Vol. 14 :: No. 2 :: Apr – Jun 2019

Message from the Chairman

Dear IEEE Indian Members,

I am happy to see that second issue of 2019 of India Council (IC) newsletter is being released. The newsletter is having information of India Council, Sections, Chapters, Affinity Groups etc., interesting articles on diverse fields of interest to our members along with few regular informative columns. I congratulate and thank the efforts taken by Mr. H.R. Mohan, Newsletter Editor. I would also like to put on record and thank the Section leaders who have extended their cooperation in providing the inputs to the newsletter.

The flagship program of IEEE IC, viz. INDICON-2019, will be held in Marwadi University, Rajkot, Gujarat in collaboration with IEEE Gujarat Section during December 13-15, 2019. I hereby appeal to all IEEE members to make this INDICON another success story, as in the previous years. All India Student, Women in Engineering and Young Professional Congress (AISWYC) is to be held in Hyderabad during September 28-30, 2019.

During this Second quarter of 2019, IC ExCom held on 8th June parallel to TENSYMP-2019 which was organised during June 7-9, 2019 in Kolkata. IEEE R10 Director attended the TENSYMP and interacted with IC ExCom members. Few major decisions were taken during the meeting. The changes in the IC by-laws were also approved. One of the major changes in the by-laws is to induct the advisors and various vice-chairs. A core committee consisting of current chair, chair-elect, immediate past chair, secretary and treasurer has been suggested to help the IC chair on the emerging and burning issues for consideration to the IC ExCom for approval. A search committee has also been formed to give the IC life time achievement awards to past IC chairs and Sections chairs for their outstanding contribution towards the growth and organising IEEE events for the benefit and of value to IEEE members.

New technically co-sponsored conference fee imposed by IEEE is implemented without hampering the number of events. IEEE India Office helps the organisers. New guidelines for IC Awards and e-notice are formulated. Now any IEEE event information can be sent through e-notice to all the Indian IEEE members by paying INR 5000/ per e-notice, to IC account. Section chairs should endorse the e-notice for the same.

I am sure that with the help of active IEEE volunteers in India, we will be able to make one of the best councils of IEEE.

Prof. Sri Niwas Singh, *FIEEE, FIET, FNAE, FIETE, FIE(I)*
IEEE IC Chair 2019
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Message from Editor
H.R. Mohan, hrmohan.ieee@gmail.com

Dear readers,

We are presenting the second quarter issue of India Council Newsletter (ICNL) for the year 2019. This current issue of ICNL is a bumper issue in 207 pages and features a record number of 38 articles as against 25 in the last one. As the page level has gone up significantly, the issue is presented in three parts – Part 1, having regular items such as messages, reports on activities, usual columns such as IT Happenings, Information Resources, Books, Book Excerpts and Announcement; Part 2, a special section featuring the presentations made during the 160th celebration of Sir JC Bose as articles guest edited by Dr B. Sathyanarayana and Part 3 featuring contributed articles by professionals and academic community including one 2nd year student.

ICNL thanks the organisers/chairs of the Bangalore, Kerala, Kharagpur, Madras, Nagpur Sections for sending the reports of their activities as per guidelines, and Vice Chair, IC SAC for the report on the Industry Visit focusing on Nokia University Collaboration Experiential Learning. We are aware of the fact that not all the activities are reported and only a very insignificant proportion of numerous activities that are conducted across the Sections. We look forward to receiving matter from all the organizers of events directly at the newsletter email id ieee.icnl@gmail.com as per the guidelines published in the newsletter elsewhere and also available at https://goo.gl/DcVPmx

ICNL thanks the authors who have enthusiastically responded to our request and contributed the following informative and interesting articles included in this issue in Part 3.

1. India's Trillion Dollar Opportunity in SaaS by Mr. Suresh Sambandam
2. Digital Plantation story of RGE by Mr. Abhishek Singh & Mr. Leong Hoe Wah
3. Move over, Pessimists - Emerging Top 50 Technologies Offer a Gold Mine of Opportunities by Mr. S. Anand
4. Supply Chain Management Practice in India by Mr. V. Ramachandran & Mr. M. Sundaram
5. An Overview of ICT Tools for Supply Chain Management by Prof. Prashant R. Nair
6. AI for All by Mr. S. Arjun
7. Machine Learning via Genetic Algorithm Demystified for Today's Era by Dr Vivek Venkobarao
8. Journey from Monolith Application to Microservices by Ms. Nithya Rajagopalan & Mr. Kumaraswamy Gowda
9. Establishing Community Radio Station in India by Mr. G. K. Jakir Hussain
10. Glassless 3D Technology -- A 3D Solution without glasses - the future of 3D Technology by Mr. M. Venkatesan
11. Space FPGA Mitigation Effects, Challenges and Trends by Mr. V. P. Sampath
12. Electric Vehicles for India: Overview and Challenges by Mr. A. Rakesh Kumar & Dr. Sanjeevikumar Padmanaban
13. Internet of Things (IoT) and E-Healthcare System – A Short Review on Challenges by Dr. T.Poongodi, Dr. Balamurugan Balusamy, Dr. P. Sanjeevikumar, Dr. Jens Bo Holm-Nielsen
14. Marine Autonomous Systems – Technology, Opportunities and Use Cases by Mr. Madhan Dhanushkodi & Mr. Darshan Rajagopal
15. Architecting for Strategic Outcomes by Mr. Pradeep Henry
16. Why Design Thinking Helps Identify Great Artificial Intelligence Use Cases by Mr. Sojan George & Mr. Rajeev Mullakkara Azhuvath
17. Operating System Security – A Short Note by Mr. Kunal Abhishek & Dr. E. George Dharma Prakash Raj
18. Data Privacy – Yesterday, Today & Tomorrow – An Overview by Mr. Ramkumar Ramachandran
19. Universal Acceptance: The concept that all domain names should be treated equally
20. IEEE Xplore® Digital Library Continues to be Your Career Partner by Dr. Dhanukumar Pattanashetti
21. Why Standards Matter? IEEE Standards Development Initiative in India by Mr. Srikanth Chandrasekaran
22. e-commerce -- Past, Present and the Future by Mr. K. Vaitheeswaran
23. Starvation Deaths, Migrant Labour, Gypsies and Blockchain by Mr. Santosh K Misra IAS
24. Detecting fake news and information by Dr. Paromita Pain
25. Neuromarketing: An Overview by Prof. K. Ganapathy
26. Management Lessons from a Rural Indian Water Project by Mr. Sathish Vaidyanathan
27. Building Tech startup culture through colleges for generating National and International Opportunities by Mr. B. Parameshwar Babu
28. Startups as an investment asset class by Mr. Sanjay Mehta

29. The Progress and Value of Patents in India by Dr. Kalyan Kankanala
30. Making an Impactful Presentation by Dr. Ch. Aswani Kumar
31. 5 Key Types of Workplace Harassment and Ways to Stop it.by Ms. Viji Hari

ICNL wishes to add that the above articles published in this issue are not peer reviewed and are also not checked for plagiarism for which the authors are responsible. Further, the views expressed in these articles are that of the authors and ICNL is not responsible for any consequences of using the information provided in these articles.

We are happy to have published briefs about the following books and thank the publishers for providing copies of the books.

- Big-Data Analytics for Cloud, IoT and Cognitive Computing
- Indian Patent Law and Practice
- Management Immemorial: Learnings from Literature
- BCC: Behind Closed Cubicles
- TITAN: Inside India's Most Successful Consumer Brand
- Leading and Motivating Global Teams: Integrating Offshore Centers and the Head Office
- Spark: The Power to Become Big is Within You
- Fundamentals of High - Voltage Engineering
- Social Media & Mobile Marketing

We are also happy to have published the excerpts from the book "BCC: Behind Closed Cubicles" with the permission of the author..

Chairman Dr. S.N. Singh has provided a comprehensive message highlighting major decisions taken by the India Council and the forthcoming major events being organised by India Council. The" What's hot in IT - An Indian Perspective" a regular column by Prof. S. Sadagopan, Director, IIIT Bangalore provides a broad overview on various important happenings in the IT and Telecom sectors in India during mar-May 2019. 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 will be of interest to ICNL readers. We wish to add that "Interesting Reads", a regular blog post published once a week by him may also be of interest to our readers The archives of these blog posts can be accessed at https://goo.gl/VGXizd A no. of important announcements which include events such as TENCON-2019 and INDICON-2019, IC Awards, guidelines, useful links also appear in Part 1 of the issue which will interest our readers.

We wish to thank Dr. B. Satyanarayana (Secretary, IEEE Bombay Section) Guest Editor for the Special Section (Part 2) on Sir JC. Bose for his efforts in coordinating with the speakers in getting the articles written based on the presentations made during the 160th Anniversary Celebration organised on 17th Feb 2019 at Bangalore, a task most difficult. .This special section comprises of the following seven informative articles which have interesting historical facts.

1. Sir Jagadish Chandra Bose: Scientist Par Excellence: A Tribute by Dr. B.S. Sonde
2. Jagadish Chandra Bose: The Physicist who was forgotten by Dr. D.P. Sen Gupta
3. Sir Jagdish Chandra Bose, James Clerk Maxwell and there on….. by Dr. S. Pal
4. mmWave Applications in NextGen Wireless Broadband Evolution in 5G Era: Impact of Sir JC Bose invention by Mr. C.S. Rao, Ms. Arpita Hura and Ms. Mouna Jain
5. Radio Astronomy: How J.C. Bose's invention opened a new window to the Universe by Dr. Yashwant Gupta
6. Design and Construction of Working Replica of Sir J.C Bose 60 GHz Experiment by Dr. Shaik Kareem Ahmmad, Dr. Syed Ilyas Mohiuddin and Dr. Mohammed Arifuddin Sohel
7. Sir Jagadish Chandra Bose: Biologist, Biophysicist, Botanist, Physicist, Archaeologist and Polymath by Mr. Sudhir Phakatkar

We wish to remind our readers to encourage new members to join IEEE at 50% of the annual subscription and enjoy the membership benefits till Dec 2019.

ICNL wishes to acknowledge various internet sources for the information presented in this issue of the newsletter. Our exclusive thanks to inshorts (https://www.inshorts.com) and Mr. Sunil Agarwal & Mr Ajit Ninan for the permission to use their thought provoking cartoons appeared in Times of India.

IEEE Bangalore Section Activities

Siddaganga Institute of Technology, Tumakuru

IEEE SIT SB student participate in the IIT MADRAS FEST "SHAASTRA 2019"

IEEE SIT SB members participated attended in SHAASTRA 2019, the national level technical fest organized by IIT Madras from Jan 3rd to 6th. The participants were selected based on the first round of the questions prepared by the IIT Madras team. After that there was an online test on TechGIG platform, based on which the participants were filtered. 13 students were finally selected from IEEE SIT SB. All of them attended events on Quantum computing, AI, ML and PCB Design. The participants gained much insight on the practical applications of the technology. It was a wonderful and marvelous experience for following student participants: Lalithashree V; Gowtham M P; Gopinatha B M; Pranav; Kavana; Harshita S; Harshita B K; Teju. V; Zakir; Supreeth; Srinidhi; Shradha; Nikitha; Aakash; Amruth; and Manasa.

Arduino Application Workshop for Maruthi Vidya Kendra, Belagumba.

IEEE SIT SB, organized an Arduino workshop for the students of MVK, Belagumba. As these students had an earlier exposure to Arduino, this workshop was held to improve their skills at the application level. Gowtham M P and Gopinatha B M headed the leads of the workshop session with the help of the volunteers and members. The projects explained to the students included: Automatic water pump; Radar; Smart street light; Automatic railway gate; Medi kit; Smart parking system; and Sun tracker The student volunteers Harshita s, Harshita B K, Kala, Dinesh, Farazi, Shrada, Sneha, Nikita, Manasa k j, Vennala M V helped throughout the session.

Photoshop Workshop

IEEE SIT conducted a Photoshop workshop on 6th February 2018. Event was guided by Pratik, Adithya Sahu, Supreeth and Srinidhi. At the beginning, all the 60 student participants were made to install Adobe Photoshop Applications on their laptops, and then introduced to the basics of the Photoshop and later were trained so that they could design a poster at end the workshop. As a part of this workshop, a challenge was given to the participants to come up with a poster of their own design.

Arduino Application Workshop

IEEE SIT SB, organized an Arduino workshop for IEEE SIT SB members from 11th to 13th of March. Lalithashree V, Gowtham M P, Gopinatha B M, Harshita s, Harshita B K were the leads of the workshop session with the help of the volunteers and members. Students were taught from the scratch, including installation of IDE, basic knowledge of Arduino and was extended up to interfacing of sensors with Arduino and knowing its application in real-time scenario.Though it was planned as a two-day event, it was extend to three days to provide better training. At the end of the third day, a hackathon was conducted where two problem statements were given to solve within one hour. Based on the performance and problem-solving skills, winning team Tumas given with the Node MCU module as prize.

Latex Workshop

IEEE SIT SB conducted latex workshop on 30th March, as Latex is one of the basic required software for report making. Workshop was mentored by Mr. Mruthyunjaya, one of the alumni of our college. A total of 138 students participated in the workshop, these students were taught about the usage of the latex software right from the beginning.

Reports by: B.M. Gopinatha, gopinathhbmg@gmail.com

IEEE Kerala Section Activities

IEEE Kochi Sub Section

IEEE HAC Grant Win of $35000 for IEEE Kerala Section project

A proposal for IEEE HAC Humanitarian Projects titled "Techno Unnati: Revival of flood affected Kerala School through technology" submitted by Dr. Bijoy Antony Jose of CUSAT (Secretary, Kochi Subsection) has been approved in March 2019. The granted amount is $35000 (Rs. 24 Lakhs) for flood affected Gov HSS Kuttamassery near Aluva. This project aims to build computer lab, library, physics lab and smart classes which will benefit 600+ students. Out of 35 applications obtained worldwide, only 5 were approved. Kochi Subsection chaired by Prof. Aanandan has been helping the school post floods. Bijoy has formed an implementation team along with Kerala Section representatives Sarada Jayakrishnan, Shahim Baker, Sunitha Khan along with Mr. Satish Babu as advisor from HAC.

Figure 1: School immersed in water damaging computer lab and other electronic equipment.

"National Colloquium on Future Technologies: Green Machines, Refurbishing & Eco-friendly Electronics"

A colloquium on Future technologies was conducted by Dr. M V Rajesh at College of Engineering Poonjar sponsored by Dept of Environment and Climate change of Kerala along with IEEE Kochi Subsection of February 22 & 23, 2019. Sessions were held on refurbishing of electronic products, environmental impacts of solar panels and battery, strategies in moving towards green computing, reuse of electronics in industry, and green energy. Mr V R Narayanan, Head of Operations, Maker Village, was the inaugural speaker along with several speakers from IEEE.

"India's Indigenous Processor Program" – National Science Day

IEEE Kochi Subsection in association with IEEE computer society with organised an invited talk on **India's Indigenous Processor Program** at Department of Electronics CUSAT. It was financially supported by KSCSTE. Dr Neel Gala, the Tech lead of SHAKTI Processor Program of IIT Madras as well as the CTO of Incore Semiconductors spoke on the 350 crore project happening at CDAC, IIT Madras and IIT Bombay on developing indigenous processor in India. This was held as a part of the National Science day celebrations on 25th February 2019 to inspire the young minds of scientific society.

Report by: Dr. Bijoy A. Jose, bijoyjose@cusat.ac.in

IA/IE/PELS Jt. Chapter Kerala

PELS SB Chapter inauguration and invited talks

IA/IE/PELS Jt.Chapter Kerala organized inauguration of recently formed PELS SB chapters and conducted invited talks in three PELS SB chapters during March 2019. Prof. K. Biju, Secretary, IA/IE/PELS Jt. Chapter Kerala coordinated these programmes. The resource person was by Dr. Sanjib Kumar Panda, Professor of National University of Singapore (NUS) and PELS Asia-Pacific Regional Chair.

1. GEC Kannur

The inauguration of IAS and PELS student chapters of IEEE SB GCE Kannur took place on 11th Mar 2019. On the same day a technical talk was delivered by Prof. Panda on the topic "Can a dumb electrical load be made smart using electric spring to mitigate renewable energy source variability issue?". 63 IEEE members attended the event and talk.

2. GEC Thrissur

The IEEE PELS SBC of the Government Engineering College (GEC), Thrissur was inaugurated on 12th Mar 2019 by Dr. Sanjib Kumar Panda, Professor of National University of Singapore (NUS) and PELS Asia-Pacific Regional Chair. Dr. Jaison Mathew, Staff Advisor, PELS welcomed the gathering and introduced the speaker to the gathering which was followed by presidential address by Dr. B Jayanand, Principal-in-Charge GEC. In his inaugural address, Dr. Panda presented a brief history of the PELS and various activities carried out by the society. He stressed the importance of serving the community and the institution back through various programmes connected with PELS such as Empower a Billion Lives competition. He informed the gathering about different opportunities for IEEE PELS members. Dr. Panda also commented on the ongoing trends in transportation industry such as electric vehicles and how power electronics can play a major role in this area. Dr. Panda began his lecture by stressing the importance of increasing photovoltaic generation to reduce the Grid Emission Factor (GEF). One of the drawbacks of conventional system is that generation side has no information about the demand. Also the variations in the source side affect the critical load adversely. To protect the critical-load from these variations, Dr. Panda introduced the concept of electrical spring. The electrical spring absorbs the variations in input voltage to control the voltage across non-critical load while the voltage across the critical load is maintained within the required limits. This improves the reliability of the system to a great extent. The non-critical load together with electrical spring forms a smart load. The talk was followed by an interactive session with the students. 32 IEEE members attended the programme.

3. CE Karunagappally

The PELS SBC of College of Engineering Karunagappally was inaugurated on 13th March 2019. Prof. Muhammed Kasim S (Chair IA/IE/PELS Jt.Chapter Kerala) was present. 35 IEEE members attended the progarmme.

Workshop on PCB design and fabrication

On 1st Feb 2019, the IEEE IAS SBC of GEC Thrissur conducted a workshop on 'PCB Designing and Fabrication'. The resource person was Dr. Jaison Mathew. This workshop gave immense knowledge and information in the development of PCB's to the students. The event was conducted by the students itself which made a much better environment for the participants. Enabling them to have more interaction and clear their doubts without any shyness. The interaction with the participants on the workshop made the volunteers to have a much better idea of what the students wish to have. The workshop had a participation of over 30 students.

Workshop on circuit simulation using Proteus

The IEEE PELS SB Chapter GEC Thrissur conducted a workshop on 5th Feb 2019. The intention of the workshop was to help the students to have a deeper knowledge of the circuit with the help of circuit simulation using Proteus which could help them with their future studies and projects. Dr Jaison Mathew was the resource person. The workshop discussed the need for simulation, different tools available in Proteus etc. It was a fully hands-on workshop. Participants designed and simulated simple circuits during the session itself. Assignments were given for analysing the effectiveness of the session and the follow up was done. The workshop made the students gain a deeper knowledge on the topic. The workshop gained immense appreciation from the students. A total of more than 34 students participated.

WiE Insight

IEEE IA/IE/PELS Jt. Chapter Kerala celebrated the spirit of womanhood with" WiE Insight" as a part of international women's day 2019 to tribute all women who brought phenomenal change in the society. The program was aimed to elevate the unlimited power of women in the context of science and technology. WiE insight conducted from March 8 to 16. About 25 events happened around Kerala as a part of WiE Insight. The program mainly focused on benefits of girl student members in IAS, IES and PELS. The major activities conducted as a part of WiE insight was a photographic contest and a two level quiz competition naming Quest. The topic of the photographic competition was "Women's Day Celebration and Women Empowerment". About 15 entries were received for the competition around the SBCs in Kerala.

Industrial visit

An Industrial visit to the Load Despatch Centre, Kalamassery was jointly organized by the IEEE IAS and PELS SB Chapters of Musaliar Engineering College of Engineering, Chirayinkeezhu on 23rd Mar 2019. The visit gave an insight into understanding the current distribution to domestic consumers, factories and also how the parameters travel around the stations. 25 IEEE student members & four faculty members joined the trip.

ELEKTRA 2019

A three day technical summit 'ELEKTRA 2019' was held at College of Engineering, Munnar during 5-7 Apr 2019.The event was coordinated by Department of EEE in association with IEEE PES & IAS SB chapters of College of Engineering Munnar. The event was inaugurated on 5th Apr by Mr Jabir Mudambra , Electrical Inspector, Idukki District. In his inaugural address, Mr Jabir Mudambra talked about the advancements in electrical engineering in modern days. It was followed by a technical session by himself on the topic 'Electrical Safety'. The technical session was followed by an ice breaking session which made the delegates more comfortable and relaxed. The programmes of the first day ended up with a campfire in the evening followed by the dinner.

The proceedings of the second day started with an industrial visit to Solar Powered Micro grid, Marayoor and Hydro Electric Power Station, Mattupetty. The delegates were shown the operations of the plants and control rooms by the staff. Two parallel workshops – "Installation of Solar PV systems" and "Blockchain" were held in the afternoon. . It was followed by a session on the topic 'Battery Designing and Management in Industrial Area' By Er. Ani Thomas, Area Manager, Exide Industries Limited. Cultural events were presented by both external and internal delegates in the evening. The second day ended with a dinner thereafter.

The third day programmes started with a sunrise trekking. It was one of the major attractions of the event and made the joy of the delegates in its peak. The trekking was followed by a session on 'Entrepreneurship' by Er. Sonia Mohandas, CEO, Waferchips techno solutions. There was an technical interacting session on the topic Artificial Iintelligence in IOT taken by Er. Archu S Vijay, CTO, Waferchips techno solutions. The last session was a technical talk on 'Basics of Control and Protection of Power System' by Dr Krishna Kumar, Assistant Engineer, KSEB. The delegates were given basic awareness on power system protection during the session. It was followed by valedictory function and a feedback session. The three day programme ended up with a lunch and a photo session.

102 delegates (58 IEEE members and 44 non-members) from various engineering colleges across Kerala attended the programme. This three day technology summit received appreciations from all delegates in terms of the quality of the various sessions, industrial visit, trekking, internship drive and the overall conduct of the event. The IEEE members and volunteers of SB Chapter were immensely satisfied in the way the event was organized, and it is decided to conduct the programme in the future also.

Report by: K. Biju, bijuk@ieee.org

Gautam Buddh Nagar to launch e-portal to report workplace harassment: UP's Gautam Buddh Nagar district has tied up with an IT firm to build a software and website that will allow women to report workplace sexual harassment online. The software, expected to be launched on August 15, will be available for private and government organisations. Authorities said they will provide a list of private organisations operating in the district.

Govt recognised over 1 startup every hour in May 2019: DPIIT Secretary Ramesh Abhishek tweeted that since the beginning of the Startup India initiative, 18,861 startups have been recognised by DPIIT. "In May 2019 alone, 814 startups have received recognition. This is more than 1 startup every hour!" he added.

IEEE Kerala Section Student Activities

The student Activities of Kerala Section is vibrant in organizing activities and promoting the vision of IEEE across the section. With 97 student branches the student team led by the student activities chair support and volunteer to any activity that needs technological solutions.

For effective management of such a vibrant, geographically spread student membership, the section has been following the hub and spoke administrative model; the Local Integrated Network of IEEE in Kerala (LINK). The primary aim of LINK is networking student branches in an effective way, thereby increasing the value in IEEE Student membership. LINK has achieved tremendous results, causing an exponential increase in student branches and student activities in IEEE Kerala Section. The LINK and its subsidiary HUB teams (three in numbers divided as Travancore Hub, Kochi Hub and Malabar Hub for the geographic distribution of Kerala Section) are being trained with effective leadership skills which is being passed on to the student community, thus improving key skills like professionalism and ethics in students.

Under the guidance of the Student Activities Committee, more than 650 events were conducted at student branch level during the span of January to May 2019. Moreover the student team hosted 19 events across the section that aimed in technical upliftment of its members. Apart from that, training for newly inducted student office bearers was also held so as to familiarise them with their duties and responsibilities. The International Women's Day was celebrated as a week long celebration named WiE Wave and 140+ events were reported as part of WiE Wave 3.0. 80+ events were also reported as part of Science Week celebration in accordance with the National Science Day on February 28th.

SCIENCE WEEK 2.0

February 28th is Internationally celebrated as Science Day. To convey the importance of this day, the student community of IEEE Kerala Section decided to conduct a series of events related to science, creating awareness about the day and how the day was declared as Science Day. Various technical events , conferences and competitions were conducted in SB's across Kerala. The event focused to develop the technical skills of the student in a comprehensive and effective way through various hands on session. **80+ events were held under Science Week celebration.**

ORE Tech Community Launch

ORE the technical community of IEEE Kerala Section Students was an initiative by IEEE Kochi Hub. ORE stands for Outreach for Resources in Engineering. The community is built upon the IEEE Student Technical enthusiasts with skill sets and interest to learn with knowledgeable people from different disciplines and streams, students and professionals as our mentors. The community was launched through Social Media on 5th March 2019 with a poster launch.

WIE WAVE 3.0

March 8th is worldwide celebrated as International Women's Day. In regard to this IEEE KERALA SECTION and WOMEN IN ENGINEERING team of IEEE LINK decided to celebrate the social, economical, technical and cultural achievements of Women. The achievement of this event was that from the beginning till the end, from discussions till execution, each and every single step was coordinated solely by girls.

WiE Wave 3.0 had taken the theme "Balance for Better; Technology for Future" stressing on the importance of gender equality and technical empowerment. The event was celebrated from March 5th to 15th of March 2019. Stressing on the importance of gender equality and technical empowerment. This year, the main theme will be split into four sub-themes for the Student Branches to focus on the different perspectives of the importance of uplifting technology and sciences among the women community. The sub -themes aims at highlighting the main theme itself more effectively, so that the events can be conducted by the members and volunteers with better quality and relevance. **140+ events were held under WiE Wave 3.0**

VIRAGO 2.0

IEEE Travancore Hub conducted VIRAGO 2.0, the edition of the hub's women's day event on 9th March 2019 at UKF College of Engineering, Paripally, Kollam. The hub's women's day event which attracted 40 participants consisted of a talk series including inspiring and informativetalks by Ms. Arundathy Kurup, Ms Lakshmi Shaji and Mr. Sreenath Sasikumar on the topics 'A scholar's guide to opportunities in tech', 'Demystifying analytics and role of machine learning' and 'Cyber Security' respectively. The event also included an ice breaker session and a technical session called 'Inside Out',which included dismantling and reassembling of a CPU. This was done by participants with the assistance of Mr Manoj.
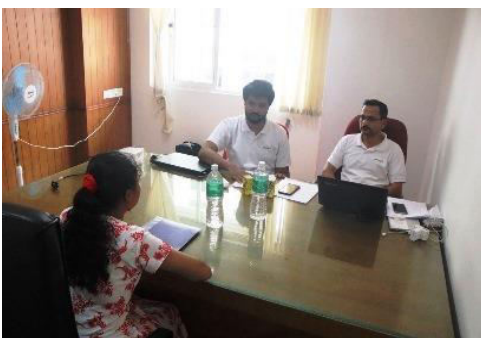
Minerva 4.0

IEEE Kochi Hub conducted its most prestigious and very own WIE Event of all times, Minerva 4.0 on March 15th, 2019 at Viswajyothi College of Engineering and Technology, Vazhakulam, marking the end of the WIE WEEK 2019.

The fourth version of Minerva, held this year, in contrast with the previous versions of the yesteryears witnessed a total change in its structure. The event was held as a single one for all zones, with 52 female delegates from colleges all over the Kochi hub and various disciplines and year of study. The prime focus of the one-day event was to not simple empower our girls but empower them technically. This change was a new introduction to the typical series of events being conducted and worked successfully with all delegates completely satisfied with the sessions and great feedback was given from their side.

The guest speaker for the day was Ms. Anjana Krishnan, Ruby on Rails developer who handled a session on programming using Ruby for the girls. A small idea pitching competition was held alongside the two mini-workshop sessions on Bash-Linux handled by Mr. Balu M N, former Chairman at IEEE SB VJCET and another one on Git and Git Hub by the team from ORE Community of IEEE Kerala Students.

IEEE Job Fair 2019

The IEEE Job Fair 2019 is a Career Service dedicated to educating, advising, and connecting IEEE members to global opportunities in order to foster their intellectual, social, and personal transformation. The IEEE Job Fair 2019 ensue 2018 Job Fair, which was initiated by the IEEE Kochi subsection and its Student activity group, IEEE Kochi Hub. It is a recruitment drive which provides a rostrum for all the IEEE members across the country to clearly express their potential contributions, their technical, managerial and 'soft skills' such as communication and professionalism. IEEE Job Fair is also an opportunity for the attendees to evaluate different organisations and whether the opportunity they've applied for aligns with their professional interests, skills, values, and goals. The event had participation from 42 student branches across the IEEE Kerala Section and was held on **30th and 31st March 2019** at **Muthoot Institute of Technology and Science**. A total of 12 companies from various sectors sought to utilise the opportunity to get the best talent for their organisation. Around 300+ students attended the event bringing about a change of great magnitude in their approach to professional life. **Prominent companies like Support Sages, IROV, CIED Technologies, Infusory Future Tech Labs, Inker Robotics, Tachlog, Metric Tree Labs, Green worms Eco Solutions, DiDroid Technologies, Onesoft, ZappyHire and Pumex Infotech were our recruiters this year.** At the end of the two day job fair, around 38 students were placed in 7 of the recruiting companies (some results are yet to be announced) and it ended on a positive note. The initiative was well appreciated by the section, the companies and the students. The companies were glad to see such an enthusiastic crowd at a job fair and congratulated the organizers on the successful conduct of the event.

WIE-Learn: Mentorship program for Girls

The technical community of IEEE Kerala Students and IEEE Kochi Hub along with WIE (Women in Engineering) affinity group, on 7th Apr 2019, organized an online mentorship program, called WIE - Learn, with the aim of promoting the recruitment of women in technical disciplines. The training program started from WIE week and continues till the WIE summit 2019.

The course was open for students from SBs all over the Kochi section. Teams of five were eligible to apply for the course, and a total of 17 teams were shortlisted, from about 45+ teams. Each team was assigned a mentor. (mentor to student ratio was 1:5).

The training sessions were given online, with meetups being held once in a while, to check on progress, and conduct discussions. These sessions were designed for every week, with weekly projects being given to the teams. The track chosen for training was 'Web Development', and the course plan was formulated, with instructions being given to both mentors and students.

WIE - Learn, is a new initiative taken up by the WIE, with plans being made to extend it in the coming years.

ROADMAP TO SUCCESS IN ENGINEERING STUDIES - Kannur

Roadmap to success was an initiative by IEEE Malabar Hub to bring awareness on engineering to the engineering enthusiastic students and their parents, in different regions of Kerala. A career guidance program for 12 th pass-out students was hosted by IEEE SB VJEC in association with the IEEE Malabar Subsection on 11th May 2019 at Vimal Jyothi Engineering College,Chemperi Kannur.Fifty two students along with their parents participated in the event and the session was very interactive and the parents and students gave a positive review on the event.

ROADMAP TO SUCCESS IN ENGINEERING STUDIES - Palakkad

IEEE SB of GEC Sreekrishnapuram conducted Road Map to Success in professional education on 11th May, in the college. The program aimed to give the audience an introduction to the various fields in engineering and their scope, mainly through interactive talk sessions with experts in the field.

The event began at 10 am in the morning, with the inauguration ceremony. Dina, WIE Secretary of the SB gave the welcome speech. She was followed by Mrs. Vinita Chellappan, the SB Counsellor, who addressed the audience which consisted of 29 students and their parents and briefed them on IEEE, the event at hand and its relevance. The main speakers followed.
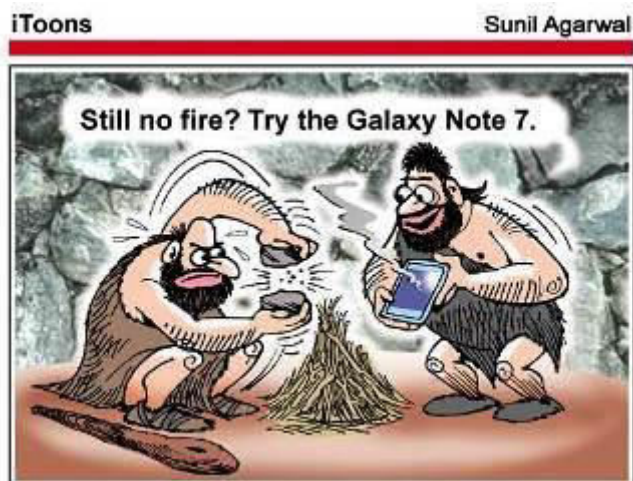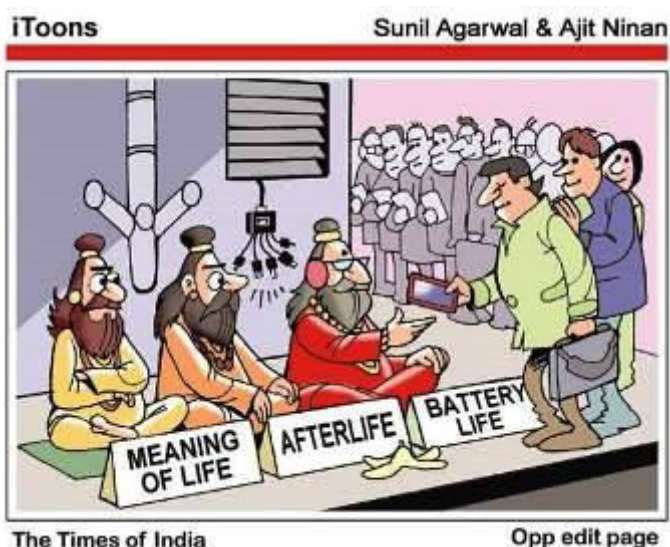
Hack-Kochi: Hackathon Python & ML

ORE, the Technical Community of IEEE Kerala Section in association with IEEE Kochi Hub conducted Hack-Kochi, the first hackathon of the season on May 18th, 2019 at the Kerala Startup Mission on Machine Learning and Python. The hackathon began at 10: 30 am with a brief introduction about the company by Mr. Jyothis K.S. The participants were given two problem statements well explained by Mr. Deepu Xavier to complete by the end of the day. The 10 contestants were allotted time until 4:30 pm. This was followed by individual presentations of ideas and program codes. The panel allotted 24 hours for 3 people who made significant progress and by 6:00 pm, the event was officially concluded. Prizes and certificates were distributed later.

LINK F2F

The Section sponsors an officer training program to newly inducted SB officers. Officer Trainings of 2019 was held at Cochin University of Science and Technology to train student officers on effective student branch administration and planning. Over 110 students from 57 student branches attended the event. Altogether the IEEE Link F2F 2019 was a platform for planning the activities for next year and training section for the new torchbearers. It also played an important role in helping the members have a better concept on technology and have clarity on their purpose as engineers, varying from research to entrepreneurship.

Report by: Mr. S. Nandan, Chair-Student Activities Committee, IEEE Kerala Section, nandans@ieee.org

MIT 'roboats' can now self-assemble to make bridges, markets: MIT researchers have added new features to its autonomous robotic boats 'roboats', which it had co-created alongside Amsterdam's AMS Institute, that lets them target and attach to each other. The aim of the project is not limited to just on-demand transportation, but to also form "pop-up" structures, such as footbridges, performance stages or even food markets, researchers revealed.

IEEE Kharagpur Section Activities

IEEE AP-MTTS Student Branch Chapter of IIT Kharagpur

Workshop on "Connecting World through Electromagnetics**"**

IEEE AP-MTTS Student Branch Chapter (under IEEE Kharagpur Section) of IIT Kharagpur organized a workshop on "Connecting World through Electromagnetics" during 26th to 28th April, 2019. The workshop attracted 22 participants belonging to various engineering institutions from all over India.

This workshop introduced the participants to the cutting edge technologies like Microwave Passive Components, Microwave Systems, RADAR Communication, Antenna Miniaturization and On-chip Antennas, Optical Metamaterials, Microwave Tomography, Electronics Packaging etc. Some important modules of a transceiver system were also presented in detail, i.e., from concept to simulation, fabrication, and packaging. Simulating various electromagnetic scenarios using HFSS, ADS, MATLAB, Python etc. were also covered.
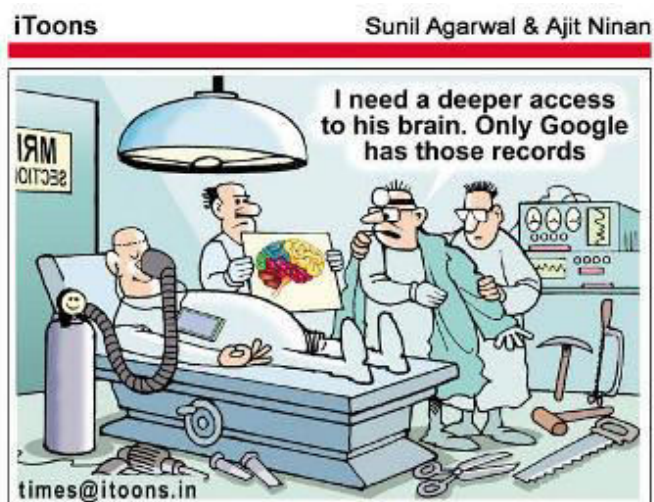
Apart from these, there were talks from IIT Kharagpur faculties and interactive sessions with technical experts from DRDO and other defense organizations of India.

Besides the academic activities the participants were also taken to the Nehru Museum of Science and Technology by the organizers for some recreation.

In the valedictory session the participants were presented with customized coffee mugs along with the certificates for promotion of IEEE and the chapter.

To see workshop pictures on the Facebook page of IEEE AP MTTS Student Branch Chapter Kharagpur Section IIT Kharagpur, pl. visit http://bit.ly/2YOLH4b

Report by: Shuvodip Majumdar, ieee.apmtts.sbciitkgp@gmail.com, shuvodipmajumdar@gmail.com

IEEE Madras Section Activities

IEEE IAS & IEE TEMS Madras Chapter

National Technology Day Conference on "Inclusive Smart Governance"

Madras Chapters of IEEE Industry Applications Society, & IEEE Technology and Engineering Management Society in association with L&T Smart World and Communication conducted the **"National Technology Day Conference"** on **"Inclusive Smart Governance"** on 10th May 2019 at Chennai L&T HQ Campus. The Conference commenced with Inaugural Session & Lighting of Digital Lamp by the dignitaries. Mr. R Srinivasan, EVP & Head, Smart World & Communication (SW&C) and Vice Chairman, IEEE IAS Madras Chapter welcomed the delegates and set the context for the conference on the significance of smart Governance and its impact on social sectors namely Education, Health and Agriculture. He mentioned that the Annual IEEE conference is organized by SW&C to coincide to celebrate May 11 as National Technology Day to mark India's technological advancements.

Keynote Address was delivered virtually by Mr. S. Rajavel, Sr. VP & Head, Water, Smart World & Communication, Chairman, IEEE-IAS Madras Chapter. Mr. Rajavel appraised the gathering, of various smart city project implemented by SW&C and how it is now poised to extend the same to the rest of country.

Mr. H.R. Mohan, Editor, IEEE India Council Newsletter & Coordinator, R10 IEEE CS & Chair R10 Sub-Committee delivered a presentation on the Smart Governance emphasizing its significance to bring in transparency and accountability. He conducted a game of Bingo with a quiz on the various Government initiatives which kept the audience actively engaged.

In an informative session, Ms. Priya K Murthy, Head Enterprise Business , Acer India presented the different learning styles of a traditionalist Vs Gen Y & Z. She emphasized on the disruptive power of e-education in terms of quality, affordability, accessibility, personalized content management. With the ever changing landscape in education sector to match the emerging demand for new skillsets, ways of overcoming challenges faced by India through e-education with a blended learning approach was presented. Audience were familiarized to different e-learning models and the impact that it could have on imparting quality education to the remotest of rural areas.

In a very interactive session, Mr Harsha Muroor Founder and CEO, Teslon Technologies Pvt. Ltd. and his team commenced their presentation with the various healthcare problems prevailing in the country, including accessibility, lack of training to medical practitioners, reducing doctor-patient ratio. Benefits of Electronic Health Records, with way of ensuring data privacy in handling the e-Records & usage of blockchain was explained. Telemedicine portal which connects patients & doctors virtually is gaining momentum. Smart pharmacy ensures access of medicine for all by connecting Pharma producer to consumer through block chain intervention. The application of AI & machine learning in patient care & health sector was presented. The total Teslon package of complete hospital management and the impact of the usage was elaborated with the real time demo of a Smart health checkup Kiosk.

Mr. Kunal Prasad, COO & Founder, CropIn Technologies, presented the session on e agriculture. Cropin specializes in providing SaaS solution to agri businesses globally. Various farm management solutions, business intelligent solutions, input channel management, plot level analysis that aids in crop prediction, yield calculation methods were demonstrated to the participants. Integrated value chain platform was showcased to explain how the holistic digitalization of all the stakeholder platforms can result in tremendous revenue & reachability. Enormous database from agritech can be used towards turning around agri sector by leveraging Analytics & Predictive techniques.

Mr Madhukar Srivatsava, CTO, SWC emphasized the importance of rural Communication and the various challenges mitigated during implementation of Bharatnet project. He explained that the 3 key focus areas on Digital Infrastructure consists of Utility to Every Citizen, Governance & Services on Demand, Digital Empowerment of Citizens. His list of benefits of having a digital village and how it is achieved by communication network was well received by the audience.

Mr. C Krishnan, Project Director of Idisha Early Warning Dissemination System (EWDS) detailed the technology architecture and functioning of EWDS, a project of national importance and first of its kind in the country, funded by World Bank. He demonstrated how effectively the project had helped the state government in disaster readiness and its management preventing loss of precious lives during the recent Cyclone Fani.

The event was organized offering free guest Wi-Fi facility, e-gate pass, e-registration desk, online feedback forms etc. and was widely appreciated by the IEEE members and the dignitaries. The project staff could virtually take part in the event as it was live streamed in L&T@work.

The conference ended with the vote of thanks delivered by Mr. Kiran Kumar. The conference was well attended by over 100 external delegates comprising of engineering students, academicians, research scholars, scientists, industry professionals and IoT enthusiasts and was highly appreciated.

IEEE Computer Society Madras Chapter

Mini Tutorial on Demystifying Machine Learning & Artificial Intelligence

What ever may be the new technology, the initial wave brings in too many different and confusing ideas mixed with new acronyms and terminologies. IEEE CS Madras in association with ACM, CSI and initiated 'Demystfying' series of programs for the benefits of IT community. The first in the series titled 'Demystifying Machine Learning & Artificial Intelligence' was organized in two batches on 18th and 25th of May 2019 with the support of Amitysoft, , a two-decade old pioneer in career transformation service provider The program was delivered by Ms. Rohini, Head, Advanced Technology Labs of Amitysoft Technologies supported by Ms. Valli.

The program brought out how Machine Learning & AI is different from conventional programming. It brought clarity on what is Data Analytics, what is Machine Learning and What is Artificial Intelligence. The program presented an innovative classification of algorithms based on their nature which helped the participants to understand the entire algorithms space in a matter of couple of hours. While several Amitysoft developed case studies on implementation of the algorithms were demonstrated, interesting videos of popular AI algorithms added value to the program.

Srikanth Aravamudhan, Chief Technology & Innovation Officer and K R Jayakumar, Director of Amitysoft added value to the program by sharing their insights. Lively interaction with participants made the program interesting and absorbing from the beginning to the end. The feedback from 45 participants attended the program was excellent. Almost everyone said that they would be able to confidently talk about Machine Learning & AI post attending this program. Participants mentioned that they look forward to many such sessions in the future. There was a test conducted at the end of the program. Mr. H R Mohan, Imm Past Chair & Chair, Spl. Events of IEEE CS, Madras who coordinated the programme awarded certificates to the participants. Mr. Johnson, Head of Human Energy Augmentation Team & General Manager (Business & Strategy) at Amitysoft was instrumental in organizing this program and ensuring its success with the help of his able team.

IEEE ADSF SIGHT

A two day exposure programme on "Deep Sea Fisheries"

IEEE ADSF SIGHT organised a two day exposure programme on "Deep Sea Fisheries" for engineering students and engineering college professors in association with IEEE Madras Section, IEEE Student Branch of Annai Vailankanni College of Engineering, IEEE Student Branch of DMI Engineering College and IEEE Student Branch of Hindustan Institute of Technology and Science during 20-21 May 2019.

On 20-05-2019, the team arrived at SIFFS (South Indian Federation of Fishermen Societies) Boatyard, Veli Trivandrum where the first day programme was organized. Navigational instruments, safety equipments, satellite phone, VHF, and other fishing items are arranged for the visitors in the boatyard. They could see the building of various sizes of boats made by Fibreglass and plywood. They interacted with experienced deep sea fishermen from Thoothoor area, Kanyakumari district and experts Shri. Satish Babu, IEEE Former Chief Executive, SIFFS & Humanitarian Activity Committee, Dr. Manoharan Arumugam, Chair: IEEE Madras Section and Shri. Joseph, Chief Executive, SIFFS. The second day (21.05.2019) programme was organized in KDFSF (Kanyakumari District Fishermen Sangams Federation), Nagercoil. Shri. Mariyadhass, Chief Executive-KDFSF has played a lead role in the programme along with his colleagues.

Discussions

Gillnets and long lines are the major fishing gears used for deep sea fishing by the fishermen of Thoothoor area. The duration per fishing voyage is 30 days and they do fishing in all along the east coast and west coast of India. Government of Tamil Nadu supplied satellite phone very recently to a group of 8 boat owners. The operational cost per call is Rs.35 and fishermen considered this as expensive. The Distress Alert Transmitter (DAT) supplied to the fishermen on subsidised price by the Department of Fisheries, Government of Tamil Nadu is not an effective devise. So, fishermen are not shown interest in buying the devise. The continues disasters of Tsunami-2004, Yemyin-2007, Nargis, Nisha-2008, Phyan-2009, Laila-2010, Thane-2011, Nilam-2012, Helen, Lehar-2013, Hudhud-2014, Vardah-2016, Okhi- 2017, Gaja- 2018 and Fani-2019 inflicted serious damage to the fishermen and their property. Engineers could develop a system of knowing such kind of disaster in advance in their fishing boat so that they could find the means of saving their lives. The most important concern in the fishing sector is the safety of life at sea. Collision between ship and fishing boats are becoming very common now a days and it is one of the urgent needs to be addressed. Most of the time fishermen are not getting the better price for their catch due to unhealthy practices of middlemen, local merchants, lack of good preservative, post harvest loss etc. Fish marketing societies (FMS) are formed in early eighties by KDFSF to save the fishers from the clutches of middlemen.

Demonstrations

A solar powered mobile phone charging station designed by Mr. Vincent Jain for the Veli boatyard is inaugurated by Dr. Manoharan. Mr. Jain also made a demonstration of fire alert system for using in the fishing boats and in boatyard which is also developed by him. His another demonstration in the programme is various kinds of LED lights covered by plastic bottles, bamboo, coconut shell, sea shell, cloth, pot, arak nut leaf, palm leaf etc. He is the creative designer of all these products. He requested the support of engineers to improve the designs of the products. This can be further expanded to a business which could be adopted for women Self Help Groups.

Prof. Gaswin Kastro was selected as "Best Faculty Volunteer of IEEE ADSF SIGHT" for the year 2018. He was honoured by a momento and a tree plant. Shri. Satish Babu, planted a tree in the Veli boatyard. He requested to everybody to avoid using plastics which is not only harmful to the human population to the world.

At the end the day team visited Jeppiar Fishing harbour, Muttom to see the live activities of fishing.

The following areas are included in the exposure programme.
1. Fish landing centre
2. Fish market
3. Fish marketing societies
4. Boat building centre
5. Sea safety items
6. Navigational equipments
7. Fishing craft and gears
8. Interaction with fishing experts and fishermen leaders
9. Meeting with IEEE experts in fishing

Colleges participated
1. Annai Vailankanni College of Engineering-Azhakapapuram
2. DMI Engineering College-Aralvaimozhi
3. Hindustan Institute of Technology and Science-Chennai
4. Loyola Institute of Technology and Science-Thovalai
5. Sri Sairam Engineering College-Chennai
6. Stella Mary's College of Engineering-Nagercoil
7. Holy Cross College –Arts and Science-Trichy
8. St. John's College-Arts and Science-Muttom

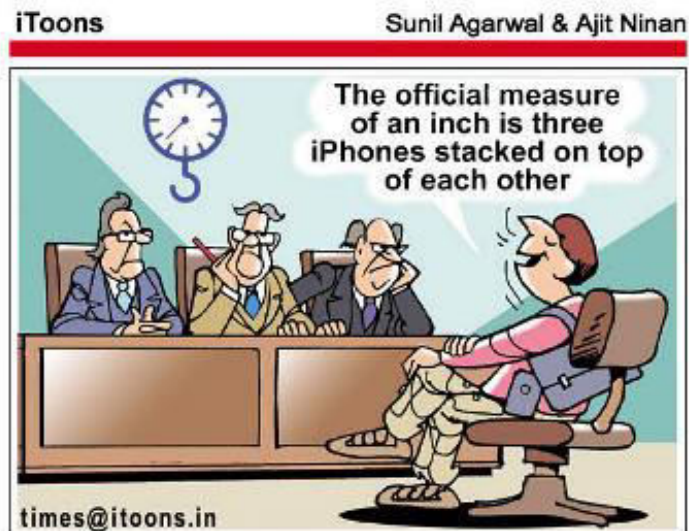## Seminar on Ocean Pollution and Ocean Safety

Oceans help feed the world, provide a living for millions of people, and are home to most of the life on the planet. But development, over fishing, pollution and introduction of exotic species in marine habitats has jeopardized marine eco-systems as well as biodiversity. Construction activities, sewage and pollution from industries in the field large cities threaten coastal eco-systems. So the amount of pollution in our ocean waters is alarming. In Indian Ocean around 5-6 million tones of petroleum and oil have been discharged into it—which is around 40% of the total petroleum spill in the world's waters.

Discussing ocean pollution brings up a diffuse, complex series of issues. Nevertheless, some pollution problems can have been successfully addressed. Since the network of oceans on this planet is interconnected, the pollution issue will only truly be solved by consistent improvement in areas across the globe. Knowing that the growing human population has intensified

the problem of ocean pollution, it is clear that we each need to get involved in contributing to the solution. It will require high degree of participation and collaboration at the individual, family, community, industry and government levels. Efforts at all of these levels become more effective with elevated public awareness about pollution source and impacts. Continued public support is vital for research, monitoring and further development of pollution reduction strategies and technologies.

To address this serious issue, South Indian Federation of Fishermen Societies (SIFFS) organized an awareness seminar by inviting fisherwomen, fishermen, youth from the community and students. The awareness seminar "Ocean Pollution and Ocean Safety" organized jointly with Kanyakumari District Sangams Federation (KDFSF), Friends of marine Life(FML) and Institute of Electrical and Electronics Engineers Artisanal Deep Sea Fishers Special Interested Group on Humanitarian Technology (IEEE ADSF SIGHT). It was supported by MAERSK, the largest container ship and supply vessel operator in the world since 1996. It was held on 28.05.2019 at Chinnathurai, Kanyakumari district. Mr. Robert of FML was the resource person for the seminar. He was assisted by Ms. Gouthami of FML. Mr. Vincent Jain of SIFFS-IEEE ADSF SIGHT organized the seminar along with his colleagues Mr. Christudas Mendez and Mr. Ubald Xavier. Fishers' representatives from women Self Help group, Fishermen cooperative society, youth with a total 37 participants attended this seminar.

Reports by: Vincent Jain, jain1.siffs@gmail.com

Google Maps to let India users see live train, bus travel status: Google Maps has added new features to let India users check live bus travel times in 10 cities and also see live status of trains. It will also offer mixed-mode commute suggestions that now combine auto-rickshaw and public transport.

Zomato announces 26 weeks paid parental leave for men, women: This also will apply to non-birthing parents and in cases of surrogacy, adoption and same-sex partners. Further, new parents will also be given an endowment of $1,000 per child.

IEEE Nagpur Section Activities

Workshop on Agile way of working and Design Thinking

A six-day IEEE workshop on "Agile way of working and Design Thinking" was organized during 20-25 May 2019 under the aegis of IEEE Nagpur Subsection, along with the support of TATA Consultancy Services as knowledge partner. It was conducted by renowned Ninja Agile Coach Mr. Prasanna Deshpande.

Heads of Department and Senior Professors from reputed colleges of Nagpur like RCOEM, GHRCE, YCCE, SVPCET and CCOEW attended the workshop.

The workshop provided extensive hands on sessions on the Agile and Kanban frameworks. The participants gained immense benefit as they worked on real life problem statements and learnt to design Products/Solutions which could add value to all stakeholders. Each group of participants was led by a Product Owner who mentored them throughout the workshop. The product life cycle design process was ably supported by Product Owners drawn from Academia and Industry like Dr. Preeti Bajaj, Mr. Kuldeep Singh Rana and Mr.Pranav Chauhan. Mr. Ranjit Singh, Vice Chair-Industry Relations IEEE Nagpur Subsection was also present throughout the workshop and gave critical inputs to the participants.

The groups created wonderful presentations to showcase their respective product design approaches. On the last day of the workshop, all the presentations were judged by Mr. Arvind Kumar, Chair-IEEE Nagpur Subsection. He gave the participants valuable feedback and discussed future course of action on sustainability and continuity of the project.

The participants' feedback gave a big thumbs-up to the fabulous organization of workshop, in-depth course content and its impactful delivery. The workshop was a runaway success in terms of bridging the gap between the Industry and Academia.

On the concluding day, certificates were distributed to the participants in recognition of their sincere efforts

Report by: Dr. (Mrs.) R. R. Khandelwal, richar.khandelwal@yahoo.com

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"We must design for the way people behave, not for how we would wish them to behave."
— Donald A. Norman

"Entrepreneur, design thinking is the ability to create, portray and deliver tomorrow's distinction, today. ~"
— Onyi Anyado,

"If a picture is worth a thousand words, a prototype is worth a thousand meetings"
— IDEO.org

"Design before development leads to dead ends." *— Liz Brown*

SAC IEEE India Council and Nokia University Collaboration
Experiential Learning – Industry Visit

The Student Activities Committee (SAC), in association with Nokia University Collaboration Team, Bangalore, successfully conducted a day-long workshop on upcoming mobile technologies, followed by network demos for students from IEEE sections across the country on 13th April 2019 (Saturday) at the Nokia R&D facilities in Bangalore.

The first session, after the morning coffee/tea, was conducted on 'Introduction to 4G wireless networks and its evolution' by Nagendren K. The talk focussed on the basic architecture of 2G/3G and how LTE has evolved from it. The speaker began the talk with three amusing objectives – to wake the students up, to keep them awake by the end of the talk and to tell them a bit about 4G. By the end of it, he was considerably successful in engaging the audience. Everyone had something to take away from the talk, for those in the audience who possessed a background of mobile telecom networks, the fine distinctions between LTE and 2G/3G were covered in great detail. For those new to the area, the session covered almost everything from the basics, from the OSI layer model to the 3GPP standards.

In logical succession to this session was the one on 5G, conducted by Rohith K A. Rohith focussed on the key areas for 5G, namely, Massive machine Type Communications (MMTC, also called the Internet of Things, IoT), Ultra Reliable and Low Latency Communications (URLLC), and higher data speeds. According to the International Telecommunications Union's (ITU's) IMT-2020 standards, the session showed us what the key use cases of 5G are, ranging from smart cities to self-driving cars, from work and play in cloud, to industry automation, from augmented and virtual reality to 3D UHD video streaming. He explained how modifications such as massive MIMO, network slicing, fast traffic forwarding, mm-wave communication multi-connectivity are enablers for the next generation 5G networks. When placed in context of the first session, this session enhanced the understanding of an up-and-coming technology that is poised to become a reality soon.
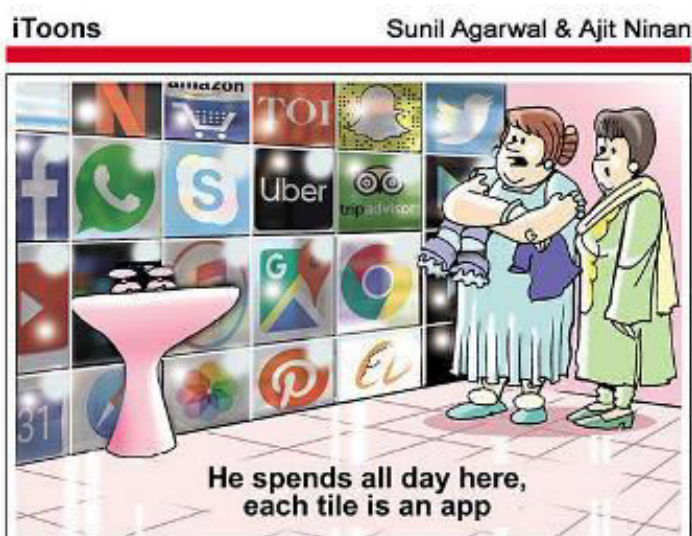
The last lecture session of the day was on one of the most trending areas of research and development today, the Internet of Things (IoT). The session, conducted by Zafrul Umar, provided rich detail, from why IoT is needed, to sensing as a service for smart cities supported by IoT, and even smart dust which employs sensors the size of dust particles. Zafrul also presented Nokia's Wide Area Global Network that Nokia provides for dedicated IoT application and characterised with low power and light-weight messages.

After the sessions, we had a break for lunch and also a group photograph post lunch. Three visits were organized post lunch and lasted till evening:

1. Technology demonstration of 4G and VoLTE
2. Technology Demonstration of 5G
3. Lab Tour of Nokia Product R&D labs

Overall, the one-day workshop was an enriching experience for the students who attended it. They got a taste of currently trending fields of research such as 5G and IoT. The workshop saw enthusiastic participation from around 97 students representing 10 out of 11 IEEE sections of India. Students from IEEE Bengaluru, Delhi, Gujarat, Hyderabad, Kerala, Kolkatta, Madras, Mumbai, Pune and Uttar Pradesh Section under the umbrella of IEEE India Council took benefit of the opportunity, though the representation from local Bengaluru section was higher. The initiative has received a very good feedback, 5 on 5 on all three aspects, Experiential learning outcome, Hospitality and registration Process. Gautama Bhardwaj from Bengaluru and one of the participant quotes : 'Thank you for the email and the participation letter. It was extremely well organized and exceeded all my expectations. I truly enjoyed the visit and learnt a lot. I'm really looking forward to further such events and collaborations which can help bridge the gap between industry and academia".

Report by Dr. Rajashree Jain, rajashreejain@gmail.com

World's 1st AI humanoid robot artist can draw from 'sight': British inventor and art gallery owner Aidan Meller has co-created a robot Ai-Da, describing it as the "world's first ultra-realistic AI humanoid robot artist". Ai-Da is capable of drawing from 'sight' using cameras in the eyeballs and AI algorithms created by Oxford University scientists.

Amazon unveils drone to carry out 30-minute deliveries 'soon': Amazon unveiled a new autonomous, electric 'Prime Air' drone aimed to start delivering packages to customers in 30 minutes or less, "within months". The drone can fly for up to about 24 kms and carry up to about 2.3 kgs, representing a majority of its packages.

Apple's iOS 13 features option to 'silence unknown callers': When the 'Silence Unknown Callers' setting is turned on, iOS uses Siri intelligence to let calls from numbers in Contacts, Mail and Messages ring a user's phone. However, all other calls are automatically sent to voicemail.

What's hot in IT - An Indian Perspective

Prof. S. Sadagopan
Director, IIIT-Bangalore
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May 2019

Universities, Science & Technology, Policy, Special events and Milestones

- **IISc** researchers claim **super-conductivity at room temperature** on May 27, 2019
- Engineering college seats approved by **AICTE drop** from 28.71 Lakhs in 2017-18 to 27.12 Lakhs in 2018-19; for 2019-20 it will drop further to 24.92 Lakhs!
- **SpaceX launched** its first set of **60 satellites** (of the 12,000 planned over 6 years) on May 23, 2019 to provide Internet connectivity
- **ISRO** successfully launches **RISAT-2B** Radar Imaging satellite on May 22, 2019
- After its first successful test flight on May 4, 2019 in Munich, **Lilium** starts 5-seater Air taxi with 300 KM range electric plane on May 16, 2019, a revolution in passenger flight
- **US President** imposes **\$ 200 Billion duty** on **Chinese** imports on May 9, 2019; China retaliates and hikes duty on most US goods from June 1, 2019; **technology war** hots up on May 20, 2019 ith **Google** restricting Android access o **Huawei**; **Intel**, **QUALCOMM** getting forced to restrict supply / sourcing of components to / from China
- **Indian Parliamentary Elections** saw Narendra Modi led NDA coming to power on May 23, 2019 with a thumping majority
- **Shoot-out in USA** kills dozen people on May 31, 2019; fire in Surat Coaching Center kills dozen people on May 30, 2019; Super **cyclone Fani** causes extensive damage to life and property in **Odisha** on **May 3** and **West Bengal** & **Bangaldesh** on **May 4, 2019**; thankfully, there was minimum loss of lives thanks to extensive planning and coordination by the State governments and Central government

Products

- **Greaves Cotton** launches electric scooter **Ampere Zeal** for Indian markets on May 28, 2019; it is priced at Rs 66,950 (after Rs 18,000 subsidy from Government under FAME II Policy)
- **Apple** launches **iPod** (priced at \$ 199) after four years on May 28, 2019
- **OnePlus** launches **7 Pro** in Bangalore on May 20, 2019
- **NOKIA** launches **Nokia 4.2** in India priced @ Rs 10,000 on May 10, 2019
- **Google** announces **Pixel 3** phone on May 10, 2010 (part of multiple announcements during **Google I/O**)

Markets

- India's stock market index **Sensex** touches 39,593 on Exit Polls predicting NDA victory on May 20, 2019 and went past 40,000 on NDA victory on May 23, 2019; Rupee gained nearly a Rupee on May 20, 2019
- **HPE** acquires **Cray** (the only company focused exclusively on super computers, founded by super computer pioneer Seymour Cray) on May 18, 2019
- **Uber IPO** is finally through in May 6, 2019; priced at \$ 45 Uber raises \$ 8.1 Billion, but loses value on the very first day of trading! In fact, created history by way of losing the maximum on Day 1 among all IPO's post 1975!

Indian IT Companies

- **Mindtree** starts delivery center in Atlanta in USA in May 2019
- **TCS** is **No 1** most-valued Indian company bypassing Reliance on May 5, 2019
- With 2018-19 turnover of \$ 8.6 Billion **HCL** is **No. 3** Indian IT Services company (next to TCS and Infosys) bypassing Wipro with 2018-19 turnover of \$ 8.1 Billion

MNC IT Companies in India

- **Goldman Sachs** starts a new delivery center in Bangalore with 1.25 Million square feet space to host 7,300 people at a cost of $ 250 Million on May 30, 2019 (it will be the third center globally for GS)
- Swiss Bank **UBS** hired 1,900 people in India in 2018-19 as per its May 2019 Report
- **Texas Instruments** (TI) gets approval from Government for an additional R & D facility in Bangalore in May 2019; the near Rs 1,000 Crore facility near International Airport will house 2,000 engineers. TI was the first MNC to bet on India with a facility in Bangalore set up way back in 1985!
- **MasterCard** to invest $ 1 Billion over the next years in India as per May 6, 2019 announcement
- AI driven Analytics firm based of Silicon Valley **ThoughtSpot** to invest $ 25 Million in Bangalore R & D center as per May announcement
- Fintech start-up **Samco** commissions its Rs 20 Crore R&D Center in Chennai in May 2019

People

- **Narendra Modi** takes oath as **India's Prime Minister** for a second time on May 30, 2019
- **UK Prime Minister** Theresa May announces her decision to **step down** in June on May 24, 2019
- **US Billionaire pays off students loan for 400 students** on May 20, 2019
- **Wal-Mart International CEO** Judith McKenna visits FlipKart Bangalore supply chain centre during May 2-3, 2019
- **Japanese new Emperor Naruhito** is sworn in on May 1, 2019 (Emperor Akihito abdicated his power on April 30, 2019)
- **Yogi Deveshwar** who transformed **ITC** from a cigarette company into an FMCG biggie over 25 years, passed away on May 11, 2019

Start-up Scene

- **FlipKart** set to acquire **Namdharis** in May 2019

Interesting applications

- RBI (Reserve Bank of India) extends the window of operations for **RTGS** by another 90 minutes (430 PM to 6 pm) from June 1, 2019 by facilitating online payments over longer period

Interesting numbers

- **Reliance Industries** with annual 2018-19 turnover of Rs 6.23 Lakhs Crores is bigger than **Indian Oil** with Rs 6.17 Crores, the first time ever!
- **GST** collection for May is stagnant at Rs 1 Lakh Crores

General

- Narendra Modi led NDA coming to power with 300+ seats on May 23, 2019 creates history; the first Prime Minister after Nehru & Indira Gandhi to get a second term as Prime Minister. Congress Party (Grand Old Party of India) continues to suffer with miniscule size of 52 seats!

April 2019

Universities, Science & Technology, Policy, Special events and Milestones

- **JEE Main results** out on April 29, 2019 (ahead of time)
- Professor **Gagandeep Kang** of Translational Health Science & Technology Institute, Faridabad, Delhi is the **first Indian woman** to become a **Fellow of the Royal Society** on April 20, 2019
- **NIRF** 2019 rankings out on April 8, 2019; IITM and IISc top the list; IITM, IITD, IITB, IITKGP & IITK are the **Top 5 Engineering Institutes**; IISc, JNU, BHU, UoH and Calcutta University are **Top 5 Universities**; IITM, IISc, IITD, IITB & IITKGP are the **overall Top 5**
- UC Berkeley Professor and IITK Alum Professor **Jitendra Malik** name**d 2019 IEEE Computer Society's Computer Pioneer award winner** on April 2, 2019
- IIT-KGP Alumnus and IITB faculty Dr **Subhasis Chaudhury** takes charge as **IIT - Bombay** Director on April 15, 2019
- MIT visualization scientist could share the first-ever picture of a black hole on April 10, 2019
- **Korea** becomes the first country to start offering **5G services** commercially on three networks in Korea starting April 2019; Samsung S10 5G is the first device to offer the service

- **Air India server breakdown** for six hours (330 AM to 930 AM on April 27, 2019) leads to several hours of wait for thousands of passengers across the globe
- **Japanese Emperor** abdicates power *on April 30, 2019*; the **new Emperor** is anointed on May 1, 2019
- **Sensex** touches **39,000** on April 28, 2019
- **Microsoft** market capitalization touches **$ 1 Trillion** on April 25, 2019
- Crude **oil price** shoots **past $ 75** per barrel on April 25, 2019
- **Bajaj quadri-cycle** finally reaches Indian roads on April 18, 2019
- **Terrorist attack in Sri Lanka** on Easter Sunday kills hundreds on April 21, 2019
- **Jet Airways operations** come to a **grinding halt** on April 17, 2019
- Fire damages the 850-year old historic Notre Dame cathedral in France on April 16, 2019; global efforts to restore the monument takes off in a big way
- **Indian Parliamentary Elections** off to a good start on April 12, 2019; to end on May 19, 2019 with results on May 23, 2019
- **Gmail** turned 15 on April 1, 2019
- RBI cuts Repo rate by 0.25% on April 4, 2019; Maruti will stop selling Diesel cars from April 1, 2010

Markets

- Markets ended high by the end of the financial year 2018-19 with BSE touching 39,000 and **NSE** touching 11,500 by March 31, 2019 (the last day of trading) representing 9% increase over the year
- **Mindtree** joins the **"billion dollar club"** on April 17, 2019
- **L & T Infotech** hostile take-over of Mindtree continues to draw attention in April too

Indian IT Companies

- **Mindtree** joins the **"billion dollar club"** on April 17, 2019
- **TCS & Infosys** post good results for Q4 and the financial year 2019-20 on April 12, 2019; TCS revenue crosses $ 20 Billion; Infosys revenue crosses $ 11 Billion
- **Wipro** posts **38% growth** in Q4 profits; announce buyback of Rs 10,400 Cr

MNC IT Companies in India

- **ThoughtSpot** (US-based AI & analytics company) announces its decision to invest $ 25 Million in Bangalore center

People

- **Wal-Mart CEO** visits India during April 15-16, 2019
- IIT-KGP Alumnus and IITB faculty Dr **Subasis Chaudhury** takes charge as **IIT - Bombay** Director on April 15, 2019
- Government of India's experiment of **lateral induction of talent in government** fructifies with five joint secretaries appointed on April 12, 2019
- **Kanishak Kataria**, IITB Alum, is No 1 in Indian Civil Services Exam (results were out on April 8, 2019)!
- **David Malpass** was named the **13th World Bank President** on April 5, 2019
- **Keshav Murugesh** and **Praveen Rao** are **Chair** and **Vice Chair** of **NASSCOM** for FY 2019-20 (starting April 1, 2019)

Start-up Scene

- Leading **RPA** (Robotic Process Automation) vendor **UiPath** gets **$ 568 Million fund infusion** on April 28, 2019
- **BookMyShow** invests in Pune-based payments start-up AtomX in April 2019
- **Dream11** (Mumbai-based fantasy sports company) is the latest Unicorn (with investment from Steadview Capital on April 9, 2019) that too with just 220 employees!
- **Airbnb** to invest up to $ 200 Billion in **Oyo** starting April 2019

Interesting numbers

- **GST** collection for March Rs 1.06 Lakh Crores, the largest ever
- **Sensex** crosses 39,000 for the first time ever on April 1, 2019

General

- **Gaana** reaches **100 million** monthly users in April 2019

- **BoB (Bank of Baroda)** becomes the third largest Indian Bank (after SBI and HDFC) with the merger of Dena Bank and Vijaya Bank on April 1, 2019; the transition was fairly smooth for millions of customers
- Google abandons AI Ethics board on April 3, 2019

March 2019

Universities, Science & Technology, Policy, Special events and Milestones

- **AI** pioneers **Yoshua Benigo** (Univ. of Montreal), **Geoffrey Hinton** (Univ. of Toronto) and **Yann LeCun** (New York Univ.) win **Turing Award** (the Nobel Prize in Computing) on March 28, 2019
- **Abel Prize 2019** goes to Norwegian woman (the first time ever for a woman) Prof. Karen Uhlenbeck of UT Austin
- **India** successfully demonstrates capability to shoot down Low Earth Orbit satellite, joining an elite club - the 4th Nation with such capability
- Google and Facebook suffer outage lasting several hours in March 2019
- **Election Commission** announces date of **General Elections to the 17th Parliament** on March 10, 2019; April 11 to May 19 are the election days and with May 23, 2019 is the day of counting!
- **UIDAI** decision to charge Rs 20 per eKYC transaction on March 9, 2019 to upset the apple-cart of Fintech companies
- **Supreme Court** appoints **mediation council** to find a solution within 8 weeks for the vexed **Ayodhya problem** on March 7, 2019
- **US Senate** votes **to end local emergency** in US Southern border on March 14, 2019
- **WWW** turns 30 in March 2019
- **Wikipedia** turns 18 on March 12, 2019
- Kirloskar Industries turns 100 in March 2019
- British Parliament votes to delay Brexit on March 13, 2019; Prime Minister Theresa May suffers another loss of vote on March 29, 2019; BRExit is in deep trouble
- Mozambique storm, Plane crash, New Zealand bombing, Mumbai bridge collapse and Dharwad building collapse cause lots of human misery in March 2019

Products

- **Apple** launches **TV App, News and Credit Card** on Mar 25, 2019 in an exclusive event in SFO
- **Google** launches Google Music App in India on March 12, 2019
- **Google Bolo App** launched in India on March 6, 2019, targeting rural children
- **Galaxy S-10** and **S10+** launched by **Samsung** in India on March 6, 2019

Markets

- Markets ended high by the end of the financial year 2018-19 with BSE touching 39,000 and NSE touching 11,500 by March 31, 2019 (the last day of trading) representing 9% increase over the year
- **L & T Infotech** hostile take-over of Mindtree kept March alive
- Japanese **Murta** picks up stakes in Coimbatore-based **Versa** on March 10, 2019
- **Arcelor-Mittal** wins bid for **Essar Steel** on March 9, 2019
- **NVIDIA** acquires chip maker **Mellanox** for $ 4.9 Billion on March 8, 2019

Indian IT Companies

- **Infosys** buys 75% stake in **Stater** – an **ABN AMRO subsidiary** – for $ 130 million on March 29, 2019
- **HCL** signs contract worth $ 1.3 Billion with **Xerox** on March 1, 2019
- **Infosys** get**s Rolls Royce** contract on March 7, 2019
- **Kirloskar turns 100** in March 2019

MNC IT Companies in India

- **Google Pay** expands to 200,000 merchants in India in March 2019, thanks to **PineLabs** and **Innoviti**

People

- IIT-KGP Alumnus and IITB faculty Dr **Subasis Chaudhury** named **IITB Director**
- **Premji's** philanthropy touches Rs 100,000 Crores in March 2019
- **Mukesh Ambani** enters the global Top 10 Richest list in March 2019

- **Jet Airways founder Naresh Goyal** steps down from the Board on March 25, 2019 after 27 years as Chairman; Bank Consortium led by SBI take 51% control
- **Ghose** is the new Lokpal!
- **Goa Chief Minister Manohar Parrikar** passed away on March 17, 2019; an IIT Bombay Alum and a humane person he was Goa Chief Minister four times and Union Defence Minister
- **Subhash Garg** is the new **Finance Secretary** from March 9, 2019
- **Adhiya** is the Chairman for **BoB** (Bank of Baroda); assumes special significance as **Vijaya Bank** and **Dena Bank** are said to merge into **BoB** on April 1, 2018

Start-up Scene

- **Mirace** of South Korea invests $ 150 Million in **BigBasket**; with their valuation BigBasket turns Unicorn!
- Blockchain start-up "**New Street Tech**" gets Rs 14 Cr funding on March 25, 2019
- **Ola Cabs** gets its license revoked on March 21, 2019; gets back its license after paying Rs 15 L fine on Mar 25, 2019
- **90 Start-ups** get **Angel tax exemption** on March 20, 2019
- **PineLabs** acquires **Quikcilver** for $ 110 Million on March 19, 2019
- **Hyundai & Kia Motors** invest $ 300 Million in **Ola Cabs** on March 12, 2019
- **Zoho** acquires **ePoise** on March 8, 2019
- **Cognizant** acquires **MeritSoft** on March 5, 2019

Interesting applications

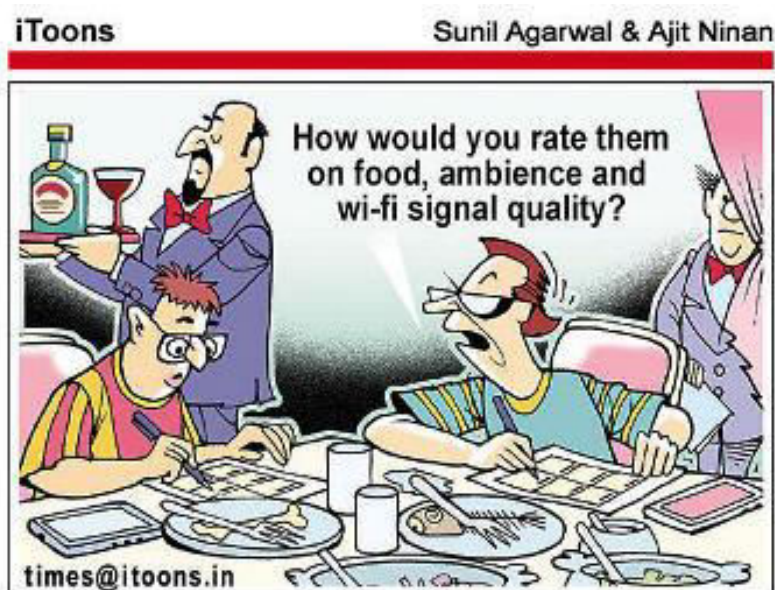- **Multi-modal transport card Swagat** launched on March 4, 2019

General

- Several governments around the world, including Indian Government, decide to ground Boeing 737 Max planes in March 2019; Boeing sees $ 42 Billion loss of market capitalization on a single day on March 13, 2019
- Ethiopian Airlines crash leaves 171 dead (including 4 Indians) on March 8, 2019
- For the third year in a row, **Indore is the cleanest city** in India

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About the author: Professor Sowmyanarayanan Sadagopan (ss@iiitb.ac.in) is the Director of IIIT-Bangalore. These are his personal views. He has been writing on "What's Hot in IT" from an Indian perspective continuously from 1997; Times of India, Financial Express, IT Magazine carried the monthly (and yearly columns) till 2016; IEEE India has been carrying the quarterly columns since 2017

Information Resources

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The history of machine learning: Today, machine learning powers tools such as self-driving cars, voice-activated assistants and social media feeds. However the ideas behind machine learning have a long history, and rely on maths from hundreds of years ago and the enormous developments in computing in the last 70 years. Full story at https://www.bbc.com/timelines/zypd97h

Getting started with Git and GitHub: the complete beginner's guide: Git and GitHub basics for the curious and completely confused (plus the easiest way to contribute to your first open source project ever!) http://bit.ly/2F3fb76

12 Industries Experts Say Millennials Are Killing — And Why They're Wrong: The perception of the millennial generation as exceptionally narcissistic, immature, and disengaged from society has fueled a thousand hot takes on the industries they're "killing." Here's what's really going on. Every few weeks, another story about the dreaded generation surfaces: millennials are killing casual dining; millennials are killing breakfast cereal; millennials are killing home ownership. Pundits aren't shy about diagnosing what's causing these deaths, either. Also known as Gen Y, millennials are often painted as screen addicts who can't eat a meal without sharing it on Instagram — which is why they won't sit down for a meal at Applebee's. They're commitment-phobes who balk at the idea of being tied down, and that's why home ownership rates are down. http://bit.ly/2RefuRd

What is computational storage?: Computational storage is an information technology (IT) architecture in which data is processed at the storage device level to reduce the amount of data that has to move between the storage plane and the compute plane. The lack of movement facilitates real-time data analysis and improves performance by reducing input/output bottlenecks. http://bit.ly/2F3fE9m

Ten big global challenges technology could solve: According to The MIT Review, the following are ten big global challenges technology could solve while none is easy, but all are incredibly important. Carbon sequestration, Grid-scale energy storage, Universal flu vaccine, Dementia treatment, Ocean clean-up, Energy-efficient desalination, Safe driverless car, Embodied AI, Earthquake prediction, Brain decoding. http://bit.ly/2XKl3JM

Governments are rushing to regulate the internet. Users could end up paying the price: For years, this libertarian thinking was the guiding philosophy of Silicon Valley as tech firms aggressively pushed back at any attempt to regulate them or control how people behaved online. Conveniently, this lack of regulation allowed them to build massive monopolies and make huge profits. Today, Silicon Valley is facing the backlash. Amid widespread concerns over fake news, influence campaigns, cybersecurity and the sharing of violent and extremist content, more and more countries are pushing to rein in big tech. https://cnn.it/2Wzo663

How to Be a Better Web Searcher: Secrets from Google Scientists: A 2016 report by Stanford University education researchers showed that most students are woefully unprepared to assess content they find on the web. For instance, the scientists found that 80 percent of students at U.S. universities are not able to determine if a given web site contains credible information. And it is not just students; many adults share these difficulties. http://bit.ly/2X98af4

Top 11 RPA tools: If you're ready to start welcoming robots into your workflow, here are 11 of the top RPA tools for streamlining your workflows and saving your users from the tedium of old software, as well as some open source projects to check out. http://bit.ly/2WwTa6x

AI Knowledge Map: How To Classify AI Technologies: This landscape is useful for people new to the space to grasp at-a-glance the complexity and depth of this topic, as well as for those more experienced to have a reference point and to create new conversations around specific technologies. http://bit.ly/2X1PMVu

What is Blockchain Technology?: Blockchain technology offers a way for untrusted parties to reach consensus on a common digital history. A common digital history is important because digital assets and transactions are in theory easily faked and/or duplicated. Blockchain technology solves this problem without using a trusted intermediary. This explainer will offer simple definitions and analogies for blockchain technology. It will also define Bitcoin, Bitcoin Cash, Ethereum, Litecoin, blockchain, and initial coin offerings. Along the way, we'll highlight promising use cases for blockchain technology. http://bit.ly/2KlqLyL

The Automation Playbook: The Automation Playbook is a useful source of information for all industries as you look for guidance in how to approach the Industrial Internet of Things (IIoT), new communication protocols, control implementation, safety, asset management, predictive maintenance, a mobile workforce, and so much more. It covers them in three chapters – Factory & Machine Automation, Batch Processing and Continuous Processing. http://bit.ly/2Zp4SlA (Simple registration is required to download this playbook)

No sleep, no sex, no life: tech workers in China's Silicon Valley face burnout before they reach 30: He is so focused on keeping his start-up alive that he can't sleep at night. She was asked in an interview if she would be willing to break up with her boyfriend for the job. A young couple want their own family but have no energy for sex after work. These are some of the struggles faced by the hundreds of thousands of young workers in China's tech industry like Yu Haoran, a 26-year-old computer science major, who in 2014 founded Jisuanke, a start-up in Beijing's hi-tech Zhongguancun district to teach kids coding. Yu has worked nights and weekends to grow his business from a 10-coder team to one with a 200 million yuan (US$29.8 million) valuation thanks to venture capital backing. But the personal price he pays is chronic insomnia, sometimes getting just two hours of sleep every night. http://bit.ly/2MJj878

Why your smartphone is causing you 'text neck' syndrome: Most of us hunch over our smartphone for at least two hours a day. This can effectively increase the weight of your head by up to 27kg, damage your posture, and if you text while walking, expose you to all kinds of accidents. Typically people crane their neck forward 45 degrees when sending text messages. This places a weight of almost 22kg on the spine, cervical ligaments and other muscles – five times the pressure considered normal, according to a Surgical Technology International study. Over the course of a year, this amounts to an additional 1,000 to 1,400 hours of pressure on the average smartphone user's spine. http://bit.ly/2ML7W9Z

32 Statistical Concepts Explained in Simple English (a series in 11parts); This resource is part of a series on specific topics related to data science: regression, clustering, neural networks, deep learning, decision trees, ensembles, correlation, Python, R, Tensorflow, SVM, data reduction, feature selection, experimental design, cross-validation, model fitting, and many more. Part 11 at http://bit.ly/2X4uvul (Links to the rest 10 parts are at the end of the post)

Facial Recognition: 16 Industries The Tech Could Transform; From screening patients for clinical trials to assessing the emotional state of drivers, we dive in to how facial recognition technology is shaping the future. The biometric software behind facial recognition applications can identify facial structures, contours, and expressions, making it a no-brainer for security and identification purposes. But it can also lead to creative applications that serve a different purpose. Listerine, for example, created an app that uses facial recognition to notify people who are blind that they were being smiled at. While the technology is still developing, many companies (including Amazon) are banking on it as a disruptive force in a myriad of markets. At the same time, the tech is highly controversial — with privacy as a point of concern. From creating checkout-free retail stores to eliminating concert tickets, here are 16 industries that are starting to transform with facial recognition technology. http://bit.ly/2wPCjRP

Web 3.0: the decentralised web promises to make the internet free again: Have you recently considered deleting your Facebook account, boycotting Amazon or trying to find an alternative to Google? You wouldn't be alone. The tech giants are invading our privacy, misusing our data, strangling economic growth and helping governments spy on us. Yet because these few companies own so many of the internet's key services, it seems there is little people can do to avoid having to interact with them if they want to stay online. However, 30 years after the world wide web was created, a third generation of web technology might offer a way to change things. The DWeb, a new decentralised version of cyberspace, promises to enable better user control, more competition between internet firms and less dominance by the large corporations. But there are still serious questions over whether it's possible – or even desirable. http://bit.ly/2XHZ3yT

100 common Windows 10 problems and how to solve them: Now that Windows 10 has overtaken Windows 7 as the most popular operating system, it's bigger than ever. The sequel to Windows 8.1 has been out for more than three years now, and has given users plenty of time to figure it out. Luckily, most Windows 10 problems have been patched out by Microsoft over the last few years. There are still some security exploits and other bugbears that have either lingered or have been caused by recent Windows updates. This is in part because Windows 10 updates are still kind of a mess, the most recent of which, the October 2018 Update, caused all kinds of issues, including Blue Screen errors on Microsoft's own Surface devices. That could be why the adoption of that update is only now starting to take off, just in time for the next one. If all of these problems are any indication, Microsoft has a lot of work to do. Plus, there are still a lot of Windows 10 problems that are still around, like printer connectivity issues. But, who knows, maybe Microsoft will actually fix some of these problems in the Windows 10 May 2019 Update, which should be out soon. Still, if you're having a hard time with

the operating system, we've compiled a guide to 100 of the most common Windows 10 problems, and how to fix them – whether it's a Windows 10 problem with a printer or connectivity issues. So, if you're trying to troubleshoot your device, keep reading. http://bit.ly/2KeO4Ki

5G & The Future Of Connectivity: 20 Industries The Tech Could Transform: The next generation of wireless technology could affect a wide range of industries, from healthcare to financial services to retail. 5G is set to enhance connectivity across networks. This is especially important as the number of Internet of Things (IoT) devices rises, along with the amount of data they generate. The technology will enable faster data transfer speeds (from 4G's 1Gbps to 10Gbps). As a result, 5G creates tremendous opportunity for numerous industries, but also sets the stage for large-scale disruption. Major 5G network deployments are expected by 2020, and a projected 4.1B IoT cellular connections will use 5G worldwide by 2024, according to Ericsson. From enabling remote robotic surgery and widespread adoption of autonomous cars to improving crop and livestock management, 5G is poised to disrupt a plethora of the world's biggest industries. We dig in below. http://bit.ly/2WFQecG

The Rivers in Our Skies: In December 2016, meteorologist F. Martin Ralph was sitting in a restaurant in San Francisco. On the TV screen, the weather report was talking about a particular kind of weather formation called an atmospheric river, which was headed right for California. Atmospheric rivers are exactly what they sound like—rivers of water vapor, flowing through the atmosphere. They move from the tropics toward the continents and poles, stretching to as much as 375 miles wide and carrying more water than multiple Mississippi Rivers. When an atmospheric river meets mountainous terrain like the Sierra Nevada, the water vapor condenses and becomes rain or snow. Strong atmospheric rivers can bring about floods and landslides, but the water and snowpack they leave behind provide California with 25 to 50 percent of its yearly precipitation in just a few days. http://bit.ly/2X2D4G5

How much is your data worth?: If data are the new oil, then Google, Facebook, Amazon and other tech groups are, naturally, the biggest extractors. But nearly every kind of company is getting into the business, which is worth $76bn, and will be more than double that by 2022 — nearly $200bn. Think about that for a minute. Data are, for Big Tech companies and others that harvest it, the main business input — in fact, the only real input, aside from labour. Imagine if GM or Ford didn't have to pay for steel or rubber or widgets — think what their margins would be. That's the business model of surveillance capitalism. You aren't just the product, to be sold to advertisers. You are also the raw material to make the product used to sell you to advertisers. Yep, we are in the Matrix. Full report at http://bit.ly/2IBwEV4

How the Boeing 737 Max Disaster Looks to a Software Developer: Apparently the 737 Max pitched up a bit too much for comfort on power application as well as at already-high angles of attack. It violated that most ancient of aviation canons and probably violated the certification criteria of the U.S. Federal Aviation Administration. But instead of going back to the drawing board and getting the airframe hardware right (more on that below), Boeing relied on something called the "Maneuvering Characteristics Augmentation System," or MCAS. Boeing's solution to its hardware problem was software. http://bit.ly/2WDoQff

What Is Edge Computing?: The cloud is no longer sufficient to instantaneously process and analyze the troves of data generated — or soon to be generated — by IoT devices, connected cars, and other digital platforms. Enter edge computing. http://bit.ly/2Wz7POj

Shorter Walks, Better Shopping: How Airport Design Is Changing: A surge of air travelers is pushing airports to renovate and expand like never before — and many are going with modern designs that can accommodate revolutionary changes in technology. http://bit.ly/2XHtOEi

Industry 4.0 as an evolution, not a revolution: Industry 4.0 is the way forward for manufacturing enterprises looking to future-proof their businesses. Enterprises will accelerate adoption at scale and fully realize the benefits by understanding fundamental business needs and implementation stages as an evolution with increasing value add. This report explains the logical phases leaders should consider before embarking on their Industry 4.0 journey and help improve the current low rate of successful full scale adoption. https://infy.com/2X76VwN

How One Man's Legacy Could Help Rebuild Notre-Dame Cathedral: Following the devastating fire at Notre-Dame Cathedral in Paris, hundreds of millions of Euros have already been pledged to help facilitate its reconstruction. But while funding is crucial, technology may well hold the key to making an accurate restoration possible. This is where the late Doctor Andrew Tallon comes in. A pioneering art historian and father of four, Tallon sadly died on November 16, 2018, from cancer at the age of just 49. Though he is no longer with us, his work now appears more vital than ever. http://bit.ly/31q6u0d

Freedom on the Net 2018: The Rise of Digital Authoritarianism: Freedom on the Net is a comprehensive study of internet freedom in 65 countries around the globe, covering 87 percent of the world's internet users. It tracks improvements and declines in internet freedom conditions each year. The countries included in the study are selected to represent diverse

geographical regions and regime types. In-depth reports on each country can be found at www.freedomonthenet.org. http://bit.ly/2ReZf6v

OSINT (Open Source Intelligence) Tools and Resources Handbook; The handbook contains over 130 pages of recommended tools, technologies, apps, extensions, websites and other resources of value to research and intelligence professionals. Download the handbook from http://bit.ly/2X77mXX

Best cloud storage of 2019 online: free, paid and business options: Businesses and consumers are increasingly reliant on cloud based storage solutions instead of in-house, on-premise local storage hardware. Your files are stored in the cloud, which is a simplified view of what is essentially someone else's infrastructure (data center, server, hard drive, connectivity etc). Ever since Amazon popularised storage online with S3 (Simple Storage Service), 13 years ago, Google data shows that interest for "Cloud Storage" alone has increased by 40x over the past decade. So much so that people less frequently refer to it as "online storage". Given the multitude of cloud storage providers out there, one has to wisely choose a provider who will offer the maximum amount of low-cost storage and bandwidth, while still keeping your data safe. This list represents our top picks for cloud storage: most offer a free tier allowing you to see if they're right for you before handing over any hard-earned cash. Business users will need to consider carefully what their needs are as terms and conditions as well as quality of service is likely to differ significantly from their consumer alter ego. http://bit.ly/2ZlT03A

87 Revealing Job Interview Questions From Hiring Managers In Business And Tech: Maybe you're a hiring manager seeking better questions to plumb the depths of candidates' souls, or you're an interviewee wanting mock questions to be ready for anything in the job market. This list should help you sharpen your blade ahead of an interview. http://bit.ly/2ZlmTAZ

Leonardo da Vinci: 500 years after his death his genius shines as bright as ever: This year marks the 500th anniversary of Leonardo da Vinci's death. Widely considered one of the greatest polymaths in human history, Leonardo was an inventor, artist, musician, architect, engineer, anatomist, botanist, geologist, historian and cartographer. Full Post at http://bit.ly/2Rcnq5l Additional reading: Bibliography of articles on Leonardo da Vinci (currently 29 articles); Leonardo joined art with engineering; 8 things you may not know about Leonardo da Vinci, on the 500th anniversary of his death; Why Leonardo da Vinci was a genius; Leonardo da Vinci designed an ideal city that was centuries ahead of its time; Leonardo da Vinci revisited: was he an environmentalist ahead of his time?; How Leonardo da Vinci, 'Master of Water', explored the power and beauty of its flow; Leonardo da Vinci's helicopter: 15th-century flight of fancy led to modern aeronautics; Four ways in which Leonardo da Vinci was ahead of his time; How Leonardo da Vinci made a living from killing machines. http://bit.ly/2ICNnY5

Open Source Software: The Complete Wired Guide: When someone buys a new smartphone, often they're preoccupied with the camera specs or the size of the screen or its storage capabilities. It's easy to overlook one of the most foundational aspects of these sleek consumer gadgets: their operating systems. The world's most popular mobile operating system is Google's Android. It powers more than 86 percent of smartphones in the world. What's even more remarkable is that Android is based on the open source Linux operating system. That means anyone can view the code at the heart of the vast majority of smartphones, modify it, and, more important, share it with anyone else. This openness enables collaboration. Unlike, say, Microsoft Windows, which was developed and is maintained by a single company, Linux is developed and maintained by more than 15,000 programmers around the world. These programmers might work for companies that compete with each other, or they might volunteer to create something new that's then given away. For free. Gratis. Full guide at http://bit.ly/2F4afyv

Informatics as a Fundamental Discipline for the 21st Century: Informatics for all is a coalition whose aim is to establish informatics as a fundamental discipline to be taken by all students in school. Informatics should be seen as important as mathematics, the sciences, and the various languages. It should be recognized by all as a truly foundational discipline that plays a significant role in education for the 21st century. http://bit.ly/2ReZf6v
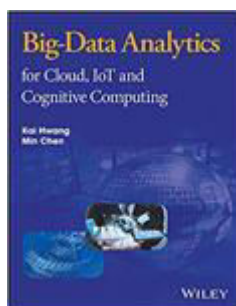
PC components explained: how to pick the best components for your PC: Even if you already know how to build a PC, finding the best PC components is always a test of endurance. Whether you're looking for the best graphics card, processor, motherboard or even RAM, it's always a lot of work. The market can get confusing, especially if you're new to the computing world, but we're here to help you get your planning and research started. So, we crafted a tutorial, to help you find the best PC components at the right price, so you can build the best PC without too much added stress. We'll help set you on the right path to finding the best PC components, as having a good idea of what you want can make building a PC so much easier. http://bit.ly/2WCaN4W

Talks to help you find the right job (11 videos): You want work that makes you feel happy, challenged — and appreciated. These talks might help you find that elusive combination, as you define your working life on your own terms. http://bit.ly/2RaoGpR

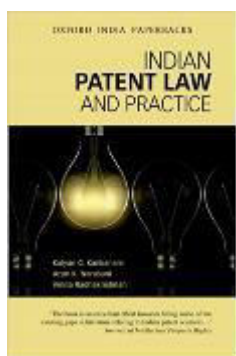**For more resources, pl. visit Interesting Reads archives at http://bit.ly/2XGyIkZ**

Books

Big-Data Analytics for Cloud, IoT and Cognitive Computing
Kai Hwang and Min Chen
2017 / 432 Pages / Paperback / Rs. 839 (On Amazon India Rs. 674)
ISBN: 978-8126570430 / Wiley

This book blends together big-data theories with emerging technologies on smart clouds over the Internet of Things (IoT). Data analysts and computer scientists must learn how to use clouds and IoT effectively to discover new knowledge, or to make critical decisions intelligently. This book aims to close the gaps between these learning groups, and encourages mutual learning and collaborative work between data scientists and cloud programmers. The world-renowned authors take a technological fusion approach to integrating big-data theories, cloud design principles, IoT sensing, machine learning, data analytics, and Hadoop and Spark programming in a single volume in 3 parts and 8 chapters. Part 1 focuses on data science, the roles of clouds and IoT devices and frameworks for big-data computing. Big data analytics and cognitive machine learning, as well as cloud architecture, IoT and cognitive systems are explored, and mobile cloud-IoT-interaction frameworks are illustrated with concrete system design examples. Part 2 is devoted to the principles of and algorithms for machine learning, data analytics and deep learning in big data applications. Part 3 concentrates on cloud programming software libraries from MapReduce to Hadoop, Spark and TensorFlow and describes business, educational, healthcare and social media applications for those tools. The companion   website at https://www.wiley.com//legacy/wileychi/hwang2/ gives you access to the rich tools and resources available for this text which include: PowerPoint slides and Solutions Manual.
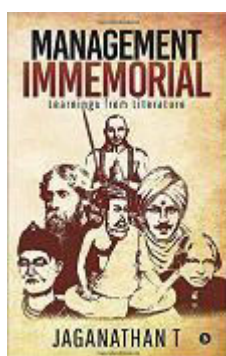
Indian Patent Law and Practice
Kalyan C. Kankanala et al
2012 / 376 Pages / Paperback / Rs. 465 (On Amazon India Rs. 427)
ISBN: 978-0198089605 / Oxford India

This book is a practical and comprehensive reference work on Indian patent law. It covers various facets of Indian patent law ranging from acquiring a patent to enforcing and managing patent portfolios. Each chapter provides insights into theory before elaborating on practical issues. The volume blends technology, management, and law to give an insight into patent concepts. Supplemented by analyses of relevant cases and illustrations, the work delves into patent aspects relating to chemistry, pharmaceuticals, biotechnology, software, electronics, and manufacturing. Discussions on skill-based aspects of patent law such as specification and claim drafting, licence drafting, patent searching, and infringement analysis have also been included in the book. Providing a lucid presentation of complex issues, the volume also analyses comparative jurisdictions from across the world. Patent professionals can use the book to refer to specific issues with ease as it provides an understanding of various aspects of law based on provisions in acts, rules, and decided cases. Business managers may refer to strategic elements and business parameters to enable decision-making at various points in the patent life cycle. It will be a valuable text to students and teachers of law, science, technology, business and management
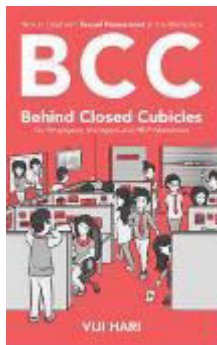
Management Immemorial: Learnings from Literature
T. Jaganathan
2019 / 174 Pages / Paperback / Rs. 250
ISBN: 978-1684660353 / Notion Press

'Management Immemorial' is more than a 'self-help' book in that it is not just a coaching guide for 'growth skills'. Using Indian Literature as reference, the author triggers further introspection. The reader of this book will feel inspired to delve deeper and find new learnings for his or her own development. The ideas have been categorized under 3 sections viz. Aspirational Attitudes, Scintillating Skills and Leadership Traits. 'Management Immemorial' uses amazing references from classical and contemporary literature, anecdotes from epics like Ramayanam, Mahabharatham and elucidations from the holy 'Bhagawad Gita'. References are drawn from classical Indian languages Tamil, Sanskrit and Hindi. The author uses a unique style of expounding contemporary management concepts using impactful references from Literature not normally seen in any other `self-help' book. The highlights of this book are its simple style, coherent flow, powerful quotes, fascinating stories, enriching experiences, Stimulating references, all related to Best Practice ideas and Valuable Take-aways. Essentially, `Management Immemorial' is a powerful read for those who want to develop their career and life. Forewords from Prof. L.S.Ganesh (IIT Madras) and H.R. Mohan (ACM, IEEE & CSI), eminent thought leaders add luster to the contents of the book.

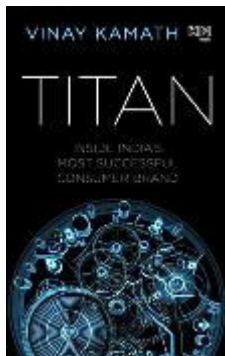### BCC: Behind Closed Cubicles
Viji Hari
2016 / 158 Pages / Paperback / Rs. 200
ISBN: 978-1946204608 / Notion Press

This book BCC is a collection of 18 short, real life stories of Sexual harassment at across the Indian Workplace. BCC, demonstrates, through a collection of short stories, how apparently harmless statements and actions have impacted people at the workplace. The short stories are based on real life sexual harassment incidents from across the Indian corporate world. Stories that include both genders, and range from freshers to CXOs, and across different industries. BCC attempts to give tips and share best practices to Employees, Managers, HR, Committee members, Employers, etc., so the reader is better equipped to deal with different forms of incidents. This book will also help students to understand the context of Sexual Harassment before they start their career.

TITAN: Inside India's Most Successful Consumer Brand
Vinay Kamath
2018 / 224 Pages / Hardcover / Rs. 599 (On Amazon India Rs. 335)
ISBN: 978-9350099780/ Hachette India

When Titan Company Limited launched its quartz watches some 30 years ago, the founders' a merry bunch of Tata employees who started out simply wanting to do something different could not have foreseen just how completely they would capture the imagination of Indian consumers in the post-liberalization era of the 1990s. The brand they created at first against tremendous odds and restrictive norms injected freshness into the market and in retail spaces through its cutting-edge marketing strategy and empathetic advertising. Not only did the new watchmakers on the block transform watches from being utilitarian objects to fashion statements, but it also systematically ventured into areas untapped by corporate entities with its brands Titan, Tanishq, Titan Eyeplus, Skinn and Taneira, and established itself as a winner across multiple verticals. Titan: Inside India?s Most Successful Consumer Brand takes readers from boardrooms to back rooms to reveal how a quintessential Indian brand from the house of the Tatas, not known till then for its success in the consumer goods market, reached such remarkable heights. It is a tale of innovation and fortitude, of thinking outside the box and staying the course, of obsession with detail and the courage to acknowledge failure. A story that will inspire every reader, here is the inside account of what continues to make Titan tick. The book authored by Vinay, a seasoned business reporter, correspondent and editor captures what lies at the heart of the company and the brand Titan – a best known home-grown brand, it's people and its tremendous success in consumer business makes it rewarding for readers.

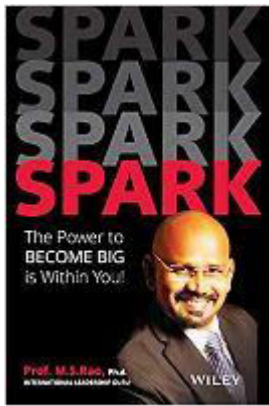### Leading and Motivating Global Teams: Integrating Offshore Centers and the Head Office
Vimal Kumar Khanna
2017 /186 Pages / Hardcover / Rs. 995 (UK Original Price UKP 63.99)
ISBN: 978-1498784740/ Auerbach Publications, CRC Press

This book provides techniques for offshore center managers and head office managers to motivate and manage globally distributed teams, which are spread across the offshore center and the head office, and thereby achieve higher productivity. Readers learn how to integrate the offshore center with the head office to make the offshore team an extension of the head office. While integrating teams with the head office, offshore center managers can still retain independence and authority to meet team aspirations. The book provides insight into devising new organizational structures to balance the authority and responsibilities of offshore center and head office managers. Head office managers responsible for managing globally distributed projects learn how to achieve a higher success rate on their projects and be better rewarded for their efforts in offshoring. Head office managers also learn techniques to make more significant contributions in their expatriate assignments to the offshore center. This book with numerous case studies guides both the offshore center managers and the head office managers to fully realize the potential of the offshore center, which can result in higher revenues and profitability. It will serve as a valuable reference to managers of all levels ranging from first level project managers to senior and executive managers. The TOC of the book include: Introduction; Be "Truly Global" in Outlook and Character; Authority and Freedom to Offshore Center Management; Integrate Offshore Center with Head Office but Retain Local Work Culture; Career Growth for Offshore Center Employees to Global Top Positions; Fair Representation of Offshore Center Management in Global Committees; Look Beyond Offshoring Only Peripheral Projects; Avoid Over-Insistence on the Cost-Reduction Purpose of the Offshore Center; Unified Awards across the Offshore Center and the Head Office; Roles and Responsibilities of the Offshore; Being an Expatriate Manager from the Head Office to the Offshore Center; and Using the Offshore Center to Make Strategic Contributions to the Company. The author, Vimal Kumar Khanna has over 31 years of industry experience and has won multiple international honors for his contributions to the management and technology domains and is a Honorary Editor of IEEE Communications.

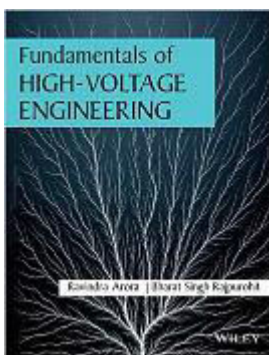### Spark: The Power to Become Big is Within You

M.S. Rao

2019 /168 Pages / Paperback / Rs.299 (On Amazon India Rs. 280)

ISBN: 978-8126578153/ Wiley

This book contains inspiring examples of extraordinary achievers. It develops success-mindset. It unlocks your hidden potential. It cultivates mindfulness and ensures a work-life balance. It offers tools and techniques to ignite your spark. It unleashes the leader in you. It draws a blueprint to provide meaning to your life. The author distils leadership insights that help good leaders become better. The 21 principles, practices and habits that prepares one for "Success with a mind-set" and ignites your spark and unleash the leader in you include: Acquire self-awareness; Discover your biological clock; Be an early riser; Exercise every day; Acquire internal locus of control; Visualize effectively; Equip with affirmations; Use your internal dialogue effectively; Strengthen your subconscious mind; Journal regularly; Read avidly; Improve your memory; Improve your concentration; Practice yoga daily; Practice meditation; Cultivate mindfulness; Acquire emotional intelligence; Practice for 21 days; Take feedback; Be persistent; and Learn, unlearn and relearn. The author wants everyone to treat these 21 tools as 21 bricks of your brand; Cement these bricks to build an everlasting leadership brand by practicing regularly to fast-track your career and provide meaning to your life. This book is a recommended read for everyone wanting to excel as extraordinary achievers.
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Fundamentals of High - Voltage Engineering

Ravindra Arora & Bharat Singh Rajpurohit

2019 /408 Pages / Paperback / Rs.499 (On Amazon India Rs. 484)

ISBN: 978-8126579747 / Wiley

This book has a novel approach in describing the fundamental concept of field-dependent behavior of dielectrics when subjected to different types of high voltages. The contents begin with a systematic classification of electric fields and the techniques of field estimation. In-depth coverage of performance/behaviour of gaseous, solid and liquid dielectrics has been made in the book. The basics of high voltage laboratory techniques, non-destructive testing, measurement of high test voltages and dielectric properties are also covered in detail in this book. The chapters of the book include: Introduction to High-Voltage Engineering; Electric Field Intensity, Stress Control, and Types of Breakdown in Dielectrics; Transient Overvoltages and Insulation Coordination in High-Voltage Networks; Field-Dependent Electric Strength and Breakdown in Gaseous Dielectrics and Vacuum; Lightning, a Breakdown Phenomenon in Atmospheric Air, Its Effects and Protection; Solid- and Liquid-Insulating Materials, Their Classification, Properties, and Breakdown; Generation of High Test Voltages; Measurement of High Test Voltages; Non-Destructive Testing and Quality Control of Electrical Equipment; and High-Voltage Test Laboratory Design and Curriculum Experiments. The text of the book is written in simple explanatory manner for both the UG & PG students with number of solved numerical examples, multiple choice questions as a part of learning exercise. The laboratory experiments included in the book is an added feature for the exposure ti industrial practice.

Social Media & Mobile Marketing

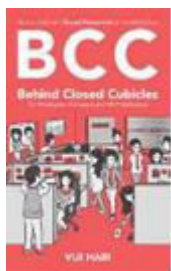**Puneet Singh Bhatia**

2019 / 296 Pages / Paperback / Rs.499

ISBN: 9788126578078 / Wiley

Social media and Mobile marketing exemplify two extreme pivots of any human behaviour. While the first marketing form (social media) establishes the desire of an individual to connect to the largest (like-minded) human audience possible, the second form (mobile marketing) reflects that person and rsquo;s inner-most need to view the world through a most personalized and private lens. Social Media and Mobile Marketing (SMMM)and is a 2-in-1 volume that aims to establish key concepts and underlying frameworks for the two most important and emerging digital marketing application areas: social media and mobile marketing. The first part of the textbook develops the basics of social media marketing outlining key social media actors and actions. SMMM establishes an easy to follow SOCIAL Media Marketing Framework to showcase the six key stages of social media platform implementations. The second part of the book outlines the evolution of mobile marketing and how marketers can establish and extend influence from web to mobile platform through a structured MOBILE Media Marketing Framework. The text is presented in four parts namely: Part I Understanding Social Media Marketing; Part II Executing Social Media Marketing; Part III Social Media Marketing: The Road Ahead; Part IV Understanding Mobile Marketing; Part V Executing Mobile Marketing; Part VI Mobile Marketing: The Road Ahead; and Part VII Social Media and Mobile Marketing Careers.

Excerpts from the book BCC: Behind Closed Cubicles

BCC : Behind Closed Cubicles: For Employees, Managers and HR Professionals
by Viji Hari
2016 / 158 pages / Paperback / Rs. 200 (at Amazon India) / Notion Press

This book BCC is a collection of 18 short, real life stories of Sexual harassment at across the Indian Workplace.

BCC, demonstrates, through a collection of short stories, how apparently harmless statements and actions have impacted people at the workplace. The short stories are based on real life sexual harassment incidents from across the Indian corporate world. Stories that include both genders, and range from freshers to CXOs, and across different industries.

BCC attempts to give tips and share best practices to Employees, Managers, HR, Committee members, Employers, etc., so the reader is better equipped to deal with different forms of incidents. Below are some snippets from the book from the Afterword section.

Over the last couple of decades, the media has elaborately reported some of the scandalous and high-profile cases in India:

- Ashok Kumar Ganguly: The former Supreme Court judge stepped down as head of the West Bengal human rights commission in 2014 after a law intern accused him of sexually harassing her in a hotel room.
- The case of KPS Gill, former Punjab director general of police. Gill was found guilty of outraging the modesty of Rupan Deol Bajaj, an IAS officer, by a trial court in 1996. She had complained in 1988 that Gill had made sexual advances at a party where he was allegedly drunk.
- In Haryana, SPS Rathore, former inspector general of police. Rathore was convicted in 2009 for molesting 14-year-old Ruchika Girhotra in 1990. After years of harassment by officials, Ruchika committed suicide in 1993.
- RK Pachauri — The Energy and Resource Institute (TERI) Director General, Nobel Laureate and former environment minister's involvement in a case of sexual harassment is one of the most shocking cases. On May 2015, an internal probe by TERI found that RK Pachauri was guilty in the sexual harassment case filed against him by a woman colleague. TERI committee also recommended disciplinary action against Pachauri. The committee found that Pachauri's repeated attempts to build a personal relationship with the woman had amounted to 'sexual harassment.'
- Possibly the most notorious case of them all. The former Tehelka chief was accused of sexual assault during a Goa event by a former colleague. The case grabbed international headlines after allegations that staffers at Tehelka had tried to bury the complaint.
- Phaneesh Murthy's initial case as one of India's best known software executives and a rising star. Phaneesh Murthy had to resign from Infosys in 2002 after his secretary Reka Maximovitch accused him of sexual harassment.

Vishaka case and guidelines

Vishaka is the women's rights group that filed a PIL in the Supreme Court of India — the case of Bhanwari Devi vs. the State of Rajasthan in 1997. Bhanwari Devi was a woman from a potter community who tried to prevent a child marriage that was being conducted as part of her duties as a worker of the Women Development Programme. She was raped by the landlords of the community in order to teach her a lesson. The rape survivor did not get justice from the Rajasthan High Court and the rapists were allowed to go free.

This resulted in the Vishaka guidelines, which deals with sexual harassment of women at the workplace. The verdict defined sexual harassment, laid down duties of employers in dealing with complaints and stipulated formation of committees to address complaints from victims of harassment.

Prior to this verdict, the person facing sexual harassment at workplace had to lodge a complaint under Section 354 or 509 of the Indian Penal Code (IPC).

On 9th December 2013, the **Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013** came into force**.** This statute superseded the Vishaka Guidelines for prevention of sexual harassment introduced by the Supreme Court of India.

4 key steps to be compliant with the Act:

- Sexual Harassment Policy creation in compliance to the Act – detailing the Employee and Employer's roles and responsibilities; Complaint and Redressal mechanisms.

- The setting up of an Internal Committee as per guidelines that is equipped to ensure prevention and redressal. This should handle complaints after a thorough investigation and recommend actions to be taken.
- Ensuring awareness among the Internal Committee and Employees by way of training on the Act and on the Complaints and Redressal mechanisms as detailed in the policy.
- Statutory reporting of the cases filed, action taken should be reported and filed in the Company's annual report.

Some Observations on what the Act states:

- Employment rules/service rules should also be amended to include:
- Termination or action taken due to sexual harassment at workplace based on and in compliance with the Internal Committee (IC) report or findings.
- Victim has the right to ask for a transfer or leave during pendency of enquiry
- Per law, there should be an IC formed at every branch of the company in the country, where there are more than 10 employees. The District Officer is required to constitute a Local Committee at each district, and if required at the block level.
- IC is also applicable for an all-men branch. As even a lady vendor or a lady visitor to the workplace needs to have the option of raising the complaint.
- IC – can also be headed by a Senior male employee in case a Senior woman is not available in a particular branch. But in all, there should be 2 women as part of the IC including the 3rd party NGO representative.
- The IC is required to complete the inquiry within a time period of 90 days.
- Annual Statutory reporting – as part of the Annual report that every company files, the number of cases reported and action taken should be published.
- A victim has to raise a complaint within 3 months of the incident.
- Sexual harassment at the workplace is a criminal offence as per the changes made in IPC. So a victim can raise a criminal complaint case as well as a case with the ICC and both can run in parallel.

Role of Employer:

- Provide a safe working environment for persons coming in contact with the workplace.
- Create and empower the Internal Committee as defined in the Act.
- Ensure your organization's anti-sexual harassment policy is aligned with the provisions of the new law.
- Display conspicuously at the workplace, the penal consequences of sexual harassment and the composition of the Internal Committee.
- Organize workshops and awareness programmes periodically for sensitizing employees on the Act and organizing orientation programmes for members of the Internal Committee.
- Changes to the employment contracts/Service rules to make the employees are legally bound for the acts of sexual harassment at the workplace.
- Submit necessary information pertaining to sexual harassment to specified authorities.
- Help your employee to initiate legal action against the perpetrator (if the perpetrator is not an employee) under criminal law.

Role of Internal Committee at the workplace:

- Shall provide assistance to the victim to make the complaint in writing.
- Complaints need to be filed within 3 months from the last incident occurrence date. IC may extend the time limit by another 3 months.
- Before initiating an inquiry, at the request of the aggrieved woman, IC must take steps to settle the matter through conciliation.
- Shall recommend action during pendency of inquiry like granting leave or transferring either the victim or respondent.
- If IC arrives at the conclusion that the allegation against the respondent has not been proved, it shall recommend to the employer that no action is required.
- If IC arrives at the conclusion that the allegation against the respondent has been proved, it shall recommend to the employer:
    - To take action for sexual harassment as a misconduct in accordance with the provisions of the service rules applicable to the respondent or where no such service rules have been made, in such manner as may be prescribed.
    - To deduct, notwithstanding anything in the service rules applicable to the respondent, from the salary or wages of the respondent such sum as it may consider appropriate to be paid to the aggrieved woman or to her legal heirs.
- If Internal Committee arrives at a conclusion that the allegation against the respondent is malicious or the aggrieved woman or witness or any other person making the complaint has made the complaint knowing it to be false or has

produced any forged or misleading document, IC may recommend to the employer or the District Officer, as the case may be, to take action in accordance with the provisions of the service rules or as may be prescribed.

- Shall record the settlement of an inquiry and forward to the employer to take action as per the recommendations.
- Shall share copies of settlement to the victim and respondent.
- Committee to submit annual report in each calendar year and prepare the cases received, disposed, pending and preventions measures during the year and submit the same to the employer and the District Officer.
- The role of the Committee will not be restricted to complaint resolution but will encompass prevention measures as well.
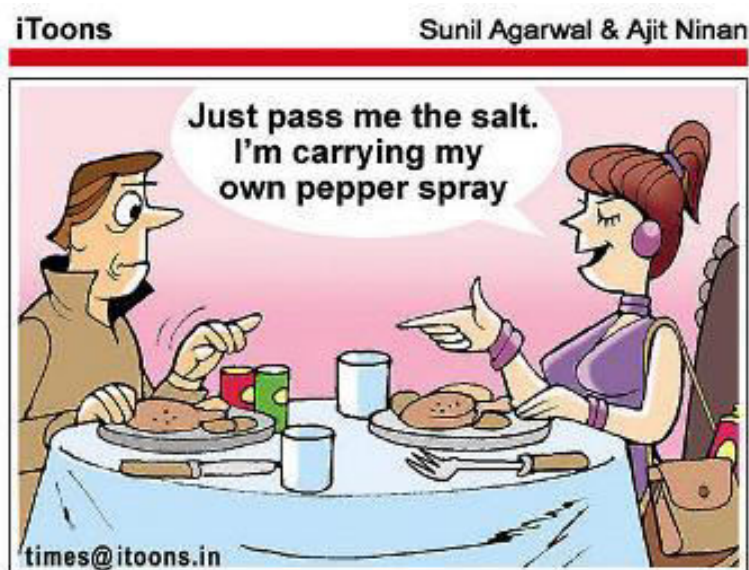
Confidentiality:

Every aspect of an investigation should be kept confidential. Maintaining confidentiality is critical to the integrity of an investigation. There can be serious consequences for failing to ensure that confidentiality is maintained. These consequences include:

- Damage to someone's reputation if others learn that the allegations were made.
- The success of the investigation can be undermined if others know of the investigation.
- The subject of the investigation could try to cover-up any misconduct if they learn they are being investigated.
- The company may face liability or negative publicity.
- The company's ability to defend any legal action associated with the matter could be compromised.
- The disclosure of the information could cause retaliatory action.

If you are victim, how to deal with Sexual Harassment:

- Make it clear to the harasser that you consider the behaviour as harassment.
- Say a firm 'NO' and tell the person to stop contacting you.
- Stop answering the person's calls, emails, and other messages.
- Delete or mark the number as spam in your phone and social media accounts.
- Inform your friends and family what's going on.
- Don't publicize your location and daily habits.
- Keep records and evidences.
- Talk to the HR, Internal Complaints Committee or Harassment cell at your institution or workplace.
- If you work in an unorganized sector or organisation with less than 10 employees, then reach out to the Local Complaints Committee.

If it is a rape or an assault or any form of criminal act, then a Police complaint needs to be lodged under the Indian Penal Code.

Announcements

'IEEE Region 10 Conference Leadership Program at Goa during 17-18 Aug 2019

This program aims to train volunteers from the sections of Region 10 to organize and guide IEEE conferences efficiently and effectively ensuring the quality as per IEEE standard in their respective sections. The topics to be covered will include: IEEE Conference History and Context Setting, Why Run a Conference? Benefits and Value of Conference Organizing, Measurement and Success Criteria for Events, Getting Started: Creating a Plan of Action, Sponsorship: Definitions, Roles and Accountability (Including MoUs and MGA Sponsorship Approval Process), Organizing Committee: Roles and Formation, Technical Program, Peer Review and Conference Quality, Conference Publications Start to Finish (IEEE Conference Publications Program, IEEEXplore, Plagiarism Checking, eCopyright, etc.), Financial Management of Your Conference: What You Need to Know, Event Planning / Running the Event, Closing Your Conference, Best Practice Discussions / Case Studies, IEEE Meetings, Conferences & Events Overview. All Sections requested to encourage participation and nominate one delegate (maximum two) from your section by 6th April 2019. For additional info, pl. contact Mr. Deepak Mathur, Director - Elect 2019-2020 - IEEE Region 10 (Asia Pacific), deepakmathur@ieee.org

ILS-19 WIE International Leadership Summit at Bangalore during 30-31 Aug 2019

IEEE Bangalore Section and WiE AG Bangalore Section will conduct the WIE International Leadership Summit (ILS19) during 30-31 Aug 2019 at Hotel Sterlings Mac Bangalore. WIE ILS19 will provide regional opportunities to foster networking, mentorship, and possible collaboration. This program is part of the portfolio of global initiatives that focus on Empowerment, Entrepreneurship, Leadership, and Future Technology. The theme of the Summit will be "Redefining the Defined" More at wie-ils2019.org

IEEE TENCON-2019 at Kochi during 17-19 Oct 2019

TENCON is the flagship premier international technical conference of IEEE Region 10. The Theme for TENCON-2019 is "Technology, Knowledge, and Society". It will be held during 17 – 20 Oct 2019 at Hotel Grand Hyatt, Bolgatty, Kochi, Kerala. Conf. website http://www.tencon2019.org

IEEE INDICON-2019 at Marwadi University, Rajkot, Gujarat during 13-15 Dec 2019

IEEE INDICON-2019, the flagship conference of the IEEE India Council will be held at Marwadi University, Rajkot, Gujarat from December 13 to 15, 2019. Conf. website http://indicon2019.in/

IC Awards

To recognize the contribution of volunteers at various levels and student branches and industry associates towards progress of IEEE, India Council constituted following awards:

1. Outstanding Volunteer Award

   a. IEEE Volunteer (Age greater than 35)
   b. IEEE Volunteer (Age equal to and below than 35)

2. Outstanding Student Branch Award

   a. Outstanding Student Branch
   b. Outstanding Upcoming Branch

3. Outstanding Volunteer Award

   a. Outstanding Student
   b. Outstanding WIE Student
   c. Outstanding YP

4. India Council Outstanding Industry Award

   a. IEEE IC Technologist of the Year 2019
   b. IEEE IC Women technologist of the Year 2019
   c. IEEE IC Technology Start Up of the Year 2019

5. India Council Leadership Awards

    a. India Council Lifetime Achievement Awards for IC Chairs
    b. India Council Leadership Awards for Section/Subsection Chairs

Timelines

- Call For Nominations   April 2019
- Nomination Deadline   Sept 2019
- Evaluation Period   Oct/Nov 2019
- Recipient Notified: End Nov

For applying please follow the link https://ieee.checkboxonline.com/ICAWARDS2019.aspx

For more details pl. visit the India Council website or contact Dr. Preeti Bajaj, Vice Chair Awards –IEEE India Council 2019, Email: preetib123@yahoo.com / preetibajaj@ieee.org Mobile: +91 9822220369

Amazon Web Services Providing IEEE Entrepreneurship Member Benefit

Amazon Web Services (AWS) is excited to support the engineering-driven businesses of IEEE members! Through its AWS Activate program, AWS will now provide IEEE members with credits for access to cloud computing resources.

AWS Activate is a program that allows companies to access over 150 web-based services and tools to support their growing businesses; whether it's simple website hosting, storage, data analytics tools, IoT services, or building and training machine learning models (and much more). Join some of the fastest-growing startups in the world and build your business using AWS!

IEEE Entrepreneurship Community Members will be eligible for:

- $10,000 in AWS Promotional Credit valid for 2 years;
- 1 year of AWS Business Support (up to $5,000);
- 80 credits for Self-Paced Labs ($80 value).

Complete this IEEE form in order to have your IEEE membership confirmed and receive your ID for AWS Activate Services as an IEEE Entrepreneurship Member Deal.

AWS Worldwide Public Sector helps startup, government, education, and nonprofit customers deploy cloud services to reduce costs, drive efficiencies, and increase innovation across the globe. With AWS, you only pay for what you use, with no up-front physical infrastructure expenses or long-term commitments. Public Sector organizations of all sizes use AWS to build applications, host websites, harness big data, store information, conduct research, improve online access for citizens, and more. AWS has dedicated teams focused on helping our customers pave the way for innovation and, ultimately, make the world a better place through technology.

Proposals to host R10 SYWL Congress 2020

Proposals are now invited from IEEE Sections in Region 10 to host the IEEE Region 10 Student, Young Professionals, Women-in-Engineering & Life Members (R10 SYWL) Congress 2020.

The congress is held every second year and provides ample opportunities to Students, Young Professionals, WIE for personal development and to learn about the IEEE goals and policies. Participation by LM members also gives a chance to share knowledge, and experience with younger IEEE members.

R10 SYWL Congress also provides an excellent opportunity for the volunteers of the host Section to enhance their organizational skills and participate in an international event. It is therefore strongly suggested to the leadership of interested Sections to involve their Committee members, especially YP, WIE and student volunteers to submit a thoroughly prepared proposal. To assist in preparing the proposal a detailed guideline is enclosed. Please adhere to the instructions outlined in the document for a better chance of due consideration of your proposal by Region 10.

Last date to submit the proposal, completed in all respect, is Sunday, 28 July 2019.

Please submit the proposal in PDF format by email to Ms. Ewell Tan at mailto:ewell.tan@ieee.org and Dr. Zia Ahmed, Region 10 Vice Chair (Membership Activities) at zia.ahmed@ieee.org

Guidelines for submitting reports 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 Society Memberships

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

- Home: http://sites.ieee.org/indiacouncil/
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- Sections: http://sites.ieee.org/indiacouncil/about-ieee/sections/
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- Events: http://sites.ieee.org/indiacouncil/events/
- Newsletter Archives: http://sites.ieee.org/indiacouncil/newsletter/newsletter-archives/
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- INDICON: http://sites.ieee.org/indiacouncil/indicon/
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