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CONFERENCE REPORT

IEEE International 5G Summit on IoT & Cybersecurity: July 2017, Kerala, India

By Lillykutty Jacob, Kerala Chapter Chair, India

The 18th IEEE International 5G Summit on IoT & Cybersecurity was held on Saturday, 1 July at the Mascot Hotel, Trivandrum, under the leadership of Dr. Ashutosh Dutta, IEEE 5G Initiative Co-chair (in absentia), Mr. Munir Mohammed, Senior Programmer, IEEE India office, and Dr. Lillykutty Jacob, IEEE ComSoc Kerala Chapter Chair. In addition to the talks from industry, government and academia, there was a research forum dedicated to ongoing research in these areas, organized by Dr Sabu. Thampi of IIITM-K Trivandrum, Dr. B S Manoj of IIST Trivandrum, and Dr. Vineeth B S of IIST Trivandrum.

The event was sponsored technically/financially by the ISOC Trivandrum Chapter, KSCSTE, Texas Instruments, and Lab Systems. This event was attended by approximately 85 people onsite and was watched by approximately 370 online viewers. The IEEE 5G Initiative sponsored the streaming. A recording of the streaming event is available at the <http://estv.in/ieee5gkerala/>. The program details are available at www.ieee-5gsummit.org/kerala. The chief guest for the inaugural event was Dr. K. Suresh Das, executive vice president, KSCSTE and Principal Secretary S&T Dept., and it was presided by Dr. K.R.Suresh Nair, Chair, IEEE Kerala Section. There were 10 invited speakers.

The first speaker of the day was Dr. Jomy Jose, an alumni of NIT Calicut, Head-Telecom Solutions, L & T Technology Services. The session was on the topic "5G:Standardisation Status and Pre-Standardisation Activities." Topics covered included 5G requirements, 5G roadmap, 5G key technologies, and the status of 5G standardization. A very informative session was administered by Dr. Sastri Kota, President of SoHum Consultants on the topic "The Role of Satellite in 5G: A Perspective." In the next session, Mr. Rajesh Banda, Head of the 5G India Office at Nokia, spoke about "5G Key Technology Components Enabling the Future." It was suggested that if 5G will be used in the right scale, 6G will not be required. Mr. Veera Manikandan Raju, CTO Software & Systems, Embedded Processing and distinguished member technical staff at Texas Instruments, spoke on the topic "5G Connected Intelligence Era Applications and Security Challenges."

In the fifth session, Mr. Nishant Krishna, Consulting Engineer at Avaya, spoke on the topic "Real-time Onsite Operations Facilitation (ROOF) for the Internet of Things." His comments started with the quote, "There are two types of organization in today's world, those that have been breached and those that just don't know about it." It was followed by a very live session by Dr. Prasant Misra, Scientist, Embedded Systems and Robotics, TCS Research and Innovation, on the topic "Balancing the needs vs. the wants in IoT." Mr. S. Venkatesan, CEO & Managing Director, Lab Systems, delivered a talk on "Digital Forensic Case Study." Dr. Soman K P, Professor and Head of the Department of Computational Engineering and Networking at Amrita Univer-



Dr. K. Suresh Das lighting the lamp at the inaugural session.



A section of the participants in the Mascot Hotel auditorium.

sity, Coimbatore Campus. and Dr. Prabakaran Poornachandran, Professor & Security Researcher at Amrita University, Kollam, spoke about "Security Issues of Internet of Things and the Way Forward." As the speakers were from academia, the session was more academic oriented and student targeted. The final talk of the summit was by Mr. Satish Babu, InApp, ISOC-Trivandrum Chair, on the topic "IoT, Blockchain and Security."

The Research Forum was chaired by Dr. Ciza Thomas, College of Engineering Trivandrum. The presented topics were: 1) "A fault-resilient approach for underwater sensor network localization," by Anjan P Das, CET; 2) "Fake news detector: a tool for detecting fake news in online social networks," by Indu V, IIITM-K; 3) "A random projection based image encryption and dimension reduction technique for big image analytics," by Sidharth Ravindran, NIT-Puducherry; 4) "Android malware detection mechanism based on Bayesian model averaging," by Roopak S, IIITM-K; 5) "Image forensics techniques for revealing image forgery," by Divya Vidhyadharan, CET; 6) "Improved P2P communication in IoT using the LOADng routing protocol," by Deepthi Sasidharan, NIT-C; 7) "Development of embedded systems for secure biometric authentication using IoT," by Annes Joshy, GEC-Idukki; 8) "Authorship analysis framework for a clutter-free online social media account," by Athira U, IIITM-K; and 9) "On the scope for hardening the security of V2X communication," by Nandakumar, NIT-C.

WICE Activities in 2017: Promoting the Visibility and Roles of Women Communications Engineers

By Ana Garcia Armada, Chair of the WICE Committee, Universidad Carlos III de Madrid, Spain, and Octavia A. Dobre, Past-Chair of the WICE Committee, Memorial University, Canada

WICE represents the IEEE ComSoc Women in Communications Engineering Standing Committee. According to our mission of promoting the visibility and roles of women communications engineers, as well as providing a venue for their professional growth, we organized different activities in 2017, in conjunction with three main IEEE ComSoc conferences.

WICE Panel at WCNC 2017: Held in San Francisco, CA, within the IEEE Wireless Communications and Networking Conference (WCNC) in March 2017, the panel gathered junior and senior women researchers, as well as a few senior male researchers, to discuss "How to Encourage Young Women in Communications Engineering: Best Practices and Experiences." Sponsored by Intel, it was organized by Ana Garcia Armada (Universidad Carlos III de Madrid, Spain) and Meryem Simsek (Technical University Dresden, Germany).

The invited speakers and attendees shared their own experiences, as well as the initiatives of their respective organizations to attract and retain female communications engineers. They offered interesting perspectives from industry and academia on how to encourage and support young women who are initiating their careers in communications engineering.

The discussion was preceded by the invited talk of Asha Keddy (Vice President, Intel Communication and Devices Group and General Manager, Next Generation and Standards, Intel Corporation), who offered statistics about how diverse teams perform better, and shared her very inspiring story "from youthful passion for technology and education to executing a technology vision that will transform the world."

The interesting discussions continued with the following invited panelists:

- Poornima Lalwaney, Senior Director at Qualcomm.
- Elza Erkip, Professor of Electrical and Computer Engineering, New York University Tandon School of Engineering.
- Aylin Yener, Visiting Professor of Electrical Engineering at Stanford and Dean's Fellow and Professor of Electrical Engineering at Penn State.

They provided their point of view on questions such as, "What is your organization doing to encourage/support young women in communications engineering?" or "How to balance their research and life?"

The event also received support from WICE and N2Women, through three travel grants for female students to partake in its organization.

Joint event with ComSoc YP at ICC 2017: With the theme "Navigating Your Career in Telecommunications," the luncheon event was organized by IEEE ComSoc Young Professionals (YP) and WICE at the IEEE International Conference on Communications (ICC) in Paris, France, in May 2017.



Group picture with some of the panelists and organizers of the WICE Panel at WCNC 2017.



Octavia A. Dobre speaking at the GLOBECOM 2017 Panel.

It was an interactive and exciting session with a panel consisting of the following young and senior telecommunication professionals, who helped unravel "Hot topics in communications," and provide insights on how YPs and women can achieve a successful career in academia, industry or in a start-up company:

- Mérouane Debbah, Centrale Supélec, France.
- Frédérique Vallée, Chair, IEEE France Section.
- Shashank Gaur, Vice-Chair for 2017 IEEE YP.

The event received support from WICE through two travel grants presented to female students who contributed to its organization.

YP/WIE/WICE Panel at Globecom 2017: Held in Singapore, within IEEE Global Communications Conference (Globecom) in December 2017, the panel was organized by the IEEE YP, IEEE Women in Engineering (WIE) and IEEE ComSoc WICE, with the subject "Research, Innovation and Commercialization – Opportunities and Challenges."

Since research, innovation and commercialization are three crucial elements to sustainable growth of a knowledge-based economy, the panelists shared the view that knowing what are the opportunities and challenges at each of these stages is beneficial to a researcher, engineer, or scientist.

At the event, the 2017 WICE Outstanding Achievement Award was presented to Urbashi Mitra, University of Southern California, USA. This is one of the four awards that WICE presents annually to recognize its members, namely:

(Continued on next page)



Picture group during the joint event with ComSoc YP at ICC 2017.

- WICE Outstanding Achievement Award
 - WICE Outstanding Service Award
 - WICE Mentorship Award
 - WICE Early Achievement Award (new, approved in Dec. 2017).
- Additionally, WICE also presented two travel grants to female students who contributed to the event organization.

Besides the previously mentioned awards and travel grants, WICE also supports the IEEE ComSoc Child Care Grant program, which started with a pilot program at IEEE Globecom 2016, and has continued through 2017. Through this program, IEEE ComSoc members who attend ICC and Globecom are partially reimbursed for child care expenses incurred when travelling with their small children to the conference or when leaving the children at home while attending the conference.

We would like to thank the IEEE ComSoc Board of Directors for their support of WICE activities, and hope to see you all at the WICE events. If you are interested in volunteering with WICE, please contact us (see the WICE web site for contact information <http://wice.committees.comsoc.org/>).



Urbashi Mitra (right) receiving the WICE Outstanding Achievement Award at the GLOBECOM 2017 Panel from Octavia A. Dobre.

CHAPTER ACTIVITIES

ComSoc Saudi Arabia Chapter is Reviving

By Abdullah Almuttiri, Saudi Arabia Chapter Chair

In the last three years, membership in the ComSoc Saudi chapter has decreased due to many reasons, mainly because it was idle for a time. In April 2017 a new chair took the lead to revive the chapter and re-activate it. Dr. Abdullah Almuttiri, the new Saudi chapter chair, formed a diverse committee to steer the chapter. The chair started with three activities that draw attention to what IEEE ComSoc is doing.

The first event was a workshop held in partnership with the Ministry of Commerce represented by the Riyadh Chamber of Commerce. A workshop on a vibrant hot topic of this decade was conducted in collaboration with Saudi Telecom Company (STC), the leading telecom operator in Saudi Arabia. The topic of the workshop was "Internet of Things: Definition and Business Opportunities," presented by Dr. Abdullah Almuttiri, chair of ComSoc Saudi Chapter, and Eng. Othman Aldahash, VP in STCS. The event attracted about 80 attendees from industry and academia.

This event started with Dr. Abdullah, who gave an introduction discussing the fourth revolution that will transform human lives to a digitized life, followed by a walk through the mobile generations from the 1G to the current 4G features and how digital transformation evolved. This was followed by an introduction to 5G, with the features it will bring and the expected further transformation and digitization it will bring to humanity. Internet of Things (IoT) and Internet of Everything was then discovered and explained. The era of digitizing almost everything from small things to machine to machine communications was also explored. With the 5G capabilities of low latency of less than 2ms and high capacity with 256QAM, carrier aggregation and massive MIMO are a key enabler of mobile IoT and IoE. Next was a discussion of Narrowband IoT (NB-IoT) and Low Power Wide Area Network (LPWAN) and their role in providing a sufficient connectivity for IoT. The presentation concluded with a discussion of the IoT and IoE ecosystem and the features and technologies intersecting with them, i.e. cloud computing and big data analytics, and their role in enabling smart IoT and smart IoE ecosystems. Following this presentation, Eng. Othman Aldahash discussed use cases of IoT and several existing IoT applications that STC is currently working on.

The Saudi Chapter is currently co-organizing IEEE MENA-

COMM in collaboration with the Lebanon Chapter to be held in Beirut, Lebanon 18-20 April 2018. The Chapter's diverse activities also included hosting regular webinars. A webinar on IoT Ecosystem Security was organized, attracting more than 70 attendees. Prof. Muhammad Khurram Khan presented this webinar, in which he explained how to gain trust in IoT ecosystem security. He started by defining IoT and showing the IoT ecosystem growth rate. He then spoke about how to encourage consumer trust in IoT, explaining the security and privacy requirements of smart IoT followed by the discussion of IoT consumer privacy violations. Next he discussed consumer communal acts of the IoT product life-cycle, and finally closed the webinar with recommendations for IoT stakeholders. The feedback from attendees on this hot topic webinar was outstanding, the webinar could be repeated soon.

The ComSoc Saudi Arabia Chapter values its members and strives to deliver activities on state-of-the-art technologies. The Chapter has developed a promising plan for its member for 2018 and will work hard to achieve this goal. For any inquiries or requests please do not hesitate to contact the chapter chair, Dr. Abdullah Almuttiri, at SaudiArabia_Chapter@comsoc.org or a.s.a@ieee.org

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