

The IEEE CommSoft E-Letter

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Officer Introduction

First of all I hope that all of you and your family are safe and in good health during this difficult situation we are going through. It is our pleasure to introduce the first issue of 2020 of the CommSoft newsletter, which includes useful information on events, and news on topics covered by the CommSoft TC. In addition,

Looking forward for your feedbacks and remarks, as well as any missing information to improve this new format for the future editions. We would like also to recall that we welcome contributions for the next editions.

I wish you an excellent reading.

Sincerely,
Prof. Adlen Ksentini on behalf of the CommSoft Officers



SDN/NFV Investments Helped AT&T with Pandemic Traffic Demand

<https://www.lightreading.com/cloud-native-nfv/atandt-sdn-nfv-helped-meet-covid-19-traffic-demands/d/d-id/758661?>

AT&T announced that their adoption of Software Defined Networking (SDN) and Network Function Virtualization (NFV) is key to cope with COVID-19 traffic demands. As millions of employees are working from home, the demand for Virtual Private Networks (VPN) reached 700% in March. In addition to AT&T using cloud-based technologies and plug-and-play devices to deliver VPN services, the company was able to meet customers' demand without interruption, according to AT&T networking chief Andre Fuetsch. Fuetsch added that would not have been possible without the current investment in software-based network technologies.

The increase in Internet traffic demand during the pandemic was not only attributed to entertainment during social isolation. The FCC reported that Internet traffic rose near 35% in fixed networks and up to 20% in cellular networks during the daytime.

LF Networking Expands Projects and Communities for 5G, Cloud Native and Edge

<https://www.lfnetworking.org/announcement/2020/04/30/lfnetworking-accelerates-5g-cloud-native-and-edge-readiness-with-expanded-projects-and-growing-community-ecosystem/>

LF Networking (LFN), a Linux Foundation umbrella organization for open source networking projects such as OPNFV, ONAP, and others, has accelerated its collaboration efforts towards 5G and cloud native technologies. LFN now includes China Mobile's XGVela platform, an open source telecom Platform as a Service (PaaS) for 5G network functions and applications. LFN also announced new industry members to join the organization. LFN is also starting new mentorship program for students, as well as remote training courses.

Ericsson Signs Deal with British Telecom for Cloud Native 5G Core

<https://www.ericsson.com/en/press-releases/2020/4/bt-and-ericsson-join-up-to-deliver-cloud-native-dual-mode-5g-core>

Ericsson have signed a deal with British Telecom (BT) to deliver Ericsson's dual mode 5G Core network, which combines both Evolved Packet Core and 5G core (both non-standalone and standalone 5G). Ericsson product is fully virtualized and provides combined core network functions that are fully containerized using cloud native technologies. The deal will allow BT to consolidate its network and add orchestration and automation capabilities. The containerization will enable more innovation, faster upgrades, and increased availability of services to customers of BT.

Airtel Deploys Open vRAN with Altiostar

<https://www.altiostar.com/bharti-airtel-deploys-open-vran-with-altiostar/>

Bharti Airtel (Airtel), the largest telecom company in India has deployed an Open Virtual Radio Access Network (vRan) from Altiostar for its 4G network. The vRan technology from Altiostar implements base band processing functions as Virtual Network Functions (VNFs) that can run on cloud-based commodity hardware which brings the many benefits of cloud-based tech such as scalability and resiliency.

Google and Microsoft Extend their Cloud Platforms for Telecom Services

<https://www.sdxcentral.com/articles/news/microsoft-digs-deeper-into-5g-with-affirmed-acquisition/2020/03/>

<https://www.forbes.com/sites/maribellopez/2020/04/06/5g-the-next-battleground-for-microsoft-and-google/#613b935255fe>

Microsoft has acquired Affirmed Networks, a company that offers virtualized Evolved Packet Core vEPC solutions. Affirmed Networks has around 100 vEPC deployments in 76 countries. The company also offers a cloud native 5G Core solution. On the other hand, earlier in March, Google has announced an extension to its Anthos cloud platform, named Anthos for Telecom, which allows telecom companies to run applications at the edge of the network.



Updates on SIG Activities

To date, the CommSoft TC has five SIGs, as listed below

SIG	Coordinator	Coordinator Email
Big Data Communication Software	H. Moun gla	hassine.moungla@parisdescartes.fr
Communication Software for Vehicular Ad hoc Networks	H. Fouchal	Hacene.Fouchal@univ-reims.fr
NFV and SDN Technologies	A. Ksentini	adlen.ksentini@eurecom.fr
Performance Evaluation	A. Kobbane	abdellatif.kobbane@um5.ac.ma
Security in Software Communication	Y. Saaverda & J. Ben-Othman	jbo@univ-paris13.fr

Members interested in joining any of the standing SIGs are to contact the respective SIG coordinator. Members interested in establishing new SIGs can consult the TC chair.

During the past period, the following activities were reported.

SIG on Big Data Communication Software reported the following activities.

- Elsevier Future Generation Computer Systems journal
 - Special Issue on “Information-Centric Network enabler Communication for Internet of Things and communication software”. 2019-2020
- IEEE WCNC 2019
 - Tutorial co-chair
- IEEE ComSoc 2019 Spring school in junction with IEEE WCNC 2019 Marrakech.
 - Around Big Data, IoT, Vehicular Communications and Communication software

SIG on CommSoft for VANETs reported the following activities.

- Symposium chair
 - CSSMA Symposium at Globecom 2019
- European projects on Cooperative Intelligent Systems deployment :
 - SCOOP and INERCOR
 - These projects will end December 2019 and Feb 2020
 - Many advances have been observed
- A lot of issues missing for entire interoperability (security, coverage,, ...)
 - INDID (Funded from 2019 to 2023)
- Deployment of connected and automated vehicles
 - Multiple networks : ITS G5/LTE/5G

SIG on NFV and SDN Technologies reported the following activities.

- JSAC Series on Network Softwarization
 - After two years, the last special issue end of 2019
- IEEE Comsoc Distinguished lecturer on Network Slicing
 - Saudi Arabia
 - Bolivia, Colombia
- IEEE Comsoc Autumn School in Barcelona
- White paper
 - 5GPPP Cloud-Native and Verticals' services
- Standard
 - MEC 024: Multi-access Edge Computing (MEC); Support for network slicing

SIG on Performance Evaluation reported the following activities.

- WINCOM 29 October-1 november 2019, Fez, Morocco,
 - Track on Performances Evaluation
 - More than 50 submissions
- Seminars by Abdellatif Kobbane on Performances evaluation in 5G Networks in:
 - Faculty of Sciences and techniques, Fez, Morocco in June
 - ENSA, Oujda, Morocco in November
 - IEEE Day at ENSIAS, Rabat, Morocco, in October

SIG on Security in Software Communication reported the following activities.

- 1 SI with IEEE NETWORKS
- Keynote ICCSN 2019, Chongqing, June 2019
- Keynote ICETE 2019, Prague, July 2019
- Keynote ICICM 2019, Prague, August 2019
- IoT & 5G SUMMIT, FES, October 2019
- Seminar at ENSIAS, Rabat, October 2019
- Keynote CCSSP 2020, El Oued, March 2020
- Keynote ICCNP 2020, Lyon, June 2020

Announcing a New SIG!

The CommSoft TC is happy to announce a new SIG on Machine-Learning Enabled Communications Software, with the stated scope of “exploring the capabilities offered by machine learning for communication systems”.

The SIG will be coordinated by Dr. Melike Erol-Kantarci, who is currently an associate professor at University of Ottawa, and a leading expert on the subject matter. A senior member since 2015, Dr. Erol-Kantarci received the M.Sc. and Ph.D. degrees in computer engineering from Istanbul Technical University in 2009 and 2004, respectively. She is the Founding Director with the Networked Systems and Communications Research (NETCORE) Laboratory at the University of Ottawa. She is also a courtesy Assistant Professor with the Department of Electrical and Computer Engineering, Clarkson University, Potsdam, NY, USA, where she was a tenure-track Assistant Professor. Her main research interests are wireless communications, AI-enabled wireless networks, smart grid, cyber-physical systems, electric vehicles, Internet of Things, and wireless sensor networks. Among numerous active service roles, she is currently an Editor of the IEEE Communications Letters and IEEE Access.

More on Dr. Erol-Kantarci can be found at here website below.

<http://www.site.uottawa.ca/~merolka2/>

Meanwhile, if you are interested in contributing to this new SIG, please contact Dr. Erol-Kantarci at melike.erolkantarci@uottawa.ca.

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Member Updates

Report on the 27th International Conference on Software, Telecommunications and Computer Networks (SoftCom'19), prepared by Dinko Begusic, Nikola Rozic, University of Split, Croatia, Pascal Lorenz, University of Upper Alsace, Joel Rodrigues, National Institute of Telecommunications (Inatel), Brazil

The 27th 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 has been technically co-sponsored by the *IEEE Communications Society (ComSoc)* with the support of the *Technical Committee on Communications Software (CommSoft)* and the *IEEE Croatian Section*. 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 technical conference program featured twenty 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 have been accepted for presentation within the scientific technical conference program. **The 10th Symposium on Green Networking and Computing (SGNC 2019)** was organised 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 in sharing ideas and results during special sessions, tutorials and business forum presentations organised within past ten symposiums.

A plenary keynote talk titled **"Evolving 5G for the next decade"** has been presented by **Szabolcs Malomsoky, PhD, Head of Ericsson Research Budapest, Hungary**. The conference program featured two invited talks dedicated to the area of artificial intelligence and machine learning applications as follows: **Machine Learning Techniques for Next-generation Optical Communication Systems**, Darko Zibar, PhD, Technical University of Denmark, Denmark; **Artificial Intelligence Based Tutors: Past, Present, and Future**, Ray Perez, PhD, Office of Naval Research, USA.

The **SoftCOM 2019 Business Forum** featured seven workshops and two round tables with participation of managers, executives, experts, government and institution representatives. In addition five half day tutorials have been held by worldwide recognized experts. A professional Workshop on ICT was dedicated to the wide spectra of topics in ICT. The significant contribution has been given by young professionals from Lepida Spa, Italy in the area of IoT systems and applications. **The 8th Workshop on Software Engineering in Practice**, organized by Darko Huljenić, PhD, Ericsson Nikola Tesla, Croatia. **iPANEL SoftCOM 2019 Innovations Challenge** was organized by Marko Bervanakis (Ericsson Global Innovation Facilitator), Ericsson Nikola Tesla, Croatia and Toni Mastelić, PhD, Ericsson Nikola Tesla, Split. **Workshop on Integrated Antifraud System (IAFS)** was moderated by professor Boris Vrdoljak, Faculty of Electrical

Engineering and Computing, Zagreb. This research has been supported under Competitiveness and Cohesion Operational Programme from the European Regional and Development Fund. **Workshop on Advanced Educational Technologies** was moderated by Ani Grubišić, PhD, University of Split, Faculty of Science. Through the workshop the research results of the Adaptive Courseware and Natural Language Tutor (AC&NL Tutor) project funded by the USA Office of Naval Research (ONR) have been presented. The AC&NL **The GREENMIND Project – Green and Small Mobility** has been presented by Martin Bucan, Split and Dalmatia County, Split. The Green mind project fosters the development of economic competitiveness and innovation in the *Green and Small Mobility* industry by reinforcing regional and transnational cooperation between businesses, research bodies and authorities. The Business forum featured a series of industrial presentations: **Linux Encyption Performance is Not an Excuse Anymore**, Danijel Soldo, IBM R&D center, Boeblingen, Germany); **Zero Emission - Nokia's Technology Portfolio**, Vedran Ivaniš, Nokia Networks (Zagreb, Croatia); **MRS ELECTRONIC: A Trusted Partner for Intelligent Electronics**, Nikola Morić, MRS Electronic (Germany).

In conjunction with the SoftCOM 2019 conference, the final **workshop of the Horizon 2020 SCAVENGE project (Sustainable Cellular Networks Harvesting Ambient Energy)** was organised by Paolo Dini (Centre Tecnològic de Telecomunicacions de Catalunya – CTTC, Barcelona), Deniz Gunduz (Imperial College of London), and Michele Rossi (University of Padova).

SoftCOM 2019 conference featured two events aimed to students: The **SoftCOM 2019 PhD Forum** for doctoral students and **Ericsson Nikola Tesla Summer Camp 2019 Workshop for master level students**. The **SoftCOM 2019 PhD 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 has been 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 Sužnjević (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, PhD, and Toni Mastelić, PhD (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" has been presented by Szabolcs Malomsoky, PhD, Head of Ericsson Research Budapest, Hungary and moderated by Darko Huljenic, PhD, Head of Ericsson Research, Croatia..



SoftCOM 2019 social program included the reception in the Gallery of Ivan Mestrovic in Split, the guided tour through the Diocletian Palace, and the conference boat trip to the picturesque town of Trogir.

TC and Newsletter Details

CommSoft TC Mission Statement

To advance the state of the art in communications software and its various aspects and applications. It serves as the major forum for discussion among communications software professionals in both of the communications and computer industries.

Mailing List Information

Join the CommSoft TC mailing list for announcements and updates on the TC's activity as well as its members.

To subscribe, send mail to listserv@listserv.ieee.org with *subscribe commsoft* in the email body (and not the subject line.)

CommSoft on Twitter

Follow CommSoft on twitter using the handle @ieeecomsoft, and mention for announcement retweets.

CommSoft Officers

Post	Name	Affiliation
Chair	Adlen Ksentini	EURECOM, France
Vice Chair	Abdellatif Kobbane	University of Rabat, Morocco
Secretary	Abd-Elhamid M. Taha	Alfaisal University, KSA

Liaisons

Entity	Name
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Communications Society Student Competition	Abdellatif Kobbane
Standards Board	Abd-Elhamid M. Taha

Newsletter Editor

Abd-Elhamid M. Taha