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CONFERENCE REPORT

IEEE LATINCOM 2019, 11-13 November 2019, Salvador, Brasil

By Michael Rice, IEEE LATINCOM 2019 Technical Program Co-chair, Brigham Young University, Provo, UT, USA

The 11th edition of the IEEE Latin-American Conference on Communications (LATINCOM) returned to Brasil for in 2019. (LATINCOM 2011 was held in Belém, Brasil). The conference goal is to provide a platform for researchers and practitioners in Latin America to share R&D results, to meet, and to network.

The technical program received 114 submissions which were reviewed by 65 technical program committee members. Fifty-four of the submissions were accepted for presentation at LATINCOM 2019 in 15 technical sessions. These papers were also included in the conference proceedings which is now available on IEEE Xplore. The authors of the accepted papers are from 12 countries (six in Latin America and six beyond Latin America). This is a healthy international mix that allowed those from outside Latin America to learn what is happening in Latin America and for Latin Americans to interact with fellow researchers from outside the region.

The quality of this year's technical program was quite good and included papers on diverse topics ranging from vehicle-to-everything networks (two sessions) to a variety of issues on Internet of Things (two sessions) to an interesting variety of applications that help people, such as location-based services, multimedia, and healthcare. The quality of this program would not be possible without the diligent efforts of the technical program committee. This truly international committee devoted many hours to reviewing and obtaining reviews for the submissions.



Presentation of the Best Paper Award at the cocktail reception. From left to right: Cesar Azurdia-Meza (Co-Author of the Award-Winning Paper), Michael Rice (Technical Program Co-Chair), Nicolas Ortega (Co-Author of the Award-Winning Paper), and Gustavo Bittencourt Figueiredo (General Chair).

The Best Paper Award was given to the paper entitled "Second Order Statistics and BER Performance Analysis of a non-WSSUS V2X Channel Model that Considers Velocity Variations" by Nicolás Ortega, Cesar Azurdia-Meza, Carlos Gutiérrez, and Carlos Gómez-Vega. The Award was given during the cocktail reception on the evening of 12 November 2019.

As a complement to the technical program, four keynote speakers addressed the conference attendees: Prof. Arun Venkataramani, University of Massachusetts at Amhurst; Prof. Joel J. P. C. Rodrigues, Federal University of Piauí, Brasil; Prof. Nelson Luis Saldanha da Fonseca, Institute of Computing, The State University of Campinas, Campinas, Brasil; and Prof. Pablo Serano Yáñez-Mingot, Telematics Department, Universidad Carlos III de Madrid.

Three tutorials were also available to all conference attendees: "eHealth Technologies with Mobility Support" by Joel J. P. C. Rodrigues, Federal University of Piauí, Brasil; "Aspects of AI-based applications in 5G networks" by Silvia Lins and Pedro Henrique Gomes, Ericsson Research, Indaiatuba, Brasil; "Applications of Multi-User Technologies on IEEE 802.11ac (Wi-Fi 5), 802.11ax (Wi-Fi 6) and 802.11be (Extremely High Throughput) Amendments" by Roger Pierre Fabris Hoefel, Department of Electrical Engineering of the Federal University of Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brasil.

A large contingent of student volunteers staffed the registration desk, handed out conference gifts, and supplied lunch tickets. This gave the conference a young and vibrant face to the attendees. Most of these students participated in a well-organized young professionals program the evening of 12 November 2019.

LATINCOM 2019 succeeded in serving as a vehicle for ComSoc to reach out to its members in Latin America. The conference gave attendees an opportunity to experience first-hand the culture, food, tourist attractions, and lifestyle of Brasil.



Joel Rodrigues giving his keynote talk.

SoftCOM 2019: An Open and Dynamic Forum for Researchers and Professionals in ICT

By Dinko Begusic, Nikola Rozic, Josko Radic, Josip Lorincz, and Katarina Rados, University of Split, FESB, Croatia; Pascal Lorenz, University of Upper Alsace, France; Sinisa Krajinovic, Ericsson, Sweden; and Joel J.P.C. Rodrigues, Federal University of Piau, Teresina - PI, Brasil; Instituto de Telecomunicações, Portugal

The city of Split, being the main academic and industrial center as well as an attractive resort at the Croatian Adriatic coast, was a perfect venue for the 27th SoftCOM conference. The International Conference on Software, Telecommunications and Computer Networks - SoftCOM 2019 was held in attractive ambience of the Radisson Blu Resort hotel, Split, 19 to 21 September, 2019. The Conference was organized by the University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture (FESB) and Croatian Communications and Information Society (CCIS) under the auspices of the Croatian Academy of Engineering. The Conference has been technically co-sponsored by the IEEE Communications Society (ComSoc) with the support of the Technical Committee on Communications Software (CommSoft).

At the opening ceremony the participants were welcomed on behalf of the organizers by Prof. Dinko Begusic, Ph.D., SoftCOM 2019 General Co-Chair; Prof. Sven Gotovac, the Dean of the University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture (FESB); Ms. Radojka Tomašević, Head of Sector for International and EU Projects of the City of Split; Prof. Pascal Lorenz, chair of the IEEE ComSoc France Chapter; Prof. Mario Kusek, Member of the Executive Committee of the IEEE Croatia Section; Prof. Mislav Grgic, Ph.D., University of Zagreb, Faculty of Electrical Engineering and Computing (FER); Milan Zivkovic, Director of Business and Strategy Development, Ericsson Nikola Tesla, Zagreb.

The technical conference program featured 20 conference sessions, including five special sessions and three symposia: the Symposium on Green Networking and Computing; the Symposium on Security and Digital Forensics; and the Symposium on Environmental Electromagnetic Compatibility. Researchers and experts from research institutions and industry from 30 countries have submitted in total 224 papers, and 104 papers

were accepted for presentation within the scientific technical conference program. The 10th Symposium on Green Networking and Computing (SGNC 2019) was organized by A. Capone, DEIB, Politecnico di Milano, and J. Lorincz, FESB, University of Split, with the support of the IEEE TCGCC. As one of the oldest symposiums in the field, the SGNC served as a platform for academia and industry researchers from all over the world to share ideas and results during special sessions, tutorials and business forum presentations organized within the past 10 symposiums. The conference program featured two invited talks dedicated to the area of artificial intelligence and machine learning applications by recognized researchers and institutional representatives as follows: Machine Learning Techniques for Next-Generation Optical Communication Systems, Darko Zibar, Ph.D., Technical University of Denmark, Denmark; Artificial Intelligence Based Tutors: Past, Present, and Future, Ray Perez, Ph.D., Office of Naval Research, USA.

The SoftCOM 2019 Business Forum featured seven workshops and two round tables with the participation of managers, executives, experts, government and institution representatives. In addition five half-day tutorials were held by worldwide recognized experts. A Professional Workshop on ICT covered the wide spectra of topics in ICT. The 8th Workshop on Software Engineering in Practice, organized by Darko Huljenic, Ph.D., Ericsson Nikola Tesla, Croatia, gathered researchers from academia and professionals from industry to discuss new developments in the area of communications software development. The iPANEL SoftCOM 2019 Innovations Challenge was organized by Marko Bervanakis (Ericsson Global Innovation Facilitator), Ericsson Nikola Tesla, Croatia and Toni Mstelić, Ph.D., Ericsson Nikola Tesla, Split. The Workshop on Integrated Anti-fraud System (IAFS) was moderated by Prof. Boris Vrdoljak, Faculty of Electrical Engineering and Computing, Zagreb. The Workshop on Advanced Educational Technologies was moderated by Ani Grubišić, Ph.D., University of Split, Faculty of Science. The GREENMIND Project-Green and Small Mobility was presented by Martin Bucan, Split and Dalmatia County, Split. The Business forum featured a series of industrial presentations including: Danijel Soldo, IBM R&D Center, Boeblingen, Germany; Vedran Ivaniš, Nokia Networks, Croatia; Nikola Morić, MRS Electronic, Croatia.

In conjunction with SoftCOM 2019, the final workshop of the Horizon 2020 SCAVENGE Project (Sustainable Cellular Networks Harvesting Ambient Energy) was organized by P. Dini (CTTC, Barcelona), D. Gunduz (ICL, London), and M. Rossi (UNIPD, Padova).

The SoftCOM 2019 Ph.D. Forum for doctoral students in the area of ICT was organized as a poster session, preceded by a fast-paced introduction by each student. The organization was coordinated by Prof. Maja Matijasevic (University of Zagreb) and Prof. Dinko Begusic (University of Split), and moderated by Asst. Prof. Maja Skiljo (University of Split), Prof. Višnja Križanović (University of Osijek), and Mirko Suđnjev (University of Zagreb).

The presentations of the master level student projects pursued in the frame of the Ericsson Nikola Tesla Summer Camp 2019, have been held within a special workshop session which was coorganized by Ivana Nižetić Kosović, Ph.D., and Toni Mastelić, Ph.D. (Ericsson Nikola Tesla, Split).

More information about the SoftCOM 2019 conference may be found at the address <http://softcom2019.fesb.unist.hr/>



A plenary talk titled "Evolving 5G for the next decade" was presented by Szabolcs Malomsoky, Ph.D., Head of Ericsson Research Budapest, Hungary, and moderated by Darko Huljenic, Ph.D., Head of Ericsson Research, Croatia.

Overcoming the Divide in Thai Light & Quantum Technology (2019)

By Keattisak Sripimanwat (D.Eng), Thailand Chapter Chair

“Light and Quantum” was themed jointly for Thai ComSoc’s activities throughout 2019 as: 1) to celebrate the international day of light (IDL 2019); and 2) to raise awareness of the coming quantum information technology era in Thailand. Multi-events and projects were then accordingly organized on site and online. Those included a highlight activity supported by the IEEE foundation, “Light and Quantum Milestones 2019: History for the Future”. The grand opening with an exhibition of this project of the year was done successfully on November 21 at the IEEE Thailand section’s annual meeting combined with another major talk from IBM quantum computer.

Recalling a long decade of voluntary projects for public realization and awareness founded by the Thai ComSoc chapter with its sister society (QuantumIT Chapter - ECTI Association), there have been organized a number of talks and seminars and published dozens of articles, videos, and other social medias emphasizing the previous failures of the national R&D on communication engineering and information technology (IT) such as 3G, UAV, hard disk, and DTV. That also included serious national procurements on supercomputer and USO internet service. Those case studies, opportunity and the amount of the budget were diluted into the big ocean of technological advancement. Sustainable development is yet possible while the digital divide has been enlarging continuously. Meanwhile, 5G, AI, blockchain, and quantum computer are already challenging ahead. However, up to date most communication engineering and IT R&D is still being trapped in the same valley of death and the national technology adoption is cycling in the loop of “procurement & prosecution” as before.

This is especially true for the forthcoming quantum IT era where quite a high potential technology will be developed



IBM quantum computing and its applications for Thailand: a keynote talk by Dr. Nicholas T. Bronn.

from. But there are also a number of fraud or fake technology-cases including too much hype around the world, as two sides of the same coin. In parallel, recently the Thai quantum information (Q-Thai.org) forum has found many local misleading in quantum based education, R&Ds, products, and news. As examples, about half of the publication on experiments fall into fabrication, fundamental particle with specific “unit” is founded in all high school sciences books (solely particle, not that wave-particle duality), and many other strange, while there are only a few people involved to solve them.

However according to the widespread local news, once the national quantum tech roadmap was shown instantly from a new policy maker, a feeding program budget was allocated following those hypes promptly. Previous few number of experts is then increased exponentially just over a year and ready to commit “quantum innovation” to the motherland in near future!

(Continued on Newsletter page 4)

CONFERENCE REPORT

IEEE ComSoc Saudi Arabia Chapter: Winner of 2019 EMEA Chapter Achievement Award

By Abdullah Almuttiri, Saudi Arabia Chapter Chair

Every year the IEEE Communication Society measures the performance of Chapters across all its regions globally. The result of this process is a single winner per region recognizing the achievements of the top-performing Chapter in that

particular IEEE ComSoc Region. Proudly, the ComSoc Saudi Arabia Chapter was recognized as the best performing chapter across the Europe, Middle East and Africa region, which is the largest geographical IEEE region globally, for the year of 2019. This achievement is presented to the winning Chapter Chair at one of the two IEEE ComSoc flagship conferences, ICC or GLOBE-COM.

This recognition is the result of the leadership, dedication, hard work and collaboration to



The Saudi Arabia Chapter Chair Dr. Abdullah Almuttiri giving a lecture at one of the major Chapter events.

produce the best value-added activities to our members. The harmonic combination of activities, field visits, distinguished lectures, training courses and workshop series, are the main recipe of this success. Partnering with the correct institutions and NPO who would complement our goals is also a key success factor, and herein I shall thank all our partners.

With the start of a new decade in this century the fourth industrial revolution (I4) is closer than ever to being a reality at all its domains. It is estimated that there will be approximately 100 billion connected devices with a total economic impact of USD\$3.9 trillion to USD\$11.1 trillion by 2025. The fifth-generation mobile network (5G) and the Internet of Things (IoT) are two of the key foundation technologies for I4 and they are the hot topic focus across research and industrial R&D. In our Chapter we held a series of lectures, training and workshops on the state-of-the-art technologies that enable 5G and IoT, from cloud computing and big data analytics to telco cloud and SDN/NFV.

The ComSoc Saudi Arabia Chapter promotes ComSoc activities and values their members and strives to deliver value-added activities on state-of-the-art technologies that are advancing for the benefit of humanity. The chapter has proposed a promising plan for their members for 2020 and will work hard to achieve those defined goals. For any inquiries please do not hesitate to contact the Chapter at SaudiArabia_Chapter@comsoc.org or the chapter chair, Dr. Abdullah Almuttiri at a.s.a@ieee.org

THAI LIGHT & QUANTUM/Continued from page 3

These illusions are similar to the past lesson learned and seem to drive our future back to that valley again.

In order to fill the new gap of failure early, one of the promising methods is to learn history with past failures and success stories, next through realization of present situation, and to bridge over that trap toward the future. In 2019, Thai ComSoc then proposed a long term preventive action targeting “Learning History for the Better Future” for general audiences by starting first on the “Light and Quantum” topic. Thankfully, it is our honor that the IEEE Foundation granted one year support to that insight. In details, this project is to explore and to benchmark related Thai histories with those of overseas including the interview, survey, seminar and meeting, book and media publishing, talk, and exhibition by focusing on people with minimum background.

Starting with the main content, pictorial milestones on those two topics are created in a simple form of timelines with attractive pictures, because understanding that latter-younger quantum topic is however highly difficult. Therefore, studying quantum technology along with the more familiar on older history of light by timetabling them in dual tracks is implemented. Eventually after a year of various attempts, a pictorial resource is now ready to present the 400-year history of the classical light through a century of quantum mechanics to the modern era of quantum information technology. Indeed, they are compared with a short 40 years of all Thai related stories. Besides, local pseudoscience, fake news and products, misleading in policy, etc. are also recorded. Once these both sides are considered with other national indicators for competitiveness, technological advancement in the future should then be foresighted precisely.

Initially, 200 books with a few thousand timeline-posters and postcards are made and donated to schools, universities, IEEE and ECTI members, and others around the country via the network of MWIT (Mahidol Wittayanusorn) Science School and IPST. Exhibition is also organized with public talks. One was with the IBM

quantum computer keynote speech by Dr. Nicholas T. Bronn on November 21. This project has encouraged active participation where the target audience is estimated at about 3,000 by the end of 2019. All kinds of results are now serving unlimitedly online at www.quantum-thai.org/light-quantum-milestones-2019.

This pictorial history project is not only addressing the global challenge on “Light and Quantum” and for public understanding and awareness, but also support as a reference source to prevent people from related fraud or fake technology and news. In addition, it is anticipated to help eliminate the old and new frontier hype of the policy side as well. Project extension to be a “fact-check” center will also be considered next.

 **GLOBAL COMMUNICATIONS NEWSLETTER** 

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