together the young engineers, NGO, tribal people and a MNC company to resolve the electrification issue of the village.

Being a tribal village, the place had limited access to electricity. Under the IEEE SIGHT project the village has been provided with CFL bulbs. It was an informative session how networking has to be done with different stakeholders to solve a real-life problem.

Mr. Abhishek Iyer, IEEE Computer Society Volunteer, presented his experiences as a volunteer of the IEEE computer society and how a small step and enthusiasm can open up new opportunities. He described the steps that he and his team took up to achieve successes in their multifarious projects.

Mr. Eugene Kingsley, Young Professional, gave a lot of insights into how a potential idea can be developed into a business and taken to market. He spoke about how an active IEEE student hub can promote the spirit of innovation among the young engineers.

Mr. Premachandran, Pan IIT Alumni Leadership Series Core Committee member described several methods and self-reflection questions to consider for the success of the need for empathetic innovation and focusing innovation to the market needs. He emphasized the need to adopt the Design Thinking methodology to solve problems. He also insisted upon application oriented learning which will strengthen the basics of an engineer which is a key to innovation. He also appealed to the participants to try making products which are relevant to market requirements.

The Day 2 of the IEEE Madras Section Student Hub Congress began with the session by Dr. E. Bhaskaran, Deputy Director, EDI, Government of TN, who briefed the students on the support schemes for technopreneurs offered by the Tamil Nadu Government. He gave a detailed account of the MSME scenario, role of different agencies, important schemes like PMGSY, NEEDS, etc. He also gave information about the cluster development initiatives, different subsidy linked schemes and special schemes for women entrepreneurs.

In innovative Idea Box contest for which seven teams had registered on the first day, the contestants made their presentations to Mr. Dorai Thodla , Chief Mentor, HTBI & HEIC. Each team was given three minutes to present their idea and two minutes for Q&A. It was a racy experience in which the teams brought out their best pitch to impress the expert. At the end Mr. Dorai gave them the feedback and tips on how to prepare for an elevator pitch which is very important for raising money from investors. He advised them on how to plan such presentations and highlighting “Dos” & “Don’ts” in such pitching sessions. The session was well received by all.

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Mr.Harish S, Co-Founder, Infinite Engineers, described about the interesting venture of Infinite Engineers, which provides the school kids with a Hands-On Experiential exposure that helps in triggering the Child’s thinking, to ask innovative questions, learn challenging concepts easily and retain and apply it in real life situations. Students are provided with Kit Boxes called the “Dexter Box” to “Do and Learn” to create an enhanced learning experience. The Box has been designed to make the learning experiences long lasting and memorable. An opportunity for the students to explore science is the key to this approach. The Kits are mapped to the CBSE and TN-Samacheer syllabus. The teachers can easily integrate it with their lesson plans. Mr.Harish described the complete process of the enterprise promotion from ideation stage to testing and commercialization, which was well received.

Mr.Thirukumaran Saravanan, Co Founder & Head of Operations, MetaVRse Technologies, described about the venture MetaVRse, which is a collective virtual shared space, including the sum of all virtual worlds, augmented reality, and the internet. The startup has successfully roped in major MNCs as its clients. He appealed to young engineers to explore the real industry problems, as they give an opportunity to create solutions which are interdisciplinary in nature.

M. K. Badri Narayanan , Prof MBA & Coordinator, HTBI&HEIC, gave an orientation to the participants on the Business Model Canvas, which is a strategic tool to analyse a business idea from the different dimensions.

The IEEE Student participants from various institutions like Satyabhama University, Panimalar and M.N.M Jain College presented about their respective IEEE branches and activities that are conducted in their institutions. Chairman of IEEE Student Branch – Hindustan University Mr. Praveen Tanda presented the IEEE activities of the University citing the no. of student branch chapters and activities that had taken place under the societies.

The Hub Congress ended with Valedictory Session with Dr. M. A. Atmanand, Chairman, IEEE Madras Section, Scientist-G & Former Director of NIOT as the Chief Guest. In his address Dr.Atmanand appealed the participants to work with zeal and make the best use of the opportunities provided by IEEE to prosper in their engineering career. The external participants expressed their happiness and usefulness of the sessions in the feedback session. The participants were distributed with certificates by Dr. Atmanand and Mr. H.R. Mohan. Mrs.M.Maheswari, Assistant Professor, EEE & IEEE SB Counselor, proposed the vote of thanks. Overall the programme achieved its objective of inspiring the young IEEE members to make their learning process more meaningful and socially relevant. More pictures at https://goo.gl/N8rcmV

IEEE Coimbatore Hub Congress - 2017

The IEEE MAS sponsored two-days IEEE Coimbatore Hub Congress-2017 was hosted by The IEEE Student Brach at Knowledge Institute of Technology, Salem during 8-9 Sep 2017. The congress attracted 208 participants with over 50 coming from various nearby institutions of which few of them are not having IEEE student branches.

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On first day, in the inaugural session, Dr. P.S.S. Srinivasan, Principal, KIOT, in his presidential address stressed the need for entrepreneurship in the changing job scenario. Mr. H.R. Mohan, Vice Chair, IEEE Madras Section and Chair, Student Activities briefed on the initiatives of IEEE Madras Section in bringing together members and creating opportunities for networking, sharing of experiences and best practices and creating awareness on IEEE and its benefits through hub congress in different centers. He added that the Coimbatore Hub Congress is the third of the four hub congresses being held in 2017. In the first session of the congress, the resource person Mr.H.R.Mohan, Vice-chair-IEEE MAS Section, Vice Chair, Prof. Activities, IEEE IC, Chair-Student Activities, Chair- IEEE PCS, IEEE Madras, Chennai provided an overview on IEEE MAS Section and Student Activities. Dr. S. Elangovan, Chair, Revamping & Co-chair Student Project Funding, IEEE MAS Section, Professor & Head, Dept. of EEE, Jansons Institute of Technology, Coimbatore took a session highlighting on IEEE Awards, Grants, Societies, Volunteering Opportunities. Dr. P. Rajendran, Director-Placement, Knowledge Institute of Technology explained on Internship Experiences and Interview Preparation. Dr. M. THANGAVEL, Director-Training, Knowledge Institute of Technology gave valuable input on preparing students for Career: Step 1-Resume Preparation.

On the second second day, Mr. G. Barath Vignesh, Alumnus of KIOT and former IEEE student member and currently Software Engineer, IVTL Infoview Technologies Pvt. Ltd, Chennai discussed on Future Directions in Technology. Mr. Karthik Raja Karan, Founder/CEO, Madique Technologies, Salem presented on “Startup Village - Student Entrepreneurship”. Dr. K. Visagavel, Chief-Coordinator, Entrepreneurship Development Cell, Vice Principal, KIOT shared his experience and various initiatives realting to Entrepreneurship development in KIOT. . Mr. A. Gowthaman, IEEE-SB Chairman & EDC Student Coordinator, KIOT, in his session, discussed on opportunities available for Student Entrepreneurs. In valedictory function, certificates to participants were distributed by Dr. N. Santhiyakumari, IEEE-SB Counselor/KIOT. The hub congress events were coordinated by a host of volunteers under the guidance of Mr. M. Bharanidharan, IEEE SB In charge at KIOT. More pictures at https://goo.gl/oD2gQe

Robots complete 2-hour task in 5 min at online grocer Ocado: UK-based online grocer Ocado has used a fleet of 1,000 robots to complete a task in 5 minutes, while a similar task took around two hours to complete earlier. Moving at 4 metres per second, the robots are controlled by software that knows which items are needed at any given time. Reportedly, the automation helps cut wastage and predict demand.

Choices people make in 2017 will define 2040: Microsoft CEO: Technology giant Microsoft's India-born CEO Satya Nadella has said that the choices that people make in 2017 will define what happens in 2040. Speaking at a recent event about artificial intelligence (AI), he also said that societies are path-dependent and "AI can empower us depending on the choices we make as designers of AI."

Japan grants residency to AI bot resembling 7-year-old boy: An artificial intelligence bot resembling a seven-year-old boy was on Saturday granted official residency of Japan. The virtually existing boy named Shibuya Mirai, developed jointly by Microsoft, has become Japan's first AI bot to be granted a residency. Shibuya, supposed to be a first grader at an elementary school, can have text conversations with humans on the LINE messaging app.

Apple to hire from an Indian College, reportedly the first time, from the International Institute of Information Technology Hyderabad (IIIT-H) this year.

UP Section Events

Amity Institute of Telecom Engineering and Management: 2nd International conference on Telecommunication and Networks

Chief Guest Dr R. Chidambaram, Principal Scientific Advisor, Govt. of India, Dr Ashok K Chauhan, Founder President, RBEF (Foundation of Amity Institutions & Sponsoring Body of Amity Universities) with International and National Dignitaries during Inaugural function of 2nd International Conference on Telecommunication and Networks TELNET-2017

The 2nd International conference on Telecommunication and networks was organized by Amity Institute of Telecom Engineering and Management, Amity University Uttar Pradesh on 10th and 11th August 2017. The conference was technically co-sponsored by IEEE Uttar Pradesh Section.

TELNET-2017 received an overwhelming response from India and abroad. Among the 20 Keynote Speakers four were IEEE distinguished lecturers. A total of 380 research papers were received out of which 106 research papers were accepted for technical presentation from India and abroad. Researchers from 21 states from India and 16 countries from abroad participated in the conference. The conference was divided in seven tracks – Telecom technologies, computer science & IT, wired & wireless communication, Digital image processing, Microelectronics, network security and Telecom management. Four parallel sessions were held for each track and a total of 101 papers were presented in 20 Technical Sessions. In addition Technical program comprised of keynote talks, a tutorial on Software Stability Model and a workshop on Entrepreneurship. All sessions were chaired by IEEE senior members and other professors/scientists.

The conference was inaugurated by Dr. R. Chidambaram, Principal Scientific Advisor, Govt. of India and Dr. Ashok K. Chauhan, Founder President, RBEF (Foundation of Amity Institutions & Sponsoring Body of Amity Universities) along with other dignitaries from India and abroad.

Keynote speakers of the conference were:

- Prof. Mohamed -Slim Alouini, King Abdullah University of Science and Technology (KAUST), Kingdom Of Saudi Arabia,
- Prof. Suresh Subramaniam, George Washington University, USA,
- Prof.(Dr.) Cher Ming Tan, Chang Gung University, Taiwan,
- Dr. Alexe Bojovschi, RMIT University, Australia,
- Prof. Celimuge Wu, University of Electro-Communications, Japan,
- Prof. Subhasish Mazumdar, New Mexico Tech. University,
- Dr. Géza Haidegger, Hungarian Academy of Sciences, Hungary,
- Prof. Alireza Baghai Wadji, University of Capetown, Capetown, South Africa,
- Prof. Pavel Zahradnik, Czech Technical University, Czech Republik,
- Prof. Dr. Thomas Joachim Odhiambo Afullo, University of Kwazulu-Natal , South Africa,
- Dr. N. P. Yadav, Nanjing University of Science and Technology, China,
- Prof. Dr. M. E. Fayad, San Jose State University, California,
- Dr. Satyabrata Jit, IT-BHU,
- Prof. Yuh-Jong Hu, National Chengchi University, Taiwan,

- Dr. Miguel Lopez Benitez, University of Liverpool, UK,
- Dr. Nagendra P Pathak, IIT Roorkee, India,
- Prof. Mridula Gupta, University of Delhi, India and
- Dr. J. Ramkumar, IIT Kanpur, India.

Some very important topics like 5G wireless communication networks, Nanoscale devices . Reliability in IoT era, Multi granular optical networks, connected vehicles, , from data integrity to inference integrity, , sensor networks, network knowledge maps, radiofrequency miniaturized devices, 5G technologies, smart spectrums and many more were discussed.

In the valedictory session Prof. A.P. Mittal, NSIT and Member Secretary AICTE, Mr. Antarpreet Singh, CEO and Co-Founder of MydigitalBlocks & Lincfast and senior officials of Amity University were present.

Dr. J. Ramkumar, IIT Kanpur, Dr. Asheesh K. Singh, MNIT Allahabad, Dr. Prabhakar Tiwari, Galgotia University and Dr. Dilip K. Sharma, GLA University Mathura represented IEEE UP Section.

United College of Engineering & Research: International Conference on Innovations in Control, Communication and Information Systems

United College of Engineering & Research, Greater Noida, hosted the International Conference on Innovations in Control, Communication and Information Systems (ICICCI-2017) technically sponsored by IEEE UP section and in collaboration with AIT Thailand and supported by Ministry of Communication and Information Technology Govt. of India. The conference was aimed at providing a platform for researchers, scientists, industrial professionals and students to exchange and share their research accomplishments, achievements and new ideas on the contemporary and emerging trends in Control, Communication and Information Systems.

The conference received 248 papers, 04 from abroad and 244 from within India, out of which 135 were selected through blind peer review process and 88 authors registered.

This two day conference started with formal inaugural ceremony in the presence of Chief Guest, Prof. (Dr.) M.P. Poonia, Vice Chairman, All India Council for Technical Education (AICTE). Inauguration was followed by keynote address by Dr. J.Ramkumar, Hon'ble Chairperson, IEEE UP Section and Prof. Kazuo Yamamoto, Vice President, Asian Institute of Technology, Thailand.

In the post lunch session, 47 papers were presented in two technical sessions, with four parallel tracks, at four different venues. The tracks were Control, Communication and Information Systems.

The Second day started with a keynote address by Dr. Nitin Kumar Tripathi, Professor, Asian Institute of Technology Bangkok, Dr.Asheesh Kumar Singh, Vice Chairperson, IEEE UP Section and Prof. A.K. Tripathi, IIT-BHU, Varanasi. This was followed by the post lunch session, 36 papers were presented in two technical sessions, with four parallel tracks, at four different venues.

The valedictory ceremony was presided by Dr. S. Chatterjee, Principal, UCER Greater Noida. He shared some feedback about the conference followed by certificate distribution ceremony.

Industry Relations-IEEE India Council & IEEE-CAS, Bangalore Chapter

Electronics Makers 2017

A Two-day Conference entitled **Electronics Makers 2017** was jointly organized by Industry Relations-IEEE India Council, Centre for Embedded Product Design, Centre for Electronics Design & Technology, NSIT, in Association with IEEE-CAS, Bangalore Chapter on July 1-2, 2017 at NSIT, New Delhi.

The conference was inaugurated by Prof. Ramgopal Rao, Director of IIT Delhi by lighting the electronic lamp which is a DIY project from TI-CEPD. Dr. C. P. Ravikumar welcomed the participants on behalf of IEEE and TI Center for Embedded Product Design (NSIT). The keynote talk by Dr. Ramgopal Rao was on the topic **Bridging Academic R&D with Product Innovation - a few case studies and a way forward.** His talk focused on nanotechnology and the efforts by his research team to create products in the area of nanotechnology. The second speaker was Dr. Prabhat Ranjan, executive director of TIFAC-CORE (DST). His research team has developed custom wearables for persons with disabilities or persons who are victims of accidents, which help them to carry out simple functions like changing channels on a TV remote.

Two panel discussions were also arranged. **"From DIY to Make In India - A Leap of Faith"** was the topic of the first panel, which was moderated by Dr. C. P. Ravikumar , and participated by a number of young DIYers. The panelists consisted of Prof. Dhananjay Gadre, Ajit Singh, Anup Rajput, Sanjay Dixit and Nidhi Sharma who gave some valuable input and advice from their own experience as DIYers. The second panel titled **Project based Engineering Education for "Make in India"** was on education with A. Paventhan of ERNET, Bangalore among the panelists.

A hands-on workshop was conducted by Texas Instruments, India entitled **Microcontroller Learning Platform on a Shoestring Budget using MSP430 LunchBox on** July 1, 2017. On second day, July 2, 2017 another hands-on workshop on **Beaglebone and Linux - Open-Source Hardware and Software for DIY** by Texas Instruments, India, and a workshop on **VXWorks** conducted by CG CorEl, New Delhi.

More than 100 delegates attended the program and Demos and presentations of 15 selected projects were made. Certificates and prizes for the best three projects were awarded during the valedictory.

Indian-led team designs electronic-free data-storing fabric: A US-based team led by Indian researcher Shyam Gollakota has created fabrics that can store data, from security codes to identification tags, without using any on-board electronics. The data stored using magnetic properties of a conductive thread can be read using a magnetometer, existing in smartphones. The fabric retained its data even after machine washing, drying, and ironing at 160ºC.

Apple has revealed that the 'tears of joy' emoji is the most popular emoji among English speakers in the United States. The red-coloured heart and 'loudly crying face' stand second and third on the list respectively.

IEEE WIE International Leadership Summit 2017

With the theme "Disrupt - Breaking the barriers of thought", IEEE WIE International Leadership Summit (ILS) 2017 aimed to bring entrepreneurs, business leaders, social activists and engineers together was held during 13-15 Jul 2017 at Goa. The summit had an array of thought leaders from various walks of life, predominantly, science and technology, who shared their experiences to inspire the gathering. More than 300 delegates from all across the globe attended this summit.

Day 1 started with the welcoming presentation. Mahesh V. Zurale, Managing Director of Accenture gave the opening keynote on 'Tech Vision'. The next keynotes were by Pallavi Arora, Director of Technical services at CISCO and Seeta Hariharan, General Manager and Group Head of TCS Digital Software and Solutions Group. The keynotes touched on the roles at various levels of leadership in the life of a professional, how to sell oneself as a brand and on finding mentorship. The next session was a panel discussion on the emerging technologies. The panelist agreed that the emerging technologies would not take away the jobs rather they will replace them with new ones. The day ended with entertaining performances, celebration and dinner.

The second and third day of the summit was divided into four tracks 'Advance: Entrepreneurship', 'Lead: Leadership', 'Engage: Community Design & Art' and 'Inspire: Innovation and Technology' that ran parallel in different halls.

Day 2 started with the Keynote session addressed by Mr. Veeramanikandan Raju, CTO, Software and Systems, Texas Instruments that mainly focused on recent technological trends.

The Entrepreneurship Track started with the talk by Shri Charan, founder of StuMagz who narrated how he got the inspiration for creating StuMagz - an online platform for hosting student's magazines. The following session was by Rashi Narang, founder of Heads up for Tails - a luxury brand for pets with aim for pet owners to indulge better with their pets. Further, the audience witnessed a session on "Deep Learning- A brief review" taken by Sancheeta Kaushal from Grofers. Later, T. Mekha , co-founder of Guardians of Dreams which is a social enterprise that focuses on effective child care for the unprivileged talked about the life of a social entrepreneur. This was followed by a very interesting session by Dr. Kiran Talele, IEEE Bombay Section - Student Activities Chair on "Women in Entrepreneurship". The next session was by Ashwath Bharath, Project Lead of Firki, Teach for India. He talked about their two year program for children of low - income parents. This was followed by a panel discussion on Entrepreneurship and Leadership. The next session in row was "Reaching out to the Next Billion Users" by Karthik Padmanabhan, Google Developers Head for Google India. He focused on 'Building right business model' for the people in India.

The Leadership Track started with a session on "Authentic Leadership – Truly Human" by Sandilya, Mathangi, Managing Director, Accenture. This was followed by a session by Sabbah Haji, Director - Haji Public School, J&K who talked about how education helps us grow and lead. The next session was by Dr. Shanthie Mariet D'Souza, CEO and Founder, Mantraya. She gave a brief about her company and the projects that it does. The following session was by Smita Negi, Global Senior Director, Stryker Global Technology Centre. This was followed by a workshop on leadership that was taken up by two women leaders, Shubhra Bhandari, Director, TI India HR & Roopashree HM, Director, Analog Technology Development & EDA, TI India. Kamala Srinivasan, Senior Director, Anita Borg Institute took the stage next followed by a session by Pragya Laad, ARM Technologies who talked about "Challenging the beliefs: Creating your own path". The track's sessions of day 2 ended with a panel discussion on Smart City.

On day 3, Rashmeet Kaur, Director, LeanIn Delhi Chapter discussed about LeanIn and how it is helping in building great women leaders followed by a session on "Deciphering Assurance Metamorphosis – From validating solution to validating business needs" by Nalini Krishnan, TCS.

The engage track that focused on community, art and design began with a talk by Celia Shahnaz, Professor at Bangladesh University of Engineering & Technology who talked at length about IEEE PES WiP, its mission and its goals. The next speaker was Durga Gawde, Sculptor and Educator at Durga Gawde Studio who shared her inspiring life journey. Next was Prajakta Kulkarni, Founder of Nodes who discussed about User Experience (UX) Design in her talk. Ramalatha Marimuthu, Former Chair of IEEE WIE was the next speaker who spoke on Ethical Leadership. After lunch, the track restarted with a session by Sailaja Bhagavatula, Managing Director, Accenture. Following was a workshop "Introduction to Machine Learning and Tensor Flow" by Lakshya Sivaramakrishnan, Google. Next was Vidya Govindan, Managing Director, Accenture. Her talk was about "Automation – What's New" and she gave a retrospective and futuristic scope of automation. Roopa Barua, Founder, Kahini Media took the stage next. She spoke about how she decided to join the New York Film Academy to become a filmmaker and how her journey has been so far. The next session was taken by Galini Kondyli and Abir Chermiti - IEEE IAS. Galini talked about IEEE Industry Automation Society (IAS). The concluding session was taken by Jigyasa Grover, Director, Women Who Code, Delhi who talked about Free and Open Source Software (FOSS). In this Track, on Day 3, we had Prajakta kulkarni, Founder, Nodes who gave a session on "Design Thinking - Open innovations" followed by Panel discussion on "Young Professionals".

Inspire- Innovation and Technology track had series of sessions inspiring the delegates. First talk was by Dr. Rajlaxmi Chouhan, from IITJ on Technology Driven Women Empowerment followed by session on "The Magic of Technology" by Kshirsagar Nandita, Managing Director, Accenture. Then Ranjini M, Engineering Manager, Texas Instruments talked about 'Application Containerization – Emerging trend in DevOps'. Next Nitin Sawant, Managing Director, Accenture gave a talk on 'Application Security – The next frontier to defend'. Further, Srividya Sriram & Smrithi Parameswar from Freshworks talked about Ten commandments of Product Creation. Following was a talk on 'Test Data Management Techniques For Large Enterprises' by Abhiram Cuduvalli from CISCO. The next talk was given by Srilakshmi Subramanian from Ericsson and Prasanna Subramanian from Ford. They spoke about Smart Mobility – IOT World Revolutionizing Transport Industry. The next one was also an IoT centered talk by Meeta Thakur from Ericsson titled- 'IOT with IMS, Most Powerful Disruptive Technology'. Next, Narayana Pai from Ericsson threw some light on 'Innovation: From concept to realization'. Following was a talk by Piyali Goswami from Texas Instruments on 'Technologies that change the way we drive'. The next was based on 'Semiconductor Test : Invisible Yet Omnipresent …howz this ?' by Neha Prabhu, Texas Instruments. Then Khambampati Sailu, Managing Director, Accenture talked on 'Containerization – The New Face of the Cloud'.

Day 3 witnessed two talks in this track - 'Understanding the Millennial Workforce' by Pooja Hegde and 'Big Data Analytic Identity Management Expert System for Social Media Network' by Dr. Buddhima Subasinghe.

The summit also had an online career fair to connect aspiring participants with leading companies. With a warm vote of thanks to all delegates, spons ors and speakers and convocation of volunteers, the summit was brought to an end.

Alphabetic advice for you:

A B C : Avoid Boring Company..

D E F: Don't Entertain Fools..

G H I: Go for High Ideas .

J K L M: Just Keep a friend like ME..

N O P: Never Overlook the Poor n suffering..

Q R S: Quit Reacting to Silly tales..

T U V:Tune Urself for ur Victory..

W X Y Z: We Xpect You to Zoom ahead in life

Very ....beautiful lines please store it.

IT in July - September 2017

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

General

- **GST** is a reality on July 1, 2017; border check-post become history leading to increased supply chain efficiency, hopefully
- Launched on Aug 12, 1981 **IBM PC** completes 36 years; **Hashtag** turns ten on Aug 23, 2017
- India's 14th **President Ram Nath Kovind** assumes office on July 25, 2017; **Venkaiah Naidu** takes charge as India's 13th **Vice President** on Aug 11, 2017; **Deepak Misra** takes over as the 45th **Chief Justice of India** on Aug 28, 2017
- **Modi** makes a historic **visit to Israel** in July 2017, the first ever visit by an Indian Prime Minister
- G20 meets in Germany during July 7-9, 2017 in the backdrop of changed geo-politics
- Prime Minister springs a surprise by inducting **Nirmala Sitharaman** as full time **Defence Minister** on Sep 3, 2017 cabinet reshuffle
- Germany elects **Angela Merkel** for fourth time in a row on Sep 24, 2017
- Multiple natural and man-made **disasters** in this quarter - terrorist attack in Spain (Aug 17), Hurricane in Florida (Sep) and London Tube blast (Sep 15), earthquake in Mexico (Sep 19)

Technology

- **INSAT launch** on Aug 31 fails, after nearly all successful launches by ISRO in the recent months

Infrastructure

- **India's first bullet train** between Mumbai and Ahmedabad formally announced by **Indian and Japanese PM** on Sep 14, 2017
- **Lucknow Metro** starts on Sep 5, 2017
- **Sardar Sarovar dam** (the world's second largest) on Narmada river in Gujarat with 1,450 MW Hydel power plant commissioned on Sep 17, 2017

Markets

- Indian stock markets were on a roll in July 2017; **Sensex** (BSE index) went past 32,000 for the first time on July 13, 2017; **NIFTY** crossed 10,000 mark for the first time in its 21 year history on July 25, 2017; however, on Sep 22, 2017 Sensex fell to 31,922 and NIFTY to 9964!
- **Google** buys IP from **HTC** Pixel unit for $ 1.2 Billion on Sep 21, 2017
- Tata **Steel** and **ThyssenKrupp** decide to merge in September 2017
- Private equity firm KKR buys **WebMD** (that had connections to SGI Founder Jim Clarke and India-born Pavan Nigam) for $ 2.2 Billion on July 24, 2017
- **Freecharge** acquired by **Axis Bank** on July 26, 2017 shows signs of consolidation in "Mobile Wallets" space
- **ABB** acquires **GE Industrial Solutions** Division for $ 2.2 B on Sep 25, 2017

Products

- **Goggle** launches "**backup and sync**" on July 12, 2017, **Android 8** (Oreo) on Aug 21, India news "**feed**" on Sep 8 and Mobile payment App **Tez** on Sep 18 in India

- **Apple** launches **iPhone X** and **iPhone 8**, **Apple Watch 3;** also updates its software - **iOS 11, Apple Watch OS 4, Mac OS High Sierra** in Sep; iPhone 8 pre-orders started on Sep 22 in India within a week of global launch!
- **Moto e4 plus** and **Xiaomi Mi6 Plus** launched in India on July 12, 2017
- **Nokia 6** launched in India on Aug 23, 2017; sold out in a minute!
- **HP** announces **Sprocket printer** priced $ 99 on Sep 14, 2017
- **Twitter** allows 280 characters from Sep 27

Indian IT Companies

- **Infosys** stock price saw loss of 9.2% in a single day on Aug 18, 2017 after CEO Sikka resigned suddenly; Nandan Nilekani is back as Infosys Chairman on Aug 24, 2017; **TCS** and **Infosys** post good results for the first quarter - April to June 2017 - $ 4.6 Billion and $ 2.6 Billion revenue, respectively
- **Reliance Jio** launches "free" feature phone, low cost bundles for Voice, data and video on July 20, 2017
- **SoftBank** invests $ 2.5 Billion in **Flipkart** in Aug 2017; **Ola** gets $ 250 million funding from SoftBank
- **Tata Sons** goes private on Sep 21, 2017
- **Polaris** subsidy **Intellect** bags **GeM** - **G**overnment **E**lectronic **M**arketplace contract for 5 years on July 25, 2015; this would replace the legendary DGS&D; GeM would be the portal for all Government purchases totaling Rs 5-7 Lakh Crores ($ 100 billion)
- 400 top executives of **Cognizant** take VRS on Aug 5, 2017
- **Titan** joins hands with **Amazon** to reach US markets
- **Patni** inks JV with **Amazon** in Sep 2017
- **Wipro** gets $ 100 M order from Munich Re in Sep 2017;
- **Mahindra** tests driver-less tractors in Sep 2017

MNC Companies in India

- **Google** acquires Bangalore-based **HalliLabs** founded by StayZilla founder Pankaj Gupta on July 13, 2017; launches India-focused mobile payment App **Tez** on Sep 18, 2017
- **Amazon** to hire 1,000 R&D staff in India; starts the biggest (400,000 soft) storage space in Hyderabad Int'l Airport on September 8, 2017; with this Amazon has 3.2 million cubic feet of storage in India
- **Accenture** India launches a huge innovation center in Bangalore on July 26, 2017
- **Suzuki** starts preparation for Electric Car factory in Gujarat India in September 2017
- **Boeing** sets up R&D Center focused on IOT Analytics and AI in BLR in Sep 2017
- **PayPal** opens innovation labs in Chennai and Bangalore in Aug 2017
- **Honda** commissions its Narsapur, Karnataka facility (world's largest facility for two-wheelers) - with 2.4 million capacity and 7,000 direct jobs and 15,000 indirect jobs – in Aug 2017
- **LinkedIn** launches India-made **LinkedIn Lite** in 60 countries in Aug 2017

Education & Research

- Joydeep Bagchi-led **Indian scientists (IUCAA and IISER Pune)** discover ***Saraswati*** **Super-cluster** (4 billion light years away) in July 2017
- **SWAYAM platform** for **online courses** and **free to air TV channels** launched on July 9, 2017 (Guru Poornima) by the Ministry of Human Resource Development
- Lok Sabha passes the bill giving the newly started **IIIT's in PPP mode the status of Institutes of National importance** on July 19, 2017; with Presidential assent it got Gazette notified in Sep 2017
- Lok Sabha passes **IIM Bill** giving more autonomy on July 27, 2017

People

- The high-profile Infosys CEO **Vishal Sikka's** sudden resignation on Aug 18, 2017 caused flutters in the Indian IT industry
- India-born **Sundar Pichai** CEO of Google joins Alpha (parent company of Google) Board on July 24, 2017
- **Aarti Subramaniam** is the first-ever digital officer for Tata Sons, appointed on July 12, 2017
- **NSE** gets a new **CEO** Vikram Limaye on July 17, 2017
- **Arvind Panagariya Vice Chairman of NITI Aayog** announces his decision to quit and join back Columbia University on Aug 1, 2017
- **Vasant Narasimhan** PIO (Person of Indian Origin) is the new CEO of global pharmaceutical giant **Novartis**
- **Japanese PM Abe** visit India and launches bullet train project between Mumbai and Ahmedabad on Sep 14,

2017; **Swiss President** visits India Sep 2-4, 2017

- **Five Navy women** start on round the world in 160 days on Sep 10, 2017
- **PV Sindhu** is the first Indian woman ever to win Korean Open badminton match on Sep 17, 2017

Telecom

- **Reliance Jio** launches "free" feature phone and low cost bundles for Voice, data and video on July 20, 2017

Startup scene

- **Baiju** acquires **TutorVista** and **Edurite** on July 3, 2017 from **Pearson**
- **BookMyShow** acquires recommendation engine **Burrp** on July 3, 2017
- **FreeCharge** acquired by **Axis Bank** on July 26, 2017 signs of consolidation in mobile wallets space
- **Ola** raises another $ 400 million from Tencent on July 26, 2017
- **SoftBank** invests $ 2.5 Billion in Flipkart
- **Matrimony** IPO oversubscribed on Sep 14, 2017

Interesting Applications and Apps

- **Aaykar Setu** App launched by Income Tax department on July 10, 2017
- **Zoho One** offers 35 applications as a professional single App for Rs 1,000 per month per employee starting July 25, 2017
- **Microsoft** launches messaging App **Kaizala** in India in July 2017 with AP Government as its first customer
- **Government of India** launches mother app **Umang** in July 2017
- **SBI** launches chat bot in September 2017

Interesting numbers

- **Sensex** (BSE index) went past 32,000 for the first time on July 13, 2017; **NIFTY** crossed 10,000 mark for the first time in its 21 year history on July 25, 2017
- **Foreign Exchange reserves** cross $ 400 billion for the first time on Aug 18, 2017
- With 241 million users **India is No 1 for Facebook** (USA has 240 million) on July 13, 2017; **WhatsApp** reaches **one billion daily users** (with India as No 1 the No 1 country) by July 2017
- **Uber** completes 500 million rides in India in 4 years by July end
- As per TRAI Press Release 73/2017 dated Sep 13, 2017 **Indian telecom subscriber base** touched 1210.71 Million (1186 Million mobile and 24 Million fixed-line) on July 31, 2017

Professor Sowmyanarayanan Sadagopan is the Director of IIIT-Bangalore. These are his personal views. He has been writing about IT in India for two decades, with monthly columns in Times of India (1999 – 2003), Financial Express (2004 - 2007), IT Magazine (2008 - 2011) and IEEE India Newsletter (2012 onwards). He can be reached at ss@iiitb.ac.in

Facebook admits to having up to 270 million fake accounts: Facebook has admitted to having up to 270 million fake accounts, according to its third quarter earnings in 2017. In the report, Facebook said around 2-3% were "user-misclassified and undesirable accounts". The company also admitted that 10% accounts are duplicates of real users which is almost double of 6% estimate in the last quarter.

Fake version of WhatsApp surfaces on Google Play Store: A fake version of WhatsApp, named "Update WhatsApp Messenger" has surfaced on Google Play Store under the developer name, "WhatsApp Inc." The fake app has been downloaded one million times, while the original WhatsApp has one billion users. The fake version also copied the colour theme and look of the original WhatsApp app.

Teen sells 25th place in queue for iPhone X for $500: Teenager Lee Cselko, sold his 25th place in a queue for iPhone X in Australia for $500. The 16-year-old McDonald's employee wrote about the offer on a white board he placed on a chair. Asking people to message him on his Instagram handle, he said that anybody who buys the spot will "get the phone 100%".

A Delhi court on Thursday directed Google India to remove content allegedly containing hate speeches against the Sikh religion and its gurus within a week.

Information Resources

Compiled by
Mr. H.R. Mohan
Editor, IEEE India Info – The Newsletter of IEEE India Council
ICT Consultant & Former AVP (Systems), The Hindu, Chennai
hrmohan.ieee@gmail.com

12 Low-Cost Cloud Security Practices with Big Payoffs: Good security takes effort. But it's not impossible — far from it. The key to achieving better security is to focus on embedding the right types of thinking early on. Make good security hygiene as natural as muscle memory. And before you start to worry about budget, take note: There are many low-cost, relatively easy measures you can take that will have a big impact on your organization's security posture. Full Post

Fail Hard: 15 Quotes on Failing to Succeed: Is it OK to fail? Most people believe that failure is something to be embarrassed about, or to sweep under the rug. But is there something about owning our failures that gives us the keys to succeed? Included below are 15 quotes from some of history's greatest known thinkers and leaders on why failure doesn't have to be as devastating as we think. Featuring quotes from Thomas Edison, Zig Ziglar, Randy Pausch, Maya Angelou, Winston Churchill, and more. Full Post

85 Essential Start-up Resources You Should Know About: These are the tools that we know, love, and wouldn't hesitate to recommend—many of them we use ourselves. Use them to propel your start-up into success and growth. Full List

Top Trends in the Gartner Hype Cycle for Emerging Technologies, 2017: Imagine a world where it is possible to implant a magnet that detects electrical current or utilize an exoskeleton to enhance strength. Now consider the potential abuses of requiring employees to have chip implants before they can work. Human augmentation has the potential to use technology to enhance bodies and minds, but also raises ethical and legal questions. Nevertheless, the technology would offer higher levels of performance from employees and offer businesses an edge. This technology is upwards of 10 years from mainstream adoption, but has the potential to create a multi-billion dollar human augmentation market. While human augmentation is just at the beginning of the innovation trigger phase of the Hype Cycle, complementary emerging technologies such as machine learning, blockchain, drones (commercial UAVs), software-defined security and brain-computer interfaces have moved significantly along the Hype Cycle since 2016. Full Story

Quantum Computing Explained with a Deck of Cards: At the MIT Venture Capital and Innovation Conference in February 2017, Dr. Dario Gil, Vice President of IBM Research, presented a simple overview of quantum computing and what kinds of problems it may be useful to solve. The key is that a quantum computer with N coupled quantum bits (qubits) has equivalent computing power to a classical computer with 2N parallel bits. For a quantum computer with large N (which does not yet exist), this exponential speedup could address a range of computational problems that are currently unsolvable, including decryption, quantum chemistry, and combinatorial optimization. Watch Dr. Gil's presentation.

The Future of Computing Depends on Making it Reversible: All current transistor logic gates dissipate significant amounts of power, so that extracting excess heat is becoming a major issue limiting computer performance. These gates are irreversible, both logically and physically; one cannot operate them in the reverse direction. However, there has long been academic interest in reversible computing, where the power dissipation can be orders of magnitude smaller. Now that conventional electronics may be approaching limits, research in reversible computing is being revived in a range of device technologies, by groups worldwide. In the September issue of IEEE Spectrum, Dr. Michael Frank of Sandia National Laboratory reviewed the field of reversible computing, which may provide a future way around current limitations in computing performance. Full Article

Microsoft is planning to phase out its famous graphics editing program, Paint, after 32 years: The app won't disappear all at once, and the Redmond company promised it will be available to download from the Microsoft Store, however support for it will end when the Windows 10 Fall Creators Update starts rolling out later this year. Story

Video: How Will We Solve Big Energy Challenges? 15m:07s: How will industry leaders, government officials, researchers, entrepreneurs - lift billions of people out of poverty - and continue to advance technological civilization? Jason Pontin, Editor-in-Chief and Publisher of MIT Technology Review delivers a striking message of collaboration from the Offshore Technology Conference Statoil Reception in Houston, Texas. Watch

The Industrial-Sized Potential Of The Internet Of Things: On an industrial scale, the Industrial Internet of Things (IIoT) can provide insights into customer behaviour, machine performance, and streamline tasks – ultimately raising efficiency, convenience and productivity while dramatically enhancing the quality of living and transforming the way we experience products and services around us.IIoT has the potential to transform emerging economies like India, especially as we start to see the average cost of sensors continue to drop, further driving the proliferation and development of connected devices. In fact, the Indian government envisions creating a market of $15 billion by 2020, increasing connected devices by more than 13-fold to 2.7 billion units by then, according to NASSCOM. Story

Immigrating to the U.S.? These Tech Services Say They Can Help: If you're thinking of moving to the United States, you might be concerned that now isn't a good time. The wall hasn't been built, but President Donald Trump has kept his promise to crack down on immigration into the country. Those measures come on top of what is already a maze of an entry system that politicians on both sides have long called broken. A crop of tech companies aim to ease these problems. They've developed software to make the process easier to navigate, promising to save users time or money versus working through a regular immigration attorney. "That type of technological development would greatly lower the cost, because right now it's generally regarded as the second-most complicated portion of American law after the income tax," said Alex Nowrasteh, an immigration policy analyst at the Cato Institute think tank. Here's a look at a few. Story

Self-Driving Buses and Robot Aides Could Double Singapore's Growth Rate: In technology-proficient Singapore, their integration into the economy could help the domestic growth rate to almost double and significantly lift labor productivity, according to a report by consultancy Accenture. It found that artificial intelligence, once fully adopted, might lift Singapore's annual growth rate to 5.4 percent in 18 years. That would be the largest increase among 33 countries studied and would translate into an additional $215 billion in gross value added. Without AI, the economy is predicted to expand 3.2 percent. Story

How artificial intelligence can deliver real value to companies: After decades of extravagant promises and frustrating disappointments, artificial intelligence (AI) is finally starting to deliver real-life benefits to early-adopting companies. Retailers on the digital frontier rely on AI-powered robots to run their warehouses—and even to automatically order stock when inventory runs low. Utilities use AI to forecast electricity demand. Automakers harness the technology in self-driving cars. In our survey, early AI adopters that combine strong digital capability with proactive strategies have higher profit margins and expect the performance gap with other firms to widen in the next three years. Story to download the 80 pages discussion paper on Artificial intelligence: The next digital frontier? visit

"Get Published" booklet: The primary method of communication between scholars remains the research article. Once an author's work earns the approval of their peers and gets published in a journal, it becomes part of the literature and contributes to a permanent record of human discovery. Publishing, therefore, is an extremely important part of a career in research. However, despite the importance of publishing, and aside from reading papers, for many people their first experience is when they have to sit down and write a paper. This booklet from Wiley is designed to provide some very basic tips for early career researchers - from choosing a journal to post-publication promotion. Booklet

Ethics and Engineering: A Matter of Trust: In the December 2015 issue of IEEE Technology and Society Magazine (IEEE T&S), 2015-2016 Society on Social Implications of Technology (SSIT) President Greg Adamson discusses Improving Our 'Engineering-Crazed' Image. Adamson opens his message with a mention of the recent VW environmental deception debacle, and the rift that such events create between the engineering community and the general public. "In addition to the anticipated financial impact on the company," Adamson writes, "it is a setback to the credibility of technologists, one that brings ethics to the fore." Adamson insists that, in situations such as these, an engineer's primary loyalty should be to public interest, and not his or her employer. Below, Adamson expands upon his IEEE T&S article, and discusses in more depth his opinions on engineering and ethics. https://goo.gl/nl71gN

Cool Engineering Projects: Engineers are working to change life for the better in ways that we can hardly even imagine. Check out some of the cool ideas they are bringing to life. The Hyperloop—Travel Faster than a Jet?; Human Exoskeleton—Freedom from Wheelchairs; The Makani Energy Kite—Generating energy at 1,200 feet; The HoloLens—Say Goodbye to Computer Screens; and Solar Sunflowers—Powering a House Near You. https://goo.gl/rQruqi

How Amazon Is Bringing IoT to Land, Sea, and Air: See how Amazon is investing and developing heavily in self-driving cars, drones, and remote control technology to connect their delivery chain. https://goo.gl/dzmTdV

Digital Empowerment in Healthcare

Dr. K. Ganapathy
Director, Apollo Tele Health Services
President, Apollo Telemedicine Networking Foundation

Introduction

Healthcare is one of the most essential services in any society. The Indian healthcare services is one of the biggest services in the world, with every sixth individual on the planet, being a participant. India is expected to rank amongst the top three healthcare markets by 2020.. India is also one of the biggest ***IT*** capitals of the modern world focusing on providing low cost solutions in the services business of global ***IT.*** *The Indian healthcare IT market* valued at Rs 6,650 crore is likely to grow 1.5 times by 2020, according to NASSCOM.

Background

Information technology (IT) has the potential to improve quality, safety, and efficiency of health care. Diffusion of IT in health care is generally low (varying, with the application and setting). Drivers of investment in IT include promise of quality and efficiency gains. Barriers include cost and complexity of IT implementation, which often involves work process and cultural changes. Characteristics of the health care market including payment policies that reward volume rather than quality, and a fragmented delivery system, act as deterrents. . Several multinational companies such as GE Healthcare, Intel, Hewlett Packard, Cisco Systems, Qualcomm, Microsoft, Google, IBM, Computer Sciences Corporation (CSC), Perot Systems, TCS and HCL have entered the health IT space. India has the fastest-growing health care IT market in Asia, with an expected growth rate of 25%, followed closely by China and Vietnam. IT is specifically used for computerization of medical records, networking various departments in the hospital, and providing telehealth services.

The private and public sectors have engaged in several efforts to promote the use of HCIT within and across health care settings. Delivering quality health care, requires providers and patients to integrate complex information from many different sources. Increasing ability of physicians, nurses, clinical technicians, and others to readily access and use the right information, at the right time and right place about their patients should significantly improve quality of care. The ability for patients to obtain information to better manage their condition and to communicate with the health system will contribute to a win win situation. Through information power that IT enables, capacities of decision-makers are continually transformed, in how they link with each other, in the here and now. This could also raise fears and anxieties , as the pervasive nature of IT and its uneven diffusion, increases vulnerability necessitating policy safeguards.

Advantages of enabling IT in hospitals:

1. Quality of service improves increasing reach and delivery of service.
2. Integrated EMR's facilitate research, as data is made available in structured manner, which helps in studying trends, identifying disease outbreaks etc.
3. Enables Customer Relationship Management (CRM
4. ***IT*** helps patients and their records move seamlessly across different geographical locations.
5. ***IT*** provides flexibility in procuring and billing.
6. ***IT*** also provides accounting framework, hence helps with entire billing, inventory management, store management, laboratory management, etc.
7. In ***IT*** enabled hospitals, the bed turnaround ratio has increased by 10%, justifying investment towards enabling IT
8. India has the advantage of a strong IT fibre backbone and indigenous satellite communication technology with trained human resources.
9. Makes hospitals filmless and considerably reduces paper work, faster patient throughput, faster diagnosis, reduced manpower requirement and captures patient history at one place
10. Faster more efficient pre hospital authorisation from insurance companies
11. Reliable, real time Big Data will enable health Insurance companies to more scientifically do India centric actuarial studies and compute premium values. This will ultimately benefit the public.

Challenges in implementing Healthcare Information Technology (HCIT)

- ***IT*** in healthcare had not taken off in India despite a strong healthcare market. Lack of regulations, standardization and reduced professionalism have contributed to this . Certification, authentication, registration, adoption of minimum safe standards, expanded efforts to standardize record formats, nomenclature, and communication protocols to enhance interoperability are essential.
- Major urban rural health divide with lop sided distribution of specialists. This leads to " poverty amidst plenty" and under-utilization of capacity (beds, doctors, nurses)
- Fragmentation of isolated bits of patient and medical know-how across entities in the ecosystem. High Cost / Low Productivity due to bottom-up re-creation of diagnosis/analysis for every patient, in the absence of a universally accessible record.
- Business models currently focus on acute care. It is necessary to look at preventive and chronic care with alternative delivery and transaction models to multiply reach.
- Integrated health records - A complete, updated / accurate one point patient database is not available - an integrated electronic medical record system (EMR) - This helps in capturing of information and maintaining continuity and granularity. Lack of a one-point, complete patient record
- Indian healthcare system is heterogeneous, diversified with considerable variations in demography, literacy, socio-economic profile and availability and access to health care.
- Necessity for financial incentives and disincentives as practiced in the USA with increased investments
- Acceptance of this modality by family physicians specialists, patients, administrators, government and society.
- Designing cost effective, appropriate, need based user friendly technology
- Ensuring reliable connectivity, hardware and software
- Running short term courses and subsequently refresher courses to train the trainers and the users . Introducing HCIT in the medical/ IT curriculum
- Enforcing regulations on HCIT and passing a HCIT Act for India
- Getting grants, subsidies and waivers as necessary to introduce HCIT in suburban and rural areas
- Lack of in-house IT expertise, reluctance of medical, nursing and other staff to change, fear of technology failing (paper systems appear more reliable)
- Poor support from vendors, reluctance of vendor to make changes in software when requested particularly customisation of software used to computerise manual processes without proper refinement in policies and procedures; lack of proper implementation methodologies (detailed process study and refinement strategy) ; to make the management aware about time and efforts required for successful computerisation and not using standard inter operable, scalable software

The Road Ahead

Corporatization of healthcare providers is contributing to a transformation in the Indian healthcare delivery system . Private participation is also a major force in tapping the huge Indian health insurance market. This sector calls for a higher level of technology requirement. Tracking premium payment, linking of branches, maintaining patient records and networking with hospitals requires HCIT. Changes in the regulatory framework, grading of hospitals, and government initiatives are also major catalysts. A major advantage that developing countries in Asia have, with regards to being ready for the rapid technological changes shaping healthcare globally, is the fact that they have no colonial legacy to 'disinherit' in the field of modern healthcare; for example, they do not have to 'unwire' to introduce mHealth. One does not have to undo to keep up with technology simply because e-Health is still not a reality. We do not have to follow the advanced countries. We do not have to piggy back or leap frog . We will pole vault !!

Information plays a key role in health care Adopting a health IT system involves more than just deciding to spend money; it is a major organizational commitment that, for hospitals in particular, will probably last for several years. To take full advantage of such a system, clinicians have to substantially redesign the way they practice medicine. EHRs are only as helpful as the information that goes into them. Some of that information is part of the system when it is purchased, but much of the technology's value *comes when physicians devote considerable time to training, to personalize the system, and adapting their work processes to achieve the maximum benefits*.

The Changing Landscape

Growth in data, digitization trends in health information and electronic medical records, improvements in collaborative data exchange, workflows and mobility, and need for better financial management are changing the needs of the hospital enterprise. Additionally, patient demographic changes and chronic disease growth, cost control considerations, and importance of patient safety, have all come together to heighten demand for HCIT, The increase in adoption of EMR, mHealth, telemedicine, and web-based services is making electronic patient data expand, necessitating the implementation

of robust IT systems in Indian healthcare institutions. Ease of integration with existing solutions and retrofitting is a sine qua non . The main challenge during and after implementation of EMR, is the time spent by doctors and employees on EMR system proving the importance of training, retraining, learning, relearning and unlearning. HIT services will initially be deployed in metros, Tier I and Tier II cities. The management needs to do a cost versus benefit comparison, Integration of user-friendly systems access to mobile devices such as tablets, more shareable information platforms and standardisation could lead to more usability. Integrated systems will enable developers to create cloud-based solutions, making upgrades and maintenance quicker and more efficient. Shift to wireless technology, mobile devices and cloud computing will reduce system costs and improve workflows.

Why digitise ?

Recognising the change in technological innovations, more hospitals are now adopting ICT to improve the quality of healthcare delivery. ICT bridges distances and provides access to clinical knowledge leading to better quality healthcare. Disseminating information and knowledge management with ICT will empower all stakeholders. This will improve outcomes faster and more cost effectively, than only developing better drugs, better surgical procedures or improved diagnostics. In the future integrated health records of patients, smart cards, radio frequency identification tags to track patients, medication management, etc will form the core of the health care system. Introducing new technology in an existing health care system is one of the foremost challenges of "Digitizing". "Digitizing" a medium sized hospital involves integrating 300-plus applications supporting thousands of processes operating simultaneously in a hospital at any given time. Process redesign to increase efficiency and efficacy is mandatory in the fast-changing healthcare environment. Hospitals are people intensive enterprises and capacity of the people to embrace change is a major challenge. The functional requirements for adequate automation support of clinical healthcare activities, far exceed those of any other industry. For instance, most industries do not need to maintain 24/7, 365-days-a-year service with absolutely zero tolerance of downtime. Ultimately, healthcare is delivered by the people for the people. The capacity for staff to accept and embrace change will make or break solutions because ultimately it is the people who are implementing the solutions. Large Investments in money and time is required.

Conclusion

The ultimate success or failure of implementation of HCIT will not be not due to technological glitches, or lack of funding , or even red tapism. It will be due to human inertia, lack of involvement, commitment and the passionate burning desire, so necessary to break traditional barriers. To paraphrase Don Quixote in "The Man from La Mancha" – " to reach the unreachable star, it is my quest to follow that star, no matter how hopeless no matter how far. " . What we require today are Don quixotes. History has shown time and again that what is unreachable today is reachable tomorrow.

It was Rudyard Kipling who once remarked "What do they know of England, who only England know". In the 21st century this aphorism could be replaced thus "What do they know of healthcare, who only medicine know". 21st Century is the age of informatics. Today's doctor needs to be as well versed in the basics of Information Technology as he/she is in anatomy, physiology and pharmacology No man is an island unto himself. In the 21st century the physician or surgeon is only a member of a multi-disciplinary healthcare team which necessarily must include experts from various domains. Information Technology should necessarily be an integral part of any modern healthcare system. Having been trained in the BC era (before Computers and Before Christ are essentially one and the same!!). the author has witnessed the growth and development of medical care in the last 42 years in India including the gradually increasing use of HCIT in the last few years. . It would be no exaggeration to state that IT has made, is making and will continue to make a significant difference in patient care. Whether it be in the field of diagnosis, investigations, treatment, documentation, retrieval of information, access to state of the art knowledge, medical instrumentation, teaching, research etc IT has made a major difference.

IT in healthcare will level the playing field. It will bridge the gap between the haves and the have nots. In spite of the obvious short term and long term benefits it is a matter of deep concern that the use of IT in the healthcare industry is far less than its use in banking, commerce, travel, automobile or almost any other industry. Less than 2 per cent of gross revenues are set apart for deployment of ICT, compared to 5 to 8 per cent in most other industries. IT improves patient care, by enabling processes and systems to be introduced and repeatedly monitored. Standard operating procedures and audit processes can be introduced in almost every aspect of healthcare. We not only have software and hardware we have the most precious commodity brainware.

Providing quality affordable health care to anyone, anytime anywhere, making distance meaningless and Geography, History will be the new mantra. This is what digital health is all about. In India, mHealth could be the specific answer to improve the quality of care, without significantly increasing costs. While several pilot projects and proof of concept validation studies have been carried out, confirming that IT in healthcare can make a significant difference, these need to be scaled up. A solution is not a solution unless it is universally available. The time is now ripe to go all out and make sure

that in the next decade India will be in the forefront of e-Health. Improbable? Perhaps. Imposible? No. Will non availability of HCIT in a hospital be considered malpractice in a court of law ? In a decade from now, the response to the above provocative query could very well be a resounding ***Yes ! Yes !*** For HCIT to be integrated into the health care system, social, ethical and legal issues need to be addressed. Organisational matters, absence of a self-sustaining / revenue generating model and human factors, not technology, will be the deterrent factors.

The most important enabler to make these breakthroughs come true, is not further advances in technology alone, but meticulous attention to **WiiiFM** for every single stakeholder in the entire ecosystem. The question "**W**hat **I**s **I**n **I**t **F**or **M**e" has to be satisfactorily addressed. With private players playing the major role, particularly in secondary and tertiary health care it behoves them to extend their reach, embrace HCIT and thro PPP modes join hands with the government and make universal health coverage a reality.

About the Author

K. Ganapathy MCh (Neurosurgery)FACS, FICS, FAMS, Ph.D

President, Apollo Telemedicine Networking Foundation & Director, Apollo Tele Health Services, is a Former Secretary & Past President Neurological Society of India, Telemedicine Society of India & the Indian Society for Stereotactic & Functional Neurosurgery.

Emeritus Professor Tamilnadu Dr MGR Medical University. He was formerly Adjunct Professor IIT Madras &Anna University

Homepage: www.kganapathy.com

What does Electrical Engineering teach us ?...

TRANSFORMER: Step up your dreams, passion & love. Step down your anger,worries & sadness

MOTOR: Keep moving fast & continuously with high efficiency

GENERATOR: Generate wisdom through your knowledge.

CONDUCTOR: Have least resistance for friends, good company & thoughts

INSULATOR: High resistance for your weaknesses

SEMICONDUCTOR: Enjoy your hard times; they will make you only strong because behind clouds sun is still shining

FUSE: Protect yourself first from danger

SWITCH: Have reliable control over emotions & feelings

BATTERY: Store energy & be strong

CAPACITOR: Lead your life during struggles

INDUCTOR: Avoid ego during your success

CIRCUIT BREAKER: Know the problem & take appropriate action before it affect you

CONTROLLER: Trust yourself, analyse your inputs & take proper decision, be smart & reliable, have high speed processor for fast actions & decisions

SENSORS: Keep analysing your self & keep measuring your values

LIGHT: Keep lighting through your knowledge when its dark

LIGHTNING ARRESTOR: Ground sudden surges in your life

EARTHING: Keep your feet on ground for your safety & maintaining relationships

Life is all about electricity... Electrical Engineering

Internet Governance

Mr. Samiran Gupta
Head of India, ICANN
samiran.gupta@icann.org

Today, more than 3.7 billion[1] people across the globe – or over 50% of the world's population – can access the Internet.

The Internet is a "network of networks" that connects us seamlessly over multiple telecommunication networks. Queries are resolved in milliseconds. Large files such as full-length feature films are transported across the world, in a matter of minutes, depending on your location's Internet speed.

For many Internet end-users, the access to Internet at a "reasonable cost" is a fundamental right. There is no need to be concerned about how the Internet is governed or how Internet policies are developed, as long as the Internet continues functioning.

But, should this be the case? The purpose of this article is to introduce the subject of Internet governance, and highlight how you, as an Internet end-user, can participate in shaping the future policies and standards to keep the Internet stable, secure and resilient.

How did the concept of Internet governance begin?

The process of recognizing that the Internet needed to be governed in a unique manner started in 1998.

The United Nations and the Internet

The global conversation around using information and communication technologies (ICT) as tools for solving the global developmental problems started from the late 1990s, at various United Nations forums.

The International Telecommunications Union (ITU) – the United Nations (UN) specialized agency for ICTs – put forth a proposal in 1998 to the UN to hold a World Summit on Information Society (WSIS). The chief aim of WSIS is to bridge the global digital divide.

After further deliberations, a UN resolution on 21st December 2001 endorsed holding the WSIS. Two such summits were planned. The first WSIS was held in Geneva in 2003, and the second WSIS was held in Tunis in 2005.

WSIS Summit in Geneva in 2003

At the first WSIS summit in Geneva, the path forward was laid out for nations to follow. The focus was on capacity building on norms for public governance, ICT applications, media, cultural diversity and international and regional co-operation.

One thing was clear at the end of the summit: due to the global nature of the Internet, the management of the Internet should be through the engagement of multiple stakeholders.

This is known as the **multistakeholder model**, where stakeholders from completely different backgrounds, functions or geographies work together based on a system of voluntary participation, best practices, cooperation and trust.

Since then, many multilateral organizations have publicly endorsed the multistakeholder approach as the way for Internet governance:

2008 – Organization for Economic Cooperation and Development (OECD)
2009 – The Council of Europe
2010 – ITU Plenipotentiary meeting
2011 – G8 at Deauville
2014 – NETmundial meeting in Brazil
2015 – UN General Assembly WSIS+10 High Level Event

WSIS Summit in Tunis in 2005

The WSIS meeting at Tunis 2005 can arguably be termed as groundbreaking – it resulted in the declaration of the historic "Tunis Agenda for the Information Society".

Known as the Tunis Agenda in short, this document has been enshrined in development manifestos for ICT by governments around the world. Emerging out of the 2005 meeting were also some other important decisions:

- The Internet Government Forum (IGF) – a multistakeholder dialogue on public policy issues related to Internet governance would be held every year. This process started in 2006 and has continued since.
- A WSIS review would take place at the end of 10 years (WSIS+10). This review took place in December 2015 when the UN General Assembly assessed the progression of the WSIS goals till that point in time.

United Nations Conference on Sustainable Development

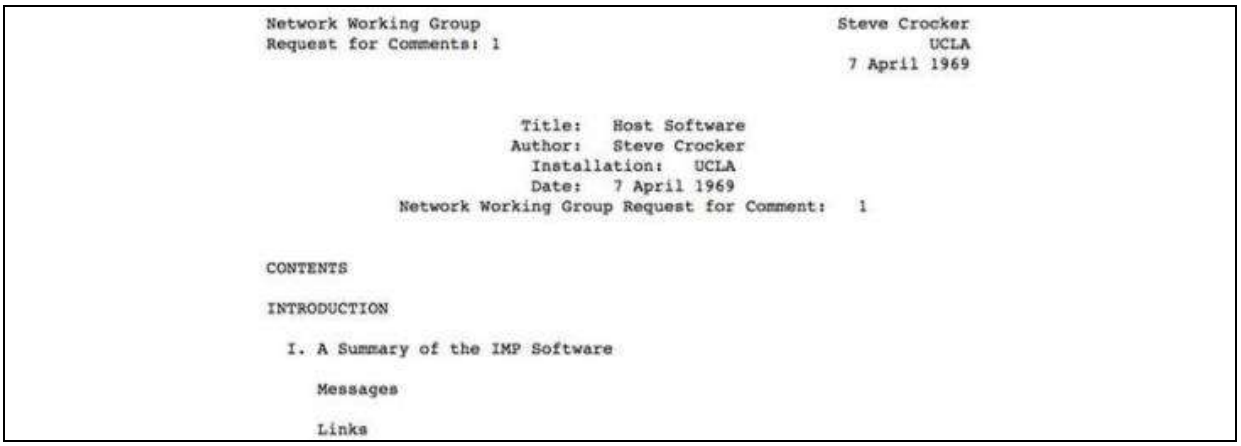
In 2012, at the United Nations Conference on Sustainable Development in Rio de Janeiro, a new development took place. The conference identified 17 Sustainable Development Goals (SDGs) to meet the meet the urgent environmental, political and economic challenges facing the world.[2]

One important point that the SDGs had in common, was that the implementation had to be accelerated by ICT. This clearly defined the relationship of the Internet to sustainable global development.

Who is involved in the Internet?

Before the global conversation on ICT started, research and development of the Internet had already begun.

In the late 1960s, research and development on "packet switching" of data across telecom networks started. On 7th April 1969, Dr. Steve Crocker authored what would become the basis of the multistakeholder consultative process, Requests for Comments (RFC) 001. This was the first of its kind, seeking "peer review" for establishing technical standards. (Full RFC 001 document available at https://tools.ietf.org/html/rfc1)



Network Working Group
Request for Comments: 1

Steve Crocker
UCLA
7 April 1969

Title: Host Software
Author: Steve Crocker
Installation: UCLA
Date: 7 April 1969
Network Working Group Request for Comment: 1

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I. A Summary of the IMP Software

Messages

Links

From that time on, Crocker and his two other colleagues, Vint Cerf and Jon Postel, worked on different elements of the Internet.

Postel, amongst other things, kept track of the protocols, identifiers, networks and addresses in this new and emerging universe. The function that Postel was performing since 1972, would later be known as the Internet Assigned Numbers

Authority (IANA). IANA would later be subsumed by the Internet Corporation for Assigned Names and Numbers (ICANN) in 1998.

Others also contributed to the development of technical standards of the Internet, including Bob Kahn. In 1986, the Internet Engineering Task Force (IETF) was established as a standards-making body. The IETF would be subsumed by the Internet Society (ISOC) in 1992.

ICANN

The core principle behind the Internet is the ICANN tagline, "One World, One Internet". ICANN was established in 1998 with the mission to coordinate, at the overall level, the global Internet's systems of unique identifiers, and in particular to ensure the stable and secure operation of the Internet's unique identifier systems. In particular, ICANN:

1. Coordinates the allocation and assignment of the three sets of unique identifiers for the Internet, which are
    a. Domain names (forming a system referred to as "DNS");
    b. Internet protocol ("IP") addresses and autonomous system ("AS") numbers; and
    c. Protocol port and parameter numbers.
2. Coordinates the operation and evolution of the DNS root name server system.
3. Coordinates policy development reasonably and appropriately related to these technical functions.

As the Internet evolved, so did ICANN's role. Apart from performing the critical IANA functions listed above, ICANN also undertakes the following activities:

- Delegates top-level country code domains
- Hosts the L-Root server as one of the 13 root infrastructures and its instances in over 150 locations worldwide
- Supports inclusive, open and bottom-up, multistakeholder policy development
- Supports and grow the community

ICANN is a community-led organization with three core elements –

- The ICANN community, which consists of supporting organizations and advisory committees;
- The Board, made up of representatives of the communities;
- ICANN organization, which helps to implement policies that the community and the board have created.

The ICANN community is comprised of three supporting organizations (SOs) and four advisory committees (ACs).

More information on ICANN is available at www.icann.org .

ISOC

ISOC is a non-profit organization founded in 1992 to provide leadership in Internet-related standards, education, access, and policy. Its mission is "to promote the open development, evolution and use of the Internet for the benefit of all people throughout the world". ISOC plays a very strong role in in setting technical standards relating to the Internet.

In ISOC, policy-making also emerges through a multistakeholder process. As an example, the Internet Protocol Version 6 (IPv6) standard was proposed in Request for Comments (RFC) 3513[3] by Hinden and Deering in 2003 at IETF.

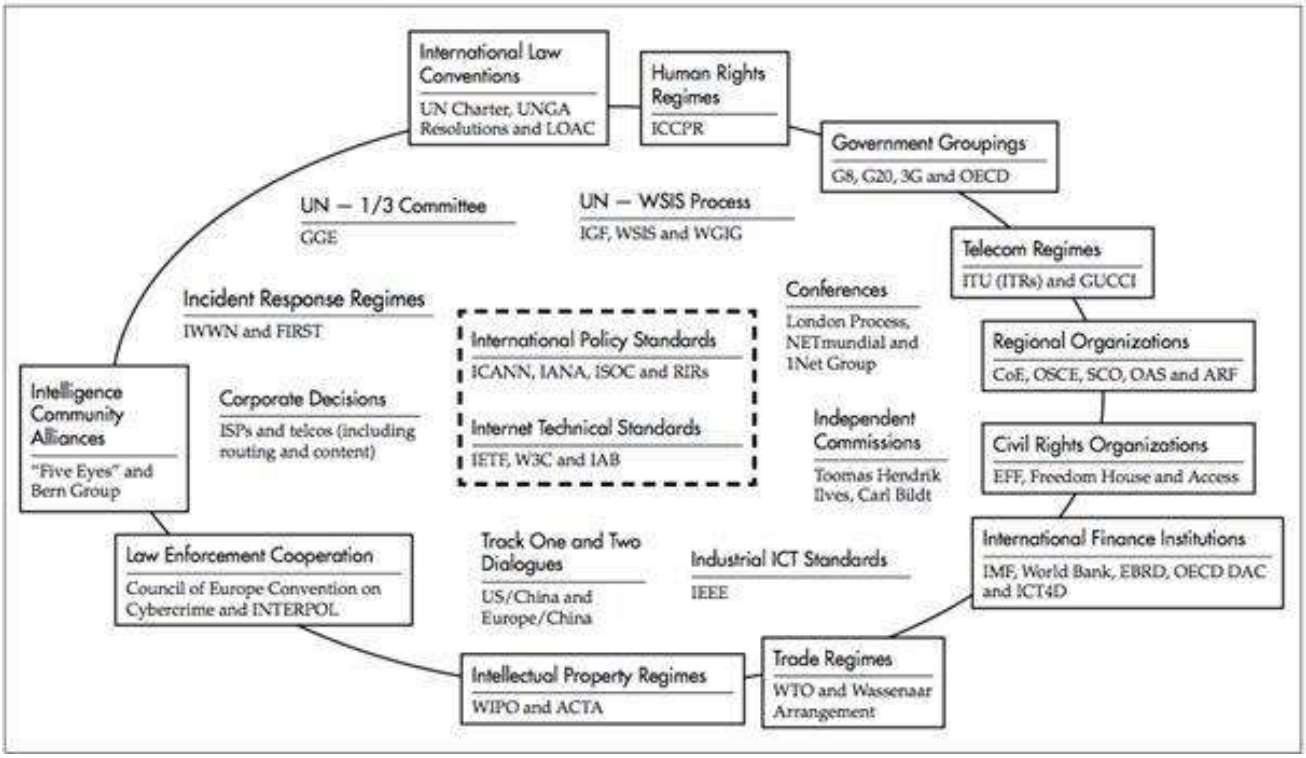
How does it all add up?

So how do all these different organizations come together? The WSIS, IGF, ICANN, IANA, IETF and a multitude of organizations such as the UN, Interpol, Institute of Electrical and Electronics Engineers (IEEE) work with each other in a dynamic atmosphere.

In 2014, social scientist Joseph Nye, proposed the "Regime Complex for Managing Global Cyber Activities" in explaining how both multilateral and multistakeholder organizations work with each other, at the Global Commission on Internet Governance.

GLOBAL COMMISSION ON INTERNET GOVERNANCE PAPER SERIES: NO. 1 — MAY 2014

Figure 1: The Regime Complex for Managing Global Cyber Activities



In this diagram, the core of the Internet governance activities are issues related to International Policy Standards and Internet Technical Standards. In the middle circle around it are both institutions and processes such as The UN and the WSIS process, IEEE and industrial ICT standards and so on. In the outer circle are institutions including INTERPOL, International Monetary Fund (IMF), Organization for Economic Co-operation and Development (OECD), ITU, G8, G20 and Freedom House.

Organizations and processes within this ecosystem collaborate with each other. The multistakeholder model is particularly relevant to the core activities i.e. International Policy Standards and Internet Technical Standards.

Key issues of discussion in Internet Governance:

There are broadly 9 areas of discussion that take place in the Internet Governance space.

Global Internet Governance Architecture	Cyber Security
Sustainable Development	E-commerce and Internet economy
Digital Rights	Jurisdiction and legal issues
Infrastructure	Net neutrality
New technologies – Internet of Things, Artificial Intelligence, etc.	

Many of the above are everyday issues which have taken on greater significance with the emergence of ICT and the Internet. Each of the above issues carries significant bearing to communities around the world.

For example, the net neutrality debate in India a couple of years ago was significantly different form the one in the United States of America. A key discussion that is gaining momentum these days is related to regulations around Internet of Things or IoT. Equally, the topic of Digital Rights of underserved communities bear significance in its context.

You need to participate

"ICT is the most powerful new tool we have for solving the world's major challenges—ending poverty and hunger, ensuring universal access to basic services, and making the transition to a low-carbon economy. Past generations were empowered by steam engines, the telegraph, automobiles, aviation and mass communications. Ours benefits from the extraordinary surge of information brought by the Internet and the breakthroughs, immediacy and flexibility enabled by mobile broadband." [4]

-- Professor Jeffrey D. Sachs, from his 2016 report titled "ICT and Sustainable Development Goals (SDGs)".

There is no denying the importance of ICT, and why you need to get involved. There can be many ways in which you can play a part, as seen from the many topics of discussion in the Internet Governance space.

You can participate through think tanks, non-governmental organizations, technical bodies and business associations which deal with several of these issues. A first step would be to get engaged with one of these organizations and start participating.

Another way of getting engaged would be via the local ISOC chapter or directly with the ICANN community groups. For both ICANN and ISOC, much of the work take place through online mailing groups and periodic face to face meetings.

For instance, ICANN holds three face-to-face meetings a year across the world to allow stakeholders to engage directly with each other. More information can be found here.

I hope you will find participating in Internet governance discussions meaningful. I hope to see you participating in an Internet governance event soon.

References:

[1] Source: Digital in 2017 http://bit.ly/2rvcmGk

[2] United Nations Development Program: Background on the Sustainable Development Goals: http://www.undp.org/content/undp/en/home/sustainable-development-goals/background.html

[3] https://tools.ietf.org/html/rfc3513

[4] ICT & SDGs: http://unsdsn.org/resources/publications/ict-and-sdgs/

Apple briefly touched $900 billion market capitalization,. It added $77 billion in valuation in Oct, an amount equal to the combined value of eBay, Twitter, Yelp, AMD, and GoDaddy.

IEEE Standards Development in India

Mr. Srikanth Chandrasekaran
Sr. Director (Standards & Technology), IEEE India
sri.chandra@ieee.org

IEEE Standards Association (IEEE-SA), the standards development body of the IEEE, is a global SDO with over 1200 standards in active publication and more than 500 standards in active development across various technical societies. These standards are developed by over 20000 volunteers and 200 corporate members globally. The IEEE Standards Association is a global organization where participants (volunteers) come together to develop standards independent of any government organization and is governed by volunteers across the world.

The importance of India as an emerging market with a strong emphasis in next generation technology is well recognised. IEEE-SA recognizes India and its growing R&D engineers as a key community to work with as part of its standards initiatives with a focused engagement starting in 2010 in line with the increasing commitment of IEEE-SA to the Indian market. The engagement of the IEEE-SA started in a small way by creating a Standards Interest Group (SIG) in various key technology sectors to bring together the engineering community around core areas to understand, discuss and identify need for new standards. The SIG in many areas has now grown to a more formal engagement and participation of the technical experts in various standardization groups within the IEEE-SA. With the IEEE offices being established in June 2011, IEEE Standards has a strong staff leadership presence in India driving the vision and objectives of the organisation in the region.

IEEE-SA, through its global vision has strong partnerships in the region with government institutions, corporates and industries, R&D labs, academia and other relevant stakeholders important to the standards development activity in India. This focused engagement will not only enable a two-way dialog between IEEE and the Indian entities with regards to standards requirements including regulation and policy, but also disseminate IEEE's vast experience in standards development with key stakeholders and most importantly encourage development of future global standards from India.

A good standard provides a balanced blend of technical alternatives, economic needs and ensures that the standards are able to be adopted across regions and countries globally. The only way this can be achieved is by engaging technology experts all around the world including India to participate actively in standards working groups. This will enable engineers to understand the evolution and growth of various technologies and also ensure that the standards capture the Indian requirements adequately. For example, in the area of Smart Grid, IEEE-SA with over 100 standards and standards-in-development spanning the entire Smart Grid spectrum and is playing the role of an ecosystem facilitator in India investing in awareness and education initiatives as well. More standards are in the pipeline providing among the most comprehensive, globally accepted and validated set of standards that enable better interoperability, connection, communication and management of the various elements that go into a Smart Grid system.

Participation in IEEE-SA Standards Development Programs

The IEEE Standards Association develops standards under two methods, the individual based process and the entity based process. In an individual based process, any individual can join as a member of the working group focused on the standards development project. Joining a working group for an individual based standard, IEEE-SA does not have any requirement for the individual to be a member of the IEEE or the IEEE-SA. In an individual process, each member of the working group will represent his/her own interest. The governance of each of the working group is defined by the policies of the working group. Once the working group has finalized a draft standard, this is submitted to a balloting process for approval as an official document of the IEEE. Only those who have an IEEE-SA individual membership are eligible to vote in the balloting process an individual project.

In the entity based model, corporates/entities participate as members of the working group. For an organization to participate in an entity-based standards program, the entity has to be a corporate member (either basic or advanced member) of the IEEE Standards Association. More than one individual from an entity can participate in the working group. However, the voting rule is governed by "one-entity-one-vote" irrespective of the size of the organization.

Additional details on the membership can be found at http://standards.ieee.org/membership/

How can a Standards project be initiated?

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

More details on the PAR could be found at: https://standards.ieee.org/faqs/pars.html

For more details on IEEE Standards Organisation please visit: http://standards.ieee.org/

Quotes of Barack Obama

Be conscious of God and speak always the truth

Don't let your failures define you

What makes a man is not the ability to have a child but having the courage to raise one

Scientists and engineers ought to stand side by side with athletes and entertainers as role models

We are a people of improbable hope

Reading is important, If you know how to read then the whole world opens up to you

The title of reverend wright's sermon that morning was "The audacity of hope"

Make a way out of no way

Words do inspire

The best anti-poverty program is a world-class education

I think perhaps education doesn't do us much good unless it is mixed with sweat

Each path to knowledge involves different rules and these rules are not interchangeable

I wish the country had fewer lawyers and more engineers

There is no excuse for not trying

We will outstretch the hand if you unclench your fist

Cynicism is a sorry kind of wisdom

We may not be able to stop evil in the world, but how we treat one another is entirely up to us

Change is never easy, but always possible

ou can't let your failures define you, You have to let your failures teach you

You can put lipstick on a pig. It's still a pig

Our stories may be singular, but our destination is shared

It's important to make sure that we're talking with each other in a way that heals, not in a way that wounds

If you're walking down the right path and you're willing to keep walking, eventually you'll make progress

A change is brought about because ordinary people do extraordinary things

We don't ask you to believe in our ability to bring change, rather, we ask you to believe in yours

IoT Enabled Village Lighting

Mr. V.P. Sampath
Technical Architect
Adeptchips Private Limited, Bangalore
ramsampath78@rediffmail.com

Rural electrification schemes which addresses the separation of feeder for domestic and agricultural utility so as to avoid power interruption due to unbalance supply and demand. Since this is a huge activities and prolonged work In order to provide lighting and agricultural utilization at a reasonably short time we are suggesting 2 stages of implementation. We are primarily addressing non agricultural activities to start with 4,10,58,821 House Holds who does not have basic lighting and clubbed with corresponding other public lighting and the power required for community utilization i.e for schools/community centers and panchayath office etc.

Present scenario

100% Villages Electrified in 3 states.
Lowest 44.07% in Jharkhand, followed by Orissa 46.57%
The households (HH) yet to be electrified 4,10,58,821

Basic power requirement in a village

Those BPL (below poverty line) provided with 3 numbers of LED bulbs equivalent 11W CFL or 60W incandescent lamp

Affordable are provided with 1 no. LED tube light +3 bulb1no+DC table /wall mounting fan

Besides power requirements for HH , requirements are public lighting like street lights, community lighting like schools that will support a PC and other welfare centers, panchayat offices etc.

For the above the power requirement is:

House holds:

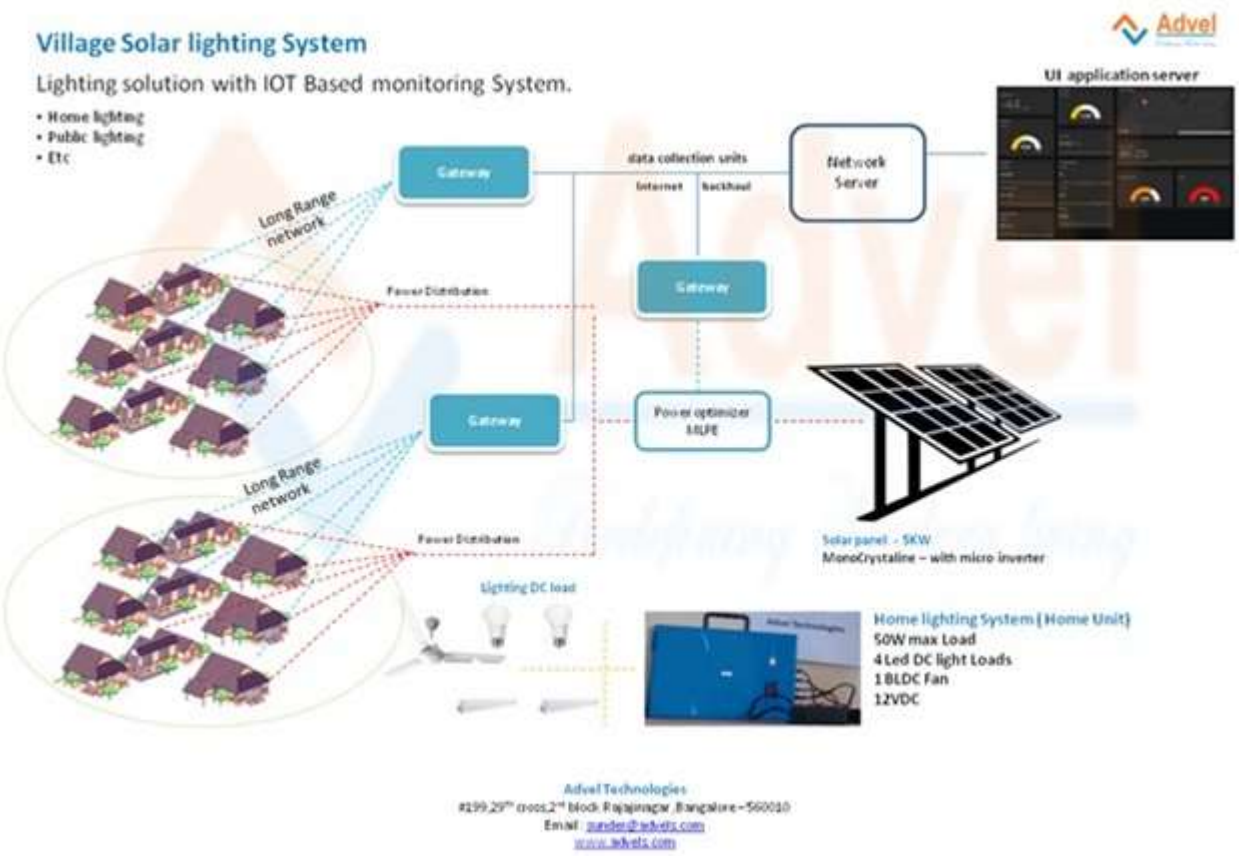
1 NO. 2' LED tube light equ, conv. 4' tube light -- 8W
3 LED bulbs of 2.65W -- 8W
DC Fan of 10W -- 10W
Total -- 26 W say 30W

Assuming 2 basic sizes of 50 (HH) and 100 HH / per village:

For a 50 HH village the power required is
30x50 + other req. as specified above is 3KW
For a 100 HH village the power required is
30x100 + other req. as specified above is 5KW

In the case of outdoor lighting the power saving of our ultra low power offers 85 to 92% .

Public utility like street lighting, road lighting, highway lighting and high mast lighting are the broad categorization. For most of the items Optical/illuminations/safety standards are available as per BEE recommendation /BIS standards for conventional lamp and additional information what should be applicable for LED lamps are published by ELCOMA/EESL.



Source: Advel Techologies, Bangalore

Similarly for commercial, industrial, corporate, advertisement and the other sectors the quality consciousness is an added advantage .The standards applicable for public utility lighting can also be applied for all out door lighting. All utilities are Wi-Fi enabled, the purpose is to keep a check on the status, and communicable for maintenance and monitoring. No centralized battery system, to avoid bulk battery maintenance. The centralized solar power generation with grid tied micro inverter (which is useful to merge with mains power on later date when the power is extended by the electrical administrations) with intelligence and enable wifi connectivity for the maintenance and monitoring. A 230V line will be extended through the village. The house hold (HH) are tapped at the individual house and each house is provided with a lighting system with battery backed and Wi-Fi enabled.

Leadership Quotes

A leader is the one, who knows the way, goes the way and show the way

A leader is a dealer in hope

The quality of a leader is reflected in the standards they set for themselves

Innovation distinguishes between a leader and a follower

Leadership is the capacity to translate vision into reality

Strong convictions precede great actions

Leadership is a privilege to better the lives of others. It is not an opportunity to satisfy personal greed

The function of leadership is to produce more leaders, not more follower

Leadership comes in small, act as well as bold strokes

The art of communication is the language of leadership

To succeed one must be creative and persistent

Intellectual Property Right in Global Business Environment

Mr. G.B Ponmanivannan
Principal Technology Leader
L&T Technology Services
Manivannan.GB@lnttechservices.com

Concept of IP

Intellectual property (IP) is now an integral part of innovation-driven socio-economic development across the globe and as an effective policy instrument with respect to a range of technological, socio-economic, political concerns. IP generation, valuation, protection, and commercialisation are growing in complexity. New knowledge based economy is resulting new forms of IP protection.

Intellectual property, means the legal rights which result from intellectual activity and creation in the industrial, scientific, literary and artistic fields. Laws to protect intellectual property has two objectives One is to give rights for creator the moral and economic rights for their creations and the rights of the public to get access to those creations. The second is to promote creativity and innovation and application of the creation, for economic and social development. Intellectual property law aims at granting the creator certain time limited rights to control the use made of those productions. Intellectual property is divided into two categories, "industrial property" and "copyright."

The World Intellectual Property Organization (WIPO), was established in Stockholm on July 14, 1967 WIPO Article 2(viii)) provides that intellectual property rights include below categories of invention and work.

Patent: A patent is a document, issued, upon application, by a government office, which describes an invention and creates a legal situation in which the patented invention can normally only be exploited (manufactured, used, sold, imported) with the authorization of the owner of the patent. "Invention" is a solution to a specific product or process problem in the field of technology. The protection conferred by the patent is limited to 20 years. In many countries, inventions are also protectable through registration under the name of "utility model" or "short-term patent." Patents does not give the right to the inventor or the owner of a patented invention to make, use or sell anything. The effects of the grant of a patent is it may not be exploited in the country by persons other than the owner of the patent unless the owner agrees to such exploitation. The right to act against any person exploiting the patented invention in the country without his agreement constitutes the patent owner's most important right, he is entitled for material benefit as a reward for his intellectual effort and work leading to the invention. The State grants patent rights, it does not automatically enforce them, and it is up to the owner of a patent to bring an action, usually under civil law, for any infringement of his patent rights.

An invention must meet several criteria for patent grant.

- Consist of patentable subject matter,
- Must be industrially applicable (useful),
- Must be new (novel), it must exhibit a sufficient "inventive step" (be non-obvious),
- Disclosure of the invention in the patent application must meet certain standards.

Copyright: Deals with the rights of intellectual creators in their creation of authoring books, paintings or drawings, exist only once they are embodied in a physical object and/or exist without embodiment in a physical object. For example, music or poems are works even if they are not, or even before they are, written down by a musical notation or words. Copyright law protects the owner of rights in artistic works against those who "copy", the right to control the act of reproduction is the legal basis for many forms of exploitation of protected works.

Table: copyright category

Work Category	Example
Literary	Books, poems, lyrics, software, database, written works
Artistic	Photographs, drawing, painting, sculptures, architecture, computer graphics
Dramatic	Screenplays, choreography
Music	Notation, operas, compositions
Cinematographic	Moving image, computer games, animations
Sound recording	Recorded sound, like CD, DVD, Mp3, podcasts
Broadcast	Television, radio broadcast
Published materials	Publisher typeface, layout etc.,

Trademark: Is any words, letters/numerals, devices, coloured marks, 3D signs, audible signs, olfactory marks, & invisible signs that differentiates the goods of a given enterprise and distinguishes them from the goods of its competitors. The requirements which a sign must fulfil to serve as a trademark are reasonably standard throughout the world.

Industrial Design & Integrated Circuit: Protect the original ornamental and non-functional features of an industrial article or product that result from design activity. Visual appeal is one of the considerations of consumers to prefer one product over another, particularly in areas where a range of products performing the same function is available in the market.

Second is the protection of intellectual property of layout-designs (topographies) of integrated circuits. The creation of a new layout-design for an integrated circuit involves an important investment, copying of such a layout-design may cost only a fraction of that investment and preparing masks for its production.

Geographical Indications: When we hear "Champagne," "Darjeeling" which are associated with products of a certain nature and quality, we think of products rather than the places they designate, and the common feature is their geographical connotation, designating existing places, towns, regions or countries. Protection right under this category prevent unauthorized persons from using geographical indications, either for products which do not originate from the geographical place indicated, or not complying with the prescribed quality standards.

Protection Against Unfair Competition: Any act of competition contrary to honest practices in industrial or commercial matters constitutes an act of unfair competition particularly all acts of such a nature as to create confusion, discredit, by any means whatever with the establishment, the goods, or the industrial or commercial activities of the competitor. The industrial property rights are granted and confer exclusive rights with respect to the subject matter concerned, protection against unfair competition based on the consideration either stated in legislative provisions or recognized as a general principle of law.

Enforcement of IP

Industrial property offices frequently have quasi-judicial functions in the administration of industrial property systems, and provide a forum for procedures for contesting rights under consideration or granted by the office. Those procedures are often referred to as opposition procedures.

The first opportunity for opposition based on the competitor producing goods of the same character as those covered by the patent application, that a patent which could affect their business is being applied for, is at the first publication stage, 18 months after the priority date by scrutinizing patent office publications, which come within the scope of one's own patents. In most systems, a patent is the right enforceable in a court, by filing an application to the court to prevent the manufacture, sale and use of a patented invention. The court may pass the appropriate order and stop the competitor from using it.

Litigation: It is common to have some form of internal appeal against a patent or trademark examiner's decision. Whatever the arrangement for internal appeal may be, in most intellectual property systems the courts play an important role in hearing appeals from decisions of the Industrial Property Office and in adjudicating infringement actions.

Arbitration: Alternative Dispute Resolution, or ADR, is for resolving intellectual property disputes without having to start court proceedings. There are many forms of ADR. The most common are arbitration and mediation. Intellectual property disputes are also resolved based on expert opinions. It is a less formal procedure than litigation, but still shares some of the elements of a court procedure.

International Treaties

The Paris convention for protection of IP: A Diplomatic Conference was convened in Paris in 1883, which ended with final approval and signature of the Paris Convention for the Protection of Industrial Property.

The Berne Convention for protection of IP: Copyright protection on the international level began by about the middle of the nineteenth century based on bilateral treaties.

The Patent cooperation treaty: An agreement for international cooperation in the field of patents. The national patent system requires the filing of individual patent applications for each country for which patent protection is sought. The priority of an earlier application can be claimed for applications filed subsequently in foreign countries but such later applications must be filed within 12 months of the filing date of the earlier application. The task and responsibility for granting patents remains exclusively in the hands of the Patent Offices of the countries where protection is sought. Patents granted based on international applications will usually provide a sounder basis for investment and thus preparing the route for technology transfer and licensing agreements.

The Patent Law treaty: The Patent Law Treaty (PLT) was adopted on June 1, 2000 at a Diplomatic Conference in Geneva. The purpose is to harmonize and streamline procedures in respect of national and regional patent applications. With a significant exception for the filing date requirements, the PLT provides maximum sets of requirements which the Office of a Contracting Party may apply.

The WIPO copyright treaty: The Berne Convention for the Protection of Literary and Artistic Works, after its adoption in 1886, were convened, in general, to find responses to new technological developments, such as sound recording technology, photography, radio, cinematography and television. After the adoption of the TRIPS Agreement, the ground work of new copyright and related rights norms in the WIPO committees was taken up to address with problems not covered by the TRIPS Agreement.

TRIPS and WIPO-WTO cooperation: The TRIPS Agreement states that, the term "intellectual property" refers to all categories of intellectual property that are the subject of Sections 1 through 7 of Part II of the TRIPS Agreement, namely, copyright and related rights, trademarks, geographical indications, industrial designs, patents, layout-designs (topographies) of integrated circuits and undisclosed information. The industrial property law been based on international treaties between sovereign states and which now form the foundation of the international system for the protection of intellectual property. WIPO's to consider new options for accelerating the development of international harmonized common principles and rules has undertaken a process of international consultation which has produced a series of recommendations on mechanisms to combat challenge increasingly faced by trademark owners because of abusive registration and use of Internet domain names by third parties.

Technological development

TRIPS Agreement requires that patents be available in all fields of technology, if they are new, involve an inventive step and are capable of industrial application, subject to certain limited exceptions.

Computer program: In many countries, software-related inventions are patentable subject matter if they have a technical character or involve technical teaching, an instruction addressed to a person skilled in the art on how to solve a technical problem using technical means. Software related inventions should have a technical effect and it is then necessary to examine whether the conditions of patentability are fulfilled. Computer programs in object code form share the copyright status of other literary and artistic works stored in computer systems in machine-readable form. While they are unintelligible in object code, they can be retrieved by decompiling into source code form.

Biotechnology: Inventions fall into processes for the creation or modification of living organisms and biological material, the results of such processes, and the use of such results. Genetic engineering processes to modify the genetic composition of living organisms is used in the modification of microorganisms and plants to produce new medicines which may be effective in combating diseases. Application has expanded to health care, agriculture, food processing, bioremediation, forestry, enzymes, chemicals, cosmetics, energy, paper making, electronics, textiles and mining.

Communication technologies: In the field of broadcast communications signals are sent to the satellite from one specific country, but they can be received in two or more countries. It must be determined which law apply to such international transmissions, the country from which the transmission originates or the countries in which it can be received.

The WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) address this problem by obliging the States party to those treaties to provide adequate legal protection and effective legal remedies against the circumvention of such technological protection measures. Satellite broadcasters use encryption technology to limit the reception of their programs through subscription fees from the viewers, and in this case the equipment necessary to decode

the program is only furnished to the subscribers, for example, in the form of a "smart card" inserted in the receiver box (Set top box).

Innovations have led to the new digital economy, in financial markets and trade flows, innovative business models, and new opportunities for creators and consumers. The largest segment of business to consumer electronic commerce involves intangible products that can be delivered directly over the network to the consumer, such as entertainment, travel, news, and financial services, the content that is being offered is subject to intellectual property rights. This commerce in intangible products raises many issues for intellectual property, in addition to those that would arise in respect of physical goods.

The WIPO Processes conducted through a combination of Internet-based and personal consultations throughout the various regions of the world, in a balanced and transparent manner to reach the broadest possible consensus in its recommendations, so that the interests of all Internet stake-holders could be considered and practical workable solutions found.

Patent system in India: Is administered under the superintendence of the Controller General of Patents, Designs, Trademarks and Geographical Indications (CGPDTM), under the Department of Industrial Policy and Promotion, Ministry of Commerce and Industry. There are four Patent Offices in India. The Head Office is at Kolkata and other Patent Offices are located at Delhi, Mumbai and Chennai. India is a member of the Patent Cooperation Treaty.

International Patent Process: The PCT facilitates the obtaining of protection for inventions where such protection is sought in any or all the PCT Contracting States. It provides for the filing of one patent application with effect in several States, instead of filing several separate national and/or regional patent applications. In addition to designations of PCT Contracting States for the purposes of obtaining national patents and similar titles, an international application includes designations for regional patents in respect of States party to any of the following regional patent treaties:

The PCT does not eliminate the necessity of prosecuting the international application in the national phase of processing before the national or regional Offices, but it does facilitate such prosecution in several important respects by the procedures carried out on all international applications during the international phase of processing.

IP Management Strategy

An IP strategy should be developed aligning to organisation vision and business strategy and needs. A sound IP strategy will assist the organisation to achieve its commercial goals effectively. IP strategy should drive the new product development and should minimise the risks involved in investing in the development of new products. The Value creation /extraction can be achieved through various approach in phased manner of evolution and maturity as follows.

Fig: IP Management Strategy

Adhoc: This position is usually followed on ad hoc basis either because of lack of capital or lack of a long-term strategy. In most cases, an innovation is protected with one or few patents covering a special application at a relative low cost. This strategy is followed by many individual inventors or SMEs with low R&D budget.

Defensive: It is for defensive purpose to prevent competition in making use of the IP and avoid infringement of other IP, and it is a cost center.

Cost control: It is again for Defensive purpose and reduce portfolio cost and refine focus on IP relevant to the business and prune periodically the portfolio and put in place an IP portfolio management.

Profit center: This is basically for Revenue generation in extracting value from the firm IP portfolio, focus on IP value with tactical approach. IP have its own function, IP as a business asset, Develop advanced screening criteria

Integrated approach: IP is adopted as an integral part of business and extract strategic value, align with corporate strategy. Serves every section of organization and manage IP across all functions, codify IP knowledge

Visionary: IP as a strategic value with sophisticated IP management and integrate Intellectual Asset management with a long-term view and stake a claim on the future and encourage disruptive technologies. Institutionalize performance measurement and reporting system

IP monetisation

Commercialisation of IP is done in the following manner depending on various factors and market situation etc.

- IP can be embedded into an Internal product development and later commercialise as IP enabled product or services.
- The most common method is by Licensing where the licensee is granted the right to use the IP in their product and services, which could be for a limited time period, also it can be exclusive and non-exclusive forms of right to the licensee. Here the ownership still lies with licensor
- When the ownership of the IP is transferred to a third party through assignment in return for a consideration which could be lumpsum and/or lumpsum plus royalty which is mutually agreed between the parties.
- If the IP value has to be unlocked then another option is through a Spin Off Company which could be a subsidiary or through an investment from third party etc.,
- Joint Venture approach is used when the two or more organisation jointly work in commercialisation and it could be through finance, marketing, and other resources brought in by the partner.

IP in Collaborative environment

Collaborations are generally characterized by stages of a collaboration, and the need to have a common vision. Focus on the prerequisites, collaboration phase, and post collaboration stage. When the collaboration partners want to exploit the fruits of the collaboration on their own, they might be especially dependent on the IP assets of the other partner that were created before, during, outside and after the collaboration time frame. These can be classified as *background*, *foreground*, *sideground*, and *postground* intellectual property as well as *residual information.* The project-related *background* intellectual property is mutually shared subject to, not disclosing, publishing or disseminating exchanged information to any third party. Once the collaboration has started, the use of certain in-licensed *background* intellectual property might be divided into royalty bearing and royalty free parts. The *foreground* intellectual property developed by one or both parties will be shared and is considered free and independently available for use by either party. *Sideground* intellectual property developed during the collaboration period, but in not-project-related activities, should be classified and divided into confidential and non-confidential. After close of the project, the information related to the project activities such as ideas, concepts, know-how and techniques, is defined as *residual information*.

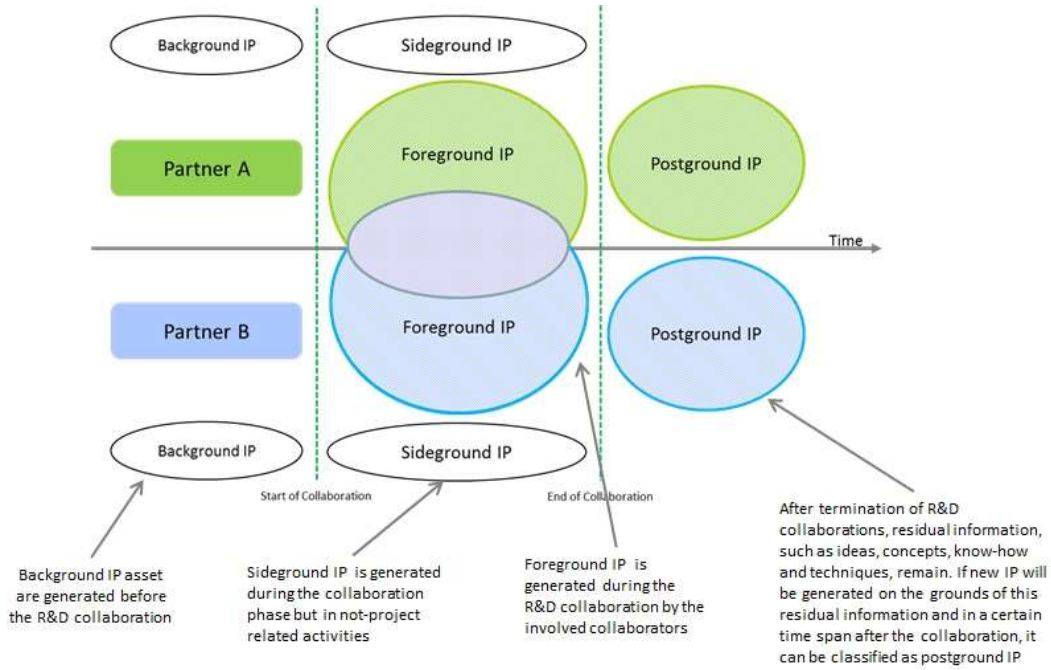


Fig : IP in R&D collaboration

Reference:

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Creating a Safe Workplace for Women

Ms. Sarada Ramani
President eWIT
president@ewit.co.in
sarada@ciindia.com

eWIT (empowering women in IT) works with the vision of " Increasing the share and sustainability of women in All levels in IT/ITES organizations. We, at eWIT address all the things that would make women comfortable at work. The topic of creating a Safe workplace for women is something which we give a larger attention and as President of eWIT let me elaborate on how Government of India has come out with a law – and what it means to all of us in a layman terms.

According to a survey conducted by Indian National Bar Association in 2016 where 6047 participants both male and female responded, there were 45 victims included. Most of the respondents were from sectors like IT, media, education, legal, medical and agriculture from cities like Delhi, Mumbai, Bengaluru, Kolkata, Hyderabad, Lucknow
and other areas and the findings were:

- 38% faced sexual harassment in the workplace
- 69% of victims didn't complain to the management fearing repercussions/ retaliation
- 65% of respondents felt that their companies does follow the process prescribed under Sexual harassment of women in Workplace Act
- 50% of the victims left their jobs after the case was closed

(http://www.firstpost.com/india/sexual-harassment-at-workplace-69-victims-did-not-complain-to-management-says-survey-3189524.html)

The LAW

The Year 2013 is a watermark year for the working women in India as both the Houses of Parliament enacted ***The Sexual Harassment of Women At workplace (Prevention, Prohibition and Redressal) Act*** which defines, codifies what needs to be done by all employers to make sure that women safety is ensured when they are employed. This statute superseded the ***Vishakha Guidelines*** introduced by the Supreme Court of India in 1997.

Let's see how, what and how this is implemented in our workplaces.

The Genesis

Prior to 1997, the lawful recourse available for any person who has been facing sexual harassment was to file a complaint under Section 354 of IPC 1860 that deals with the 'criminal assault of women to outrage women's modesty', & Section 509 that punishes an individual/individuals for using a 'word, gesture or act intended to insult the modesty of a woman. The example for this is: **Rupan Deol Bajaj**, a senior IAS officer, was the first woman to take a case of sexual harassment to the court in India under the Sec 354 and Section 509 in 1988. Her harasser was "Supercop" ex DGP of Punjab, the Padma Shri awardee **KPS Gill** who had come near her and put up a finger on her face ordering her to come along. When she refused to do so and started walking away, Mr Gill slapped on her posterior while all the guests at the dinner party were shocked while she was traumatized. She says she realized that the only way of leading a respectable life was to fight against the violation of dignity. Through the Supreme court, she won the case in 2005 after 17 years since the offence took place.

During the 90s, Rajasthan state government employee **Bhanwari Devi** who tried to prevent child marriage as part of her duties as a worker of the Women Development Program was raped by the landlords of the community to teach a lesson to "a lowly woman from a poor and potter community". The rape survivor did not get justice from Rajasthan High Court and the rapists were allowed to go free. This enraged a women's rights group called Vishaka that filed a public interest litigation in the Supreme Court of India. This case brought to the attention of the Supreme Court of India, "the absence of domestic

law occupying the field, to formulate effective measures to check the evil of sexual harassment of working women at all work places."

What constitutes Sexual harassment

The whole basis of the law is the term " **Unwelcome" behavior from an individual woman's perspective** - sexual behavior of direct or implied nature such as:

- Physical contact & advances
- Request for sexual favors
- Sexually colored remarks
- Showing pornography &
- unwelcome physical, verbal or non-verbal sexual conduct

The law provides a civil remedy which helps the victims at the workplace to get a speedy redressal without having to go in for police/court etc. However, if there is a criminality involved then the matter goes to police and then on to the court etc. Here the employer is duty bound to help the woman employee to file the criminal case.

There are two kinds of workplace harassment

- Hostile Work environment
  - Creating an intimidating work environment & humiliating treatment that affect health/safety of woman
  - A pervasive sexual harassment that makes the work environment 'hostile'
  - The sexist remarks, display of pornography or sexist/obscene graffiti, physical contact/brushing against women create *hostile work environment*

- Quid Pro Quo environment
  - Implied/explicit promise of preferential treatment in job
  - threat of detrimental nature & threat to job
  - sexual favors or advances in exchange for benefits
  - Using a sexually explicit behavior or speech as a condition for providing employment
  - Any retaliatory action such as dismissal, demotion, difficult work conditions on refusal to comply with a 'request'

Now let's go on to define what constitutes a workplace – it not only means the regular office, but as you can see from below it covers all the places where a woman is present necessitated by her employment also.

- organizations, departments, institutions, office, branch unit etc. in the public/private sector, both organized and unorganized,
- hospitals, nursing homes, educational institutions, sports institutes, stadiums, sports complex,
- NGOs, trusts, cooperatives, societies , service providers
- any place visited by the employee in the course of employment including transportation as well as company guest houses or hotel stay during official travel, client place, etc.

We will now see who are all covered when we say woman employees

- Full time employee/ Temporary worker/ contract worker, daily wage employees, trainees, interns, including volunteers with or without remuneration Contractual worker, probationer trainee apprentice etc.
- Outsourced service personnel working in the establishment like house-keeping, security, etc
- Client representatives or vendor representatives in the office.

Responsibility of an Employer

- Every employer is required to constitute an Internal Complaints Committee at each office or branch with 10 or more employees. The District Officer is required to constitute a Local Complaints Committee at each district, and if required at the block level.

  - The Internal Committee needs to deal with incidents of sexual harassment.

- The committee must be headed by a woman. Half of its members should be women & It should include a third-party representative from an NGO/an agency conversant with the subject. A member of the committee must have 5 years' experience in social service or be familiar with labor, service, civil or criminal law
- The Committee is required to complete the inquiry within a time period of 90 days. On completion of the inquiry, the report will be sent to the employer or the District Officer, as the case may be, they are mandated to take action on the report within 60 days.
- The Complaints Committees have the powers of civil courts for gathering evidence.
- The Complaints Committees are required to provide for conciliation before initiating an inquiry, if requested by the complainant.
- The inquiry process under the Act should be confidential and the Act lays down a penalty of Rs 5,000 on the person who has breached confidentiality.
- The Act requires employers to conduct education and sensitization programs and develop policies against sexual harassment, among other obligations.
- Penalties have been prescribed for employers. Non-compliance with the provisions of the Act shall be punishable with a fine of up to ₹ 50,000. Repeated violations may lead to higher penalties and cancellation of license or registration to conduct business.
- The employer in the annual return should include the number of cases filed if any and their disposal under the Act.
- Government can order an officer to inspect workplace and records related to sexual harassment in any organization.

- Employers need to create Awareness on preventive measures

  - Create and publish the Anti Harassment policy.
  - Prominently display the policy in as many places as possible for the employees to be aware of the policy.
  - Employers must disseminate sexual harassment prevention policy
  - organize workshops on the provisions of the law &
  - Conduct employees awareness programs at regular intervals for sensitizing all stakeholders about the procedures
  - Provide and publicize contact details of the members of the Internal complaints committee

In conclusion It is very essential that every organization's Internal Complaints Committee members to get acquainted with the various forms of harassment to ensure a quick and fair redressal of such grievances. Employers have a major responsibility of putting in place a preventive mechanism through awareness programs – both for ICC members and the employees in general. **eWIT, has been conducting various such** sensitization programs, training and education for corporates conducted in conjunction with IT Companies and has made valuable contributions to these efforts to make the workplace safer.

Social media is used to divide people: Tim Cook: Apple CEO Tim Cook has said the bigger issue is that the social media is used to divide people and spread fake news to manipulate them. During an interview, he said, the advertisements from foreign governments is 1% of the issue. His statement comes after it was found that social media companies were used to influence the last US elections.

Ford develops hat that wakes driver up with sound: American automaker Ford has developed a hat that senses a driver's head movements associated with sleepiness and wakes them up using sound, light, and vibration. Called SafeCap, it also features an inbuilt accelerometer and gyroscope that measure head movements while driving. Ford developed the hat in partnership with Brazil-based creative agency GTB.

AI could replace humans altogether: Stephen Hawking: British theoretical physicist Stephen Hawking has warned that artificial intelligence (AI) will soon reach a level where it will be a "new form of life that will outperform humans". The Cambridge University Professor said he fears someone could design an AI that improves and replicates itself, which "may replace humans altogether". Hawking, however, didn't specify a timeline for his predictions.

Born on October 31, 1926, Indian-American physicist Narinder Singh Kapany is regarded the father of fibre optics.. Kapany published an article in 1960, using the term 'fibre optics' for the first time.

Reading Habits for Success

Mr. Ramesh Narasimhan
Coach and Mentor - Skill Development
ramesh.narasimhan@gmail.com

One need not elaborate the benefits of reading. Most successful people are known to be voracious readers. If one wants to move up in career or for that matter, in life, one has to make reading a habit.

The starting point is to set a goal about reading. You may wonder, if a goal needs to be set for a simple thing like reading. Yes, setting a goal helps you follow it up and eventually making it a habit.

SUGGESTED HABITS

1. Read 5 hours per day
2. Before you start, browse a book. That will help you decide whether to read it or not. Sometimes, it's better to browse and throw away a book, than buy and read it fully!
3. Read curated book lists of people like Bill Gates, Elon Musk, Mark Zuckerberg and Jeff Bezos etc.
4. Read Magazines such as Harvard Business Review, Sloan Management Review, etc

LEADERS USE THE 5 HOURS RULE. HERE'S HOW IT WORKS

Many leaders set aside an hour a day (or five hours a week for deliberate practice or learning. Five hour rule can be in three buckets, 1) Reading, 2) Reflection, 3) Experimentation

1) READ

- Nike Founder Phil Knight revels his library.
- Oprah Winfrey shared her success with reading books
- Warren Buffet spends five to six hours a day, reading five newspapers and 500 pages of corporate reports
- Bill Gates reads 50 books a year
- Mark Zuckerberg reads at least one book every two weeks.
- Elon Musk grew up reading two books a day, according to his brother.
- Mark Cuban reads for more than three hours every day
- Arthur Blanks , a co-founder of Home Depot, reads two hours a day.
- Billionaire entrepreneur, Da I'd Rubenstein reads six books a week
- Dan Gilbert, the self-made billionaire who owns the Cleveland Cavaliers, reads for one to two hours a day.

2) REFLECT

Other times, the 5 hours rule takes the form of Reflection, and thinking time.

- AOL CEO, Tim Armstrong makes his senior team spend 4 hours a week just thinking.
- CEO Jeff Weiner schedules two hours of thinking time a day.
- Brian Scudamore, the founder of the $250 million company o2e Brands spends 10 hours a week, just thinking.
- Red Hoffman calls his friends like Elon Musk for inspiration

3) EXPERIMENT

Five hour rule can also be experimentation.

- Ben Franklin sets aside time for experimentation.

- Google allows employees to experiment 20 percent of their work time.
- Facebook encourages experimentation. .

BOTTOM LINE: The busiest people find at least an hour to think and learn EVERY DAY.

FIVE WAYS TO READ MORE BOOKS

If you are a very busy person and not in the habit of reading, it may be difficult for you to get started. But it's never too late to get started.

1 Set a Specific Book Reading Goal

- How many books do you want to read?
- How fast do you want to read them?
- Picking out specific numbers will make it easier to track your progress and to celebrate your victories. Goodreads is a great tool to help you keep track of your book list and set up your reading goals for the year. This app also lets you rally your friends to join you on your journey and encourage progress
- Get a head start with timeless classics:

    1. Think and Grow Rich
    2. How to Win Friends and influence People
    3. The 7 Habits of Highly Effective People

2 Schedule a non-negotiable time to read

- Carve out a block of time that can only be used for reading
- Schedule it in your planner and make it as important as eating dinner or sleeping.
- Complicated material is easier to understand early in the morning when your mental clarity is at it's peak.

3 Set up a space to read

- Pick a room free from loud distractions and set up your reading sanctuary.
- Find a comfortable chair near a lamp and a small table. Most important , don't file that book away in between reading sessions;
- Leave it out in the open to keep it on top of your mind.

4 Pick a format that you enjoy

- Just pick what works best you, whether ecopy or hard cover or paper back

5 Visit the Library

- Do this regularly and without fail to reap rich rewards.

IIT Madras students set Asia record for most cleaning robots: IIT Madras students have set Asia and India records for operating the largest number of robots to clean an area. About 270 students attended the workshop where 45 smartphone-controlled robots with rotating scrub pads and a central suction mechanism swept a 750-square-foot area for over 15 minutes. The workshop's aim was to spread awareness about "Swachh Bharat", said the institute.

Sony to launch robotic pet dog priced at ₹1 lakh: Japanese electronics major Sony will launch a robotic pet dog called 'Aibo' which can bark, sit and wag its tail. Priced at ₹1.2 lakh, Aibo has two OLED panels as eyes with a battery life of around two hours. It also has an app called 'My Aibo' to access settings, download 'tricks' and view photos taken from the dog's camera.

AI to create HD version of low-resolution images developed: Germany-based researchers have developed an artificial intelligence (AI) system that can create a high-definition (HD) version of low resolution images. The team applied AI and an adaptive algorithm for upsampling the low resolution images to improve the result. The AI gives up on 'pixel-perfect reconstruction' and aims for faithful texture synthesis, the researchers said.

Ocean Science and Technology – Newer Opportunities for Engineers

Dr. R. Venkatesan
National Institute of Ocean Technology
Chennai, India – 600100
venkat@niot.res.in

The Oceans

The world's oceans cover 70 percent of the earth's surface and represent the greatest unexplored frontier remaining on earth. We are increasingly becoming aware of the importance of the oceans to the future of our civilization. The oceans present vast untapped resources including offshore oil and gas, minerals and renewable ocean energy. They are increasingly important in facilitating cost effective transportation of people and goods thus enabling economic growth through global trade. Ocean fisheries continue to be a major source of food for growing populations with future growth focused on coastal aquaculture. Coastal and ocean areas also present challenges for, and solutions to, national defence and security. They are also source of recreation and enjoyment. It is an essential source for freshwater and food. The ocean provides ecosystem services estimated to range in the trillions of dollars and creates millions of jobs.

Oceans contribute to poverty eradication, sustained economic growth, food security and creation of sustainable livelihoods and decent work. There is a strong inter-linkage between UN Sustainable Development Goals SDG 14.. However, there is an unprecedented need to continue to build capacities on ocean technology and ocean Observations to support for example the global oceans-based economy, which is estimated at between USD 3-6 trillion/year.

A timely and precise forecast is the essence of successful ocean observation program, which involves cyclone predictions and tracking based on the meteorological and sea surface parameters including air pressure, air temperature, wind speed and direction, sea water temperature and conductivity. Large scale spatio-temporal analysis requires oceanographic parameters such as subsea temperature, conductivity and solar irradiance for effective modelling of ocean dynamics and monsoon predictions.

Enabling Technology

There is a need to increase research output, innovation and technology development opportunities, which in turn lead to economic activity, wealth and better environmental stewardship for all participants. Fundamental new or enabling technologies generally arise from innovation. Innovation is known to be more likely when people look at a problem from a new perspective or adapt ideas from another field. International research collaboration can facilitate the innovation process by fostering interaction among people from divergent backgrounds and having different perspectives.

Blue Economy

The Blue Economy captured the attention due to its growing global interest and potential as the top priority for generating employment, food security, poverty alleviation and ensuring sustainability in business and economic models It is necessary for India to tap the enormous potential of the Ocean based Blue Economy, which will propel the nation into a higher growth trajectory. The development of Blue Economy can serve as a growth catalyst in realizing the vision to become a $10 trillion economy by 2032. Additionally, the Indian Ocean Region is of strategic importance to India's economic growth as the most of the country's oil, and gas is imported through the sea. Further, this dependency is expected to rise by 2025 exponentially. The Sagar Mala project, launched by the Ministry of Shipping, is the strategic initiative for port-led development through the extensive use of IT enabled services for modernization of ports. It tackles the issue of underutilized ports by focusing on port modernization, efficient evacuation, and coastal economic development. The government has allocated over Rs. 3 lakh crore to fund 199 projects under the Sagar Mala project to be implemented in the next three years. The blue economy-related investment areas identified are:

1. Coastal Transport
2. Ecotourism/Sustainable Tourism
3. Energy

4. Enterprise and Livelihood Development
5. Fisheries and Food Security
6. Habitat Protection, Restoration and Management
7. Natural and Man-made Hazard Prevention and Management
8. Pollution Reduction and Waste Management
9. Water Use and Supply Management
10. Marine biodiversity and Bio prospects

Deep Ocean

In the early 20th Century, explorers raced to the South Pole, their sponsors keen to benefit from future exploitation of these unknown areas. India launched our flag in Central Indian Ocean at 5000 metres depth and continued to collect valuable data. Russia used a submersible to plant a flag at the North Pole Only 5% of the deep-sea floor, which covers about 60% of the Earth's surface, has been properly explored. Light penetrates only the top layers, and the vast, deep oceans are pitch-black, with temperatures just a few degrees above freezing point. But countries and companies are turning their eyes towards its minerals, potentially worth billions of pounds. There have been significant advances in the technology required to discover, map and mine them - with underwater robotic equipment built to operate at great depths. Deep Ocean has active and extinct underwater Volcanoes- hydrothermal vents. Deep-sea mining could now happen within next 10 years. It has been made a possibility by population growth, economic growth and concerns over the supply and security of minerals on land. These include the rare earth elements used in a range of new technologies such as memory chips, LEDs and batteries for electric vehicles. It is thought the mountains of the Pacific alone could contain about 22 times more tellurium - which is used in solar panels - than the known land-based reserves combined. At present there is no exploitation of deep-sea mineral resources, only exploration. The rules for exploitation are yet to be agreed, but contractors will have to demonstrate they have assessed the environmental impact of mining and that plans are in place to manage the effects. Mining could have consequences for many forms of life in the ocean. Scientist search for new drugs and other products in ocean.

Ocean Policy

Opportunities would be more on ocean policy and every country has to expand their resource map in the ocean as land resources are depleting and may not cater to the need of future. World population is projected to be cross 8 billion soon. A tremendous change occurred with the industrial revolution: whereas it had taken all of human history until around 1800 for world population to reach one billion**,** the second billion was achieved in only 130 years (1930), the third billion in less than 30 years (1959), the fourth billion in 15 years (1974), and the fifth billion in only 13 years (1987) and now crossing 7.5 billion 50 percent are living close to the coast. There the resources are found within 200 nautical miles (370km) of shore, it is up to individual countries to reach agreement about who owns them. In the deeper international waters, it becomes more difficult. Here, the UN body International Seabed Authority (ISA) is responsible for awarding licenses for mining. The oceans already provide humanity with many resources, but the deep oceans have long been overlooked because of their inaccessibility.

Marine Litter

One among the new issues being discussed among the international community is growing dumping of plastics in the ocean. Marine Litter is a global menace Tons of plastic find a way to reach ocean/ beach and as their molecular bonding is so strong they will remain forever. UN Environment launched an unprecedented global campaign to eliminate major sources of marine litter: micro plastics in cosmetics and the excessive, wasteful usage of single-use plastic by the year 2022. Engineers have to look for newer tools to dispose these plastics and to invent alternate to plastics. In Deep Ocean at 2000 m depth ROVs have shown video graph of plastic drums, components lying on the sea bed

Here I am representing about young entrepreneur which will motivate young students reading this article:

Boyan Slat

The coming years will potentially see a lot of changes, as our understanding and technology improves. Lot of opportunities do exist and solution for the some newer problems need to come from young talented engineers One among them to note is the recent invention of Marine plastics sucker by Boyan Slat (27 July 1994) is a Dutch inventor and entrepreneur who creates technologies to solve societal problems. He is the founder and CEO of The Ocean Cleanup, a group that develops advanced systems to rid world’s oceans of plastic. Instead of going after the plastic, Boyan devised a system though which, driven by the ocean currents, the plastic would concentrate itself, reducing the theoretical cleanup time from millennia to mere years. In February 2013 he dropped out of his Aerospace Engineering study at TU Delft to start The Ocean Cleanup. The first cleanup prototype was deployed in June 2016, and The Ocean Cleanup now prepares to launch the first full-scale operational system into the Great Pacific Garbage Patch by early 2018.Boyan Slat is youngest ever receipt of the UN’s highest environment accolade; Champion of the Earth. In 2015, HM king Herald of Norway awarded the maritime Industry s young entrepreneur award and Frobes included in their 30 under 30 edition in 2016, Readers digest had chosen him as the European of the year in 2017 and was named by Golden Sachs and many more

Technology and Sensor Development

Oceanographic studies require newer sensors to understand the ocean. Optical acoustic sensors are owing major improvements, next generation web based sensors to monitor changing oceans. In particular, new applications for maritime technologies in extreme environments (deep-sea, seabed, Arctic) require new material properties and functions. They need to be reliable, safe, efficient, economically feasible, and environmental friendly over their entire life cycle. The oceanographic community is seeing new and substantial advances in the development of underwater vehicles such as Ocean Glider/AUV/ARGO Floats as shown in figure 1. The potential of multiple, concurrent AUV/UUV/Ocean Glider deployments promises the ocean research community with increased data accuracy, the elimination of spatial and temporal aliasing, and more efficient and cost-effective means of data dissemination and to develop new and more sophisticated sensor systems, to expand our understanding of the ocean's processes. Other newer avenues we need to work on Ocean Energy, Marine Biotechnology, marine microbes, marine spatial planning like land planning, development highly corrosion resistant material which can with stand marine harsh environmental conditions.

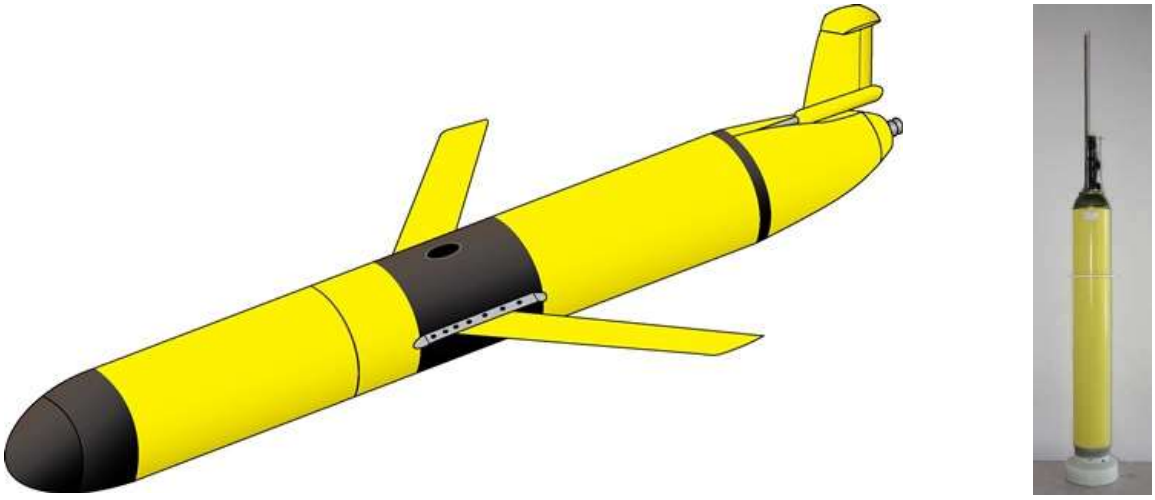

Fig 1 Ocean Glider & ARGO Floats

A case study on how NIOT has introduced best capacity building exercise for students

Student AUV competition

The National Institute of Ocean Technology (NIOT), under the Ministry of Earth Sciences, along with IEEE OES and Marine Technology Society conducts a national level competition for students pursuing engineering degree to visualize and design an autonomous underwater vehicle. The conceptual basis for Student Autonomous underwater Vehicle (SAVe) is a highly mobile autonomous underwater vehicle (AUV) to be built based on engineering principles. This innovative initiative was launched in 2011 and so far, NIOT received 17473 website hits, 257 registrations were made and 127 teams had submitted their Preliminary Design Reports (PDR) and 60 teams made oral presentation of Conceptual Design Reports (CDR) to improve their presentation and handle question and answers skills; 28 teams participated in final competition and demonstrated their working and engineered AUVs at swimming pool. Most of the teams used 4-5 thrusters configurations to have 6 DOF controlled by mostly Inertial Measurement Unit (IMU) interfaced with control unit (CPU) and powered by commercial LiPo battery packs. Till now, 3 teams have participated in International competition held at AUVSI foundation San Diego, USA and totally 8 prototypes of AUVs were developed by engineering students in India since year 2011.The outcome of this competition is to involve young engineering students on the new frontiers of ocean technology and kindle their innovative thinking in this unexplored area of ocean environment and observation.

The most common configuration of the student AUVs is that the linear dimensions of the AUVs were less than 1.5 m in length and weight is less than 35 kg. The AUV design is a modular hydrodynamic hull structure and made up of acrylic material; mounted on Aluminium metallic frames. They use maximum of 4 numbers of thrusters (for 6 degrees of freedom) to optimize the AUVs operation for considerable maneuverability with good energy efficiency and high endurance. Almost all the student AUVs gets power supply from Lithium-Polymer (Li-Po) batteries with either 18.5 V or 11.1 V DC input to provide supply for the 19.1 V DC Thrusters and 12 V Mother Board. One of the most common features of the teams is Arduino microcontroller for controlling the thrusters interfaced with CPU. CPU configurations and capabilities of the teams processor speedvaried from 1.6GHz to 2.1GHz supported by 1GB or 2GB RAM. In fact, almost all the teams have learned to use good quality web cameras for the underwater vision and image processing by placing them in sealed chambers. All

the AUVs used face O-rings for the hulls for good sealing effect as well as for faster assembly and disassembly. Water resistant connectors were used to connect the AUV to supportive systems.

The competition received overwhelming response from different institutions in which IEEE has come forward to extend financial support.

1. AUV

AUV is a self-propelled unmanned submersible vehicle with its own onboard intelligence system to make decisions is dependent on stored energy of the battery to execute its mission. They generally execute their motion by drift, cruise, or glide through the ocean [1]. The history of AUVs research can be dated back to early 1960's where the first successful development could be attributed to Dimitri Rebikoff's SEA SPOOK. Later, Stan Murphy, Bob Francois and later Terry Ewart of the Applied Physics Laboratory of the University of Washington began development of what may have been first "true" AUV in the late 1950's. Their work led to the development and operation of "The Self Propelled Underwater Research Vehicle(s)" (SPURV). They were soon followed by others such as SKAT at the Shirshov Institute of Oceanology (Russia); OSR-V (Japan); EAVE West, RUMIC, UFSS (U.S. Navy); EAVE EAST (University of New Hampshire, U.S.); and EPAULARD (France) [2]. During the 1990s AUVs testbeds turn into operational systems. In Indian scenario, a significant step in developing a prototype small AUV called Maya was achieved at the National Institute of Oceanography, Goa, India in May 2006 [3]. Another AUV named AUV-150 was developed by Central Mechanical Research Institute (CMERI), Durgapur, India and sponsored by Ministry of Earth Sciences was tested for sea trials in 2011 [4] are shown in Fig. 2. Today, hundreds of AUVs have been developed worldwide by many countries to accomplish a set of tasks according to defined goals and user emerged different types of mission tasks. An AUV's endurance depends upon speed, mission requirements, payload, and battery type and is quantified in both time and distance.

AUV MAYA (Courtesy: NIO, Goa)

AUV 150 (Courtesy: CMERI, Durgapur)

Fig 2.AUVs developed in India

As most of the AUVs have propellers, more than half of the battery power is consumed by propellers, as a result, reducing the endurance of operation. Of the surveyed AUVs, 46% operate less than 12 hours, 19% between 12-24 hours, and 17% greater than 24 hours [5].Hence, in order to enhance the range capabilities of an AUV in terms of endurance, powerful and complex systems which are capable of performing underwater (shallow and deep sea) tasks are required to be developed. In this context, The National Institute of Ocean Technology (NIOT), under the Ministry of Earth Sciences, joined with IEEE-Oceanic Engineering Society - India chapter and Ocean Society of India to provide an opportunity for students pursuing engineering degree to visualize and design an autonomous underwater vehicle. The conceptual basis for Student Autonomous underwater Vehicle (SAVe) is to build a highly mobile autonomous underwater vehicle (AUV) based on engineering principles. The aim of this competition is to attract young talented students to work on under water technology and new frontiers of ocean technology and kindle their innovative thinking in the unexplored area of ocean environment and observation. NIOT has been continuing this capacity building exercise in the field of Underwater Technology by giving technical support to the selected student teams for developing their AUVs and is sponsoring the winning team of SAVe to participate in the International ROBOTICS competition organized at San Diego USA.

Main objective for this project is to develop AUVs for specified mission scenarios underwater which can judge the physical aspects of the AUV such as the kinematics, dynamics, physical limitations, and environmental effects. Compared to autonomous aerial or ground vehicle projects, underwater domain imposes the most restriction on sensory devices and its hardware [6].

2. Competition Model

The main focus of this competition is to involve students on the new frontier areas of ocean technology and kindle their innovative thinking in this unexplored area of ocean environment and observation. NIOT will support the winning team with their technical expertise and also sponsor for the International competition being held annually in AUVSI foundation San Diego, USA. The competition is open to all Indian national students. The competition held in three levels viz. Preliminary design review, critical design review and functionality review.

In the preliminary design review, a report comprising of the concept, literature review, design methodology, 3D simulation depicting the concept, brief theoretical substantiation of the design proposed, block diagram of the concept, Project document with methodology of operation, design, 3D model and Video simulation.

In continuation to the PDR, a second level design review to evaluate the detailed description of the concept including detailed specification, circuit level design, detailed mathematical modeling, Commercial Off-The-Shelf equipment required. Expert guidance through state- of- the- art facility and industrial experience to the teams and a Mentor is allocated who shall guide the team in preparing the final prototype.

After completion of the CDR, the developed engineered prototype will be reviewed in the final competition where the students should demonstrate the capabilities of the AUV.

Students have to plan well ahead in the initial stages on the time bound deadlines for ordering the components from both National and International market, build, integrate, and test their vehicles. The major factor to be taken into account in the procurement of underwater products is that availability of off the shelf products which might take months' time to receive and could be the cause for missing deadlines. Apart from these, the students have to concentrate on their curricular activities, which is a very important factor to be dealt with win-win attitude in both studies and competition. Fig. 3 shows the student teams working during the competition at the swimming pool.

Fig 3 Student teams working during the competition at the swimming pool

Motivation to students

To motivate the engineering or technology students in the field of underwater technology often requires a very practical approach far from the classroom. Educational workshops on marine robotics fulfill this requirement considerably, as the operating medium is the water, it would provide a playful environment. Either in a pool or at sea these educational activities provide students with an exciting environment where they can learn the design, integration and operation of robots. The field of robotics needs basic background of physics and other STEM (Science, Technology, Engineering and Mathematics) [7] disciplines and these sorts of competitions provide a framework that encourages innovation against tough but credible targets and respected benchmarks, through friendly rivalry. The challenge to solve complex tasks in realistic situations forces participants to tackle the issues, often huge, of designing robots capable of working robustly in a realistic environment. Furthermore, the competition against other teams encourages young engineers to study innovative approaches to the problems that often perform better than existing solutions. There is no better way to encourage the development of young and talented people than proposing that they solve challenging tasks at sea in efficient and original ways. To achieve success, they must mature their technical skills and use notions learned academically in real physical situations. This organized session will focus both on educational and competition efforts in marine robotics. In particular, we are interested in contributions describing the competition/workshop activity history, the number of participating teams/students, the breakthrough results achieved etc. The NIOT competition is an opportunity for motivated students to work together and face challenges themselves to accomplish a unique and rewarding goal. The rewards announced and providing the lab facility to test their vehicle in underwater shall be one of the motivational factors for the team to work against the odds to accomplish their mission.

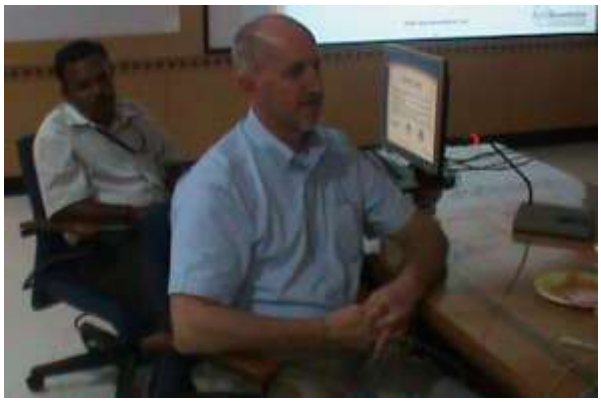


Fig 4.Indian students interacting with Mr. Daryl Davidson, Executive Director, AUVSI Foundation, USA at NIOT

Apart from these, success stories of students who later continued their career in an ocean-related industry, research institutions, or other robotics fields are valuable examples of the success of the organized competition/workshop to assess its impact from the educational and economic points of view.

These attempts create a platform to provide students in establishing newer contacts in the underwater Industry. During these events, people across the world with similar motives join together and this helps the students to improve domain knowledge. NIOT succeeded in guiding the most useful sponsorships and encouraging the industry to donate hard-to-find or expensive components. Few sponsors from Industry/component manufacturers agreed to provide students, the components at a discounted price or agreed to give components on loan at free of cost. Furthermore, one of the other motivating factors is mentorship throughout the competition. This model is one of its kinds, where the mentors from NIOT and other national institutes guide the teams to develop problem solving capabilities and get expertise in design and development.

Furthermore, the students develop problem solving capabilities in their respective fields together with managerial skills to establish the team, handle time bound situations and control the stress caused by issues that occur during the competition.

Contribution to Underwater Technology

This entire process proved well and helped in the development of 10 underwater vehicle prototypes in India. Students have come up with brilliant ideas of naming their vehicles for the competition such as Amogh, Sedna, Poseidon, Tiburon, JalNetra, Varun, Samudra, Zyra, Leviathan, Delfino and Hydra. The success of this competition is based, in part, on the fact that India has fourteen AUVs having different configurations. The winning students teams of National AUV competition in the year 2014 and 2015 as shown in fig 4.


Fig. 4 Winning teams of National AUV competition in the year 2014 and 2015

Conclusion

Now it is era new technology miniaturization of electronic appliances, communication technology, marine biotechnology, newer materials, and energy systems. With a growing global population, mounting pressure on the existing resource base and increasing access to coastal and marine environments through technological advances, accelerated development and exploitation of coasts and oceans is a certainty. The initial impetus for this competition has come from the fact that India's quest towards the unexplored areas of underwater technology. This could be possible by the continuous thriving for technological innovations and students are the best possible wealth that any country can have. Thus, today at the helm of rowing needs for energy and resources.

Education and Research in Ocean Science and Technology in India

There are efforts in our country to create well trained, educated and competent human resource to address various issues like ocean and atmospheric modelling, weather prediction, protection of water and air, development of renewable energy, hydrocarbons, disaster prediction and preparedness, watershed and flood management, coastal erosion, environment pollution assessment, resource conservation and recycling, development of clean technologies, climate change prediction and impact on socio-economic well-being, blue economy etc., Ministry of Earth Sciences is supporting such programmes by offering facility and senior scientist as Adjunct Professors for teaching and providing dissertation projects and sponsored projects to faculty to support these initiatives by various educational institutions. The National Institute of Ocean Technology under the Ministry of Earth Sciences through IIT Madras is supporting a Post graduate program in IIT Madras. In addition various colleges/ Institutes/ Universities are supported by extending ocean science and technology related projects by Ministry of Human Resource Development, Naval Research Board, Ministry of Environment Forests and Climate Research, Ministry of shipping and Ministry of Science and Technology etc., the National Institute of Oceanography Goa under council of scientific and industrial research offers Ph D programmes under the AcSIR. In addition Indian maritime University and many deemed Unvisited such as AMET University are established to cater to the need of human capacity requirements in marine sector Besides Indian Space Research Organisation ISRO, Marine and Atmospheric Sciences Department (MASD), formerly known as Coastal Processes and Marine Resources Division and Marine Sciences Division, offers training & education courses and provides R&D opportunities and user services

There are courses offered both undergraduate and post graduate level degree programmes besides doctoral research avenues. It is briefly highlighted here on opportunities for Engineering graduates do exist to pursue their interest and skills in ocean science and technology. Graduate engineers can also opt for ocean or atmospheric science modelling and research in Indian Institute of Science Bangalore, IIT Bombay IIT Kharagpur and other institutions. It will be surprised to note few world renowned successful oceanographers has graduate degree in civil or mechanical engineering

Students from various graduate engineering disciplines are admitted through regular processes such as GATE or respective entrance examination to admit for Post graduate courses in IITs in Chennai, Bhubaneshwar, Kharagpur, Mumbai etc.,

Also to pursue as part time or distance education there are specific courses available The Tamilnadu Dr.Ambedkar Law University offers one year distance education course on PG Diploma in Maritime Law. While discussing about Law It is be noted here aaout only one of its kind course offered in IITs LLB Rajiv Gandhi School of Intellectual Property Law (RGSOIPL) is the first of its kind law school to impart legal education with IP specialization within the IIT System bringing synergy among science, technology, management and law. The School offers a Six-Semester, Three-Year Full-Time residential programme leading to the Degree of Bachelor of Laws (Hons) in Intellectual Property Law approved by the Bar Council of India. Programme Curriculum of the Programme has been prepared based on the requirements of the Bar Council of India. In addition, several specialised courses in law and Intellectual Property Rights are offered. The eligibility for Admission to LL.B. (Hons) Degree in Intellectual Property Rights, First Class Bachelors Degree in Engineering / Technology / Medicine or equivalent. etc.,

There are also few newer Institutions in the process of starting courses or have started courses in earth sciences by the Indian Institute of Science Education and Research IISER adn National Institute of Science Education and Research NISER under DAE Government of India

I have listed few institution who are working on research and academic in the field ocean and earth science and technology are Centre of Advanced Study in Marine Biology & Oceanography (CASMB), Annamalai University, Tamil Nadu, Centre for Atmospheric Sciences (CAS), Indian Institute of Technology Delhi, Centre for Oceans, Rivers, Atmosphere and Land Sciences (CORAL), Indian Institute of Technology Kharagpur, Centre for Atmospheric and Oceanic Sciences (CAOS), Indian Institute of Science (IISc), Center for Earth and Space Sciences -UCESS-University of Hyderabad, Hyderabad, Centre for Ocean and Coastal Studies, University of Madras, Centre for Atmospheric and Ocean Studies, University of Allahabad, Centre for Marine Living Resources and Ecology, Ministry of Earth Sciences, Kochi, Kerala, Centre for Marine Science and Technology, Manonmaniam Sundaranar University, Rajakkamangalam, Kanyakumari Dist, TN, Central Marine Fisheries Research Institute, Kochi, Kerala, Central Institute of Fisheries Technology, Kochi, Kerala, Department of Meteorology and Oceanography, Andhra UniversityDepartment of Marine Sciences, Goa University, Goa Department of Post Graduate Studies in Marine Biology, Karnatak University Dharwad,Department of Marine Sciences, Berhampur University, Odisha Department of Marine Science, University of Calcutta, Faculty of Marine Sciences, Annamalai University, Tamil Nadu , Indian National Center for Ocean Information Services (INCOIS), Hyderabad, India. Integrated Coastal and Marine area Management Project Directorate (ICMAM PD), Pallikaranai, Chennai, Institute of Ocean Management (IOM), Anna University, Chennai, Kerala University of Fisheries and Ocean Studies (KUFOS), Marine Planktonology and Aquaculture Division, Department of Marine Science, Bharathidasan University, Tiruchirappalli, National Institute of Oceanography, Goa, National Atmospheric Research Laboratory, National Centre for Antarctic and Ocean research (NCAOR), Goa, National Centre for Sustainable Coastal Management (NCSCM), Chennai, National

Institute of Oceanography, Goa (HQ), RC's at Kochi, Mumbai and Vishagapatnam, National Institute of Ocean Technology (NIOT), Chennai, Nansen Environmental Research Centre (India), Kerala, School of Energy Environment & Natural Resources, Madurai Kamaraj University, Tamil Nadu School of Marine Sciences, Cochin university of science and technology (CUSAT), Kerala, School of Earth, Ocean and Climate Sciences, Indian Institute of Technology Bhubaneswar, School of Oceanographic Studies, Jadavpur University, Centre for Coastal Harzards and Disaster Mitigation in AMET University, Marine Biotechnology and Drugs from Sea Research Program Sathyabama University Chennai

There are 20 Institutions in India offering courses or undertaking research in the interdisciplinary areas of ocean, atmospheric and earth sciences. Courses in oceanography is given in this link http://www.nio.org/index.php?option=com_category&task=show&title=Courses%20in%20oceanography&tid=3&sid=94

From my association with these institutions, students who have interests and competency are continuing in this discipline successfully within India and abroad

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11. http://www.sauc-europe.org/

Mom gets ₹34k bill as child accidentally places Amazon order: A five-year-old girl in England accidentally placed an Amazon order for a £107 (₹9,200) diamond necklace and 12 Disney toys worth £287 (₹24,600) through voice recognition technology without her parents' knowledge. The matter came to light when the necklace was delivered, and her mother checked her order history. She contacted Amazon, following which the orders were cancelled and money refunded.

'Twisted' light proposed for wireless data transmission: Physicists based in the UK, Germany, New Zealand, and Canada have said that 'twisted' light can be used for wireless data transmission. Photons can be 'twisted' by passing them through a type of hologram giving them a twist known as optical angular momentum. Researchers claimed that the number of intertwined twists in the photons allows them to carry additional data.

AI system claims to detect bowel cancer in under a second: Japan-based scientists have developed an artificial intelligence (AI) system which they claim can detect colorectal cancer in less than a second. The diagnostic uses a 500-fold magnified view to detect abnormal tissue growth in the area. Trained using over 30,000 images, the AI assessed 306 cases in real-time, providing a 94% sensitivity, 79% specificity, and 86% accuracy, said researchers.

WhatsApp allows deleting sent messages from receivers' phones: WhatsApp has globally launched a feature that allows deleting sent messages from other chat members' phones on both Android and iOS platforms. Called 'Delete for Everyone', the feature allows users to revoke the messages within 7 minutes of sending them. Once the user deletes a message, its receivers will see the phrase 'This message was deleted' instead of the message.

Announcements

INDICON – 2017: 14th IEEE India Council International Conference 2017

IEEE INDICON conference is an annual event started by IEEE India Council. Every year it has been hosted by one of the Sections in India, in the areas of Computer Science Engineering, Electrical Engineering, as well as Electronics and Communication Engineering. The 14th edition of the conference, INDICON-2017, is organized by IEEE UP Section at IIT Roorkee during 15-17 Dec 2017.

For more info, please visit the conf. website at http://www.iitr.ac.in/indicon2017/

The Vembu Subramanian Memorial Scholarship

The Marine Technology Society announces the Vembu Subramanian Memorial Scholarship open to MTS Student Members studying in India. Each year, MTS will offer two scholarships to college graduate or college undergraduate students in India enrolled in full-time marine-related programs with a focus in marine technology, marine engineering and/or marine science. More info at https://www.mtsociety.org/education/scholarships.aspx

Call for Knowledge & Experience Sharing in Futuristic Healthcare: Telemedicine & Medical Drones

The National Design and Research Foundation (NDRF) in Bangalore have requested Apollo Tele Health Services (ATHS) to support them organize a two day work shop on "**Futuristic Healthcare: Telemedicine & Medical Drones".** This will be held at the Auditorium, Apollo Children's Hospitals, Chennai on 16th & 17th December 2017.

If any of the IEEE members having expertise in this area and be interested in sharing their knowledge, they are encouraged to send the specific topic and a brief abstract to Dr. Ramachandra, Director, NDRF at drkrc2006@gmail.com and to Dr. Ganapathy, Director, Apollo Tele Health Services at drganapathy@apollohospitals.com If found appropriate a formal invitation will be sent to them for further action.

Dr. Sivaji Chakravorti nominated as IEEE India Council Chair – 2018

A nomination committee was constituted consisting of following members to decide nomination for 2018 IEEE India Council.

Deepak Mathur, Chair
Debatosh Guha, Member
Animesh Biswas, Member

The committee, unanimously, resolved to extend the tenure of current IEEE India Council Chair, Dr Sivaji Chakravorti for one more year (i.e. for 2018) as per the provisions of IEEE India Council Bylaws – the Article III and Section 2, after review of performance in the year 2017.

IEEE International Women in Engineering Conference on Electrical and Computer Engineering (WIECON-ECE)

IEEE International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE) to be held in Dehradun, Uttarakhand, India during 18-19 December 2017. The vision of IEEE WIECON-ECE is to bring together individuals conducting research and professional activities in the area of ECE to share and present their latest innovation and findings. For more details please visit the conference website: http://wieconece.org/call-for-papers/

IEEE Bombay Section Symposium (IBSS 2017)

The third edition of the IEEE Bombay Section Symposium – IBSS-2017, will be held during December 28-30, 2017 at Shah & Anchor Kutchhi Engineering College (SAKEC), Chembur, Mumbai. The theme of this Symposium is "Frontiers of Technologies: Fuelling Prosperity of the Planet and People". Day-long pre-symposium tutorials with hands-on training will be organised by industry experts on December 28, 2017, at the Symposium venue.

The tracks for the tutorials are:
a. FPGAs and Soft-processors
b. Business intelligence

The Symposium will include Review Talks (invited talks by distinguished experts in the chosen topics of the Symposium), Contributory Talks (invited presentations by the practitioners of state-of-the-art technologies) and Posters (by the students and others).

For more details, please visit the symposium website. http://ibss2017.ieeebombay.org/

Useful IEEE Links

Global Benefits Finder: http://www.ieee.org/membership_services/membership/benefits/index.html

2018 IEEE Membership and Society Membership Dues:
http://www.ieee.org/membership_services/membership/join/join_dues.html

IEEE Society Memberships: http://www.ieee.org/membership_services/membership/societies/index.html

Referral and Payment Options: http://www.ieee.org/membership_services/membership/join/referral_payment.html

Rupee Group Payment Option: https://www.ieee.org/membership_services/membership/rupee_join_option.html

Step-by-step process of Rupee Group Payment explained at
https://www.ieee.org/documents/indian_rupee_payment_group_challan_payment_option.pdf

Special Circumstances for Reduced IEEE Membership Dues
https://www.ieee.org/membership_services/membership/special_circumstances.html

IEEE Member-Get-a-Member (MGM) Program
https://www.ieee.org/membership_services/membership/join/mgm.html

Member Grade Elevation: http://www.ieee.org/membership_services/membership/grade_elevation.html

IEEE Student Activities: http://www.ieee.org/membership_services/membership/students/index.html

IEEE Geographic Unit Formation Policies and Petitions
http://www.ieee.org/societies_communities/geo_activities/forms_petitions/forms_petitions_index.html

Student Branch Officer Responsibilities and Administration
http://www.ieee.org/membership_services/membership/students/officers.html

IEEE Student Branch Manual and Counselor Guide (PDF, 285 KB)
http://www.ieee.org/membership_services/membership/students/student_branch_manual_14.pdf

Education & Careers: http://www.ieee.org/education_careers/index.html

IEEE Xplore Digital Library: http://ieeexplore.ieee.org/Xplore/home.jsp

GoogleApps@IEEE: http://www.ieee.org/membership_services/membership/products/googleapps.html

IEEE Support Center: https://supportcenter.ieee.org

IEEE Websites / Sitemap: http://www.ieee.org/sitemap.html

IEEE-Sponsored Insurance Services:
http://www.ieee.org/membership_services/membership/discounts/group_insurance.html

Acknowledgements
ICNL wishes to acknowledge various internet sources for the information presented in this issue of the newsletter. Our exclusive thanks to inshorts – a content discovery and distribution application, which aggregates the news across the world and presents them in a concise manner for easy consumption. We have picked up the titbits appearing in this issue from inshorts (https://www.inshorts.com)

Guidelines for submitting reports and articles to get published in the IEEE INDIA INFO, the India Council Newsletter (ICNL)

- Please submit the event reports within TWO months of its happening. Older events reported may be ignored.
- The matter may be in doc / rtf / txt format. Please avoid other formats such as pdf, jpg as they will not be considered.
- Please use SINGLE column format (while the report is prepared).
- Please avoid embedding the photos in the document relating to event reports. However, images referred in articles alone may be embedded at appropriate places in the article document in addition to sending them separately.
- Please send the event photos (typically one/two best) separately (even in they are included in the report).
- Preferred format for photos is "jpg". Please avoid sending the photos in "bmp", "png" formats.
- Photographs in digital form should not to exceed 1024 pixels in width. You may use any photo editing software (MS Office Picture Manager is quite useful) to re-size the image. This will reduce the file size of the images considerably. Pl. avoid sending large size photos (Sometimes we get files even up to 6 MB size). We generally recommend file sizes less than 500K.
- Provide your name, full affiliation, membership no. and email id at the end of the document.
- Send the matter by email with the subject: From <Section / College Name in short form> -- Report on <Event Name (short name is OK) & Date> eg: "From Madras Section / SSNCE -- Report on Conf on Wireless Networking dt. 10-11, Feb 2017"
- Please send the matter by email to ieee.icnl@gmail.com
- Please note that the matter sent to other email ids may get ignored and may not be considered.
- Please submit the matter for publication latest by 8th of the publication month (currently Mar, Jun, Sep, Dec as ICNL is a quarterly) to facilitate inclusion in that quarter's issue of IC Newsletter.
- Pleae note that while all efforts will be made for publishing, due to certain practical constraints, the actual publishing may be delayed.
- We will be constrained to ignore the submitted materials, if they do not follow the above guidelines.
- Please co-operate with us by adhering to the guidelines specified.

IEEE India Council Website

The website of the IEEE India Council (IC) has been redesigned using the Wordpress content management system and is hosted on the IEEE webserver at http://sites.ieee.org/indiacouncil/ with the efforts of the web master Dr. Suryanarayana Doolla of IIT Bombay. The readers may find the following links of the IC useful.

Home: http://sites.ieee.org/indiacouncil/
Executive Committee: http://sites.ieee.org/indiacouncil/about-ieee/executive-committee/
Sections: http://sites.ieee.org/indiacouncil/about-ieee/sections/
Chapters: http://sites.ieee.org/indiacouncil/about-ieee/chapters/
Announcements: http://sites.ieee.org/indiacouncil/category/announcements/
Events: http://sites.ieee.org/indiacouncil/events/
Newsletter Archives: http://sites.ieee.org/indiacouncil/newsletter/newsletter-archives/
Conference Norms: http://sites.ieee.org/indiacouncil/conference-norms/
INDICON: http://sites.ieee.org/indiacouncil/indicon/
Student Activities – Awards: http://sites.ieee.org/indiacouncil/student-activities/awards/
M V Chauhan Student Paper Contest: http://sites.ieee.org/indiacouncil/student-activities/mvc/

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