

Infocommunications Journal: over 10 years – HTE: over Seven Decades – Guest Editorial

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INFOCOMMUNICATIONS – the domain that integrates information technology, telecommunications, audiovisual systems from user access to information storage and processing – has changed our quality of life in the last decades. The ever-increasing speed of data-exchange, the ultra-high resolution of affordable visual systems, or the "extraordinary" storage capacity that we instantly access every day became "ordinary" – we actually got used to the speed how things change around us. It is not simply that we realize such changes, but we build it into our everyday experience, and improve our "digitalized skills": we buy our train tickets, get around abroad, or communicate with our relatives much differently than one decade ago.

The last ten years changed our ways of life greatly. This is the eleventh year of Infocommunications Journal, which shows that the scientific society of our field has not just simply accepted its birth but keeps contributing to its growth. The scope of the journal is very broad, which can be seen as an advantage or as a drawback as well. Such a wide spectrum of interest – from radio communications to networking, from media delivery to security – makes it hard to build societies in the short run, but it always allows to choose from the most interesting topics and the most auspicious authors. Certainly, our journal has contributed well to the scientific society – hence, to our life in the long run – already significantly, and keeps doing so. Let us celebrate the first year of this new decade with impactful publications!

On the other hand, this year is remarkable for HTE, the Scientific Association for Infocommunications, our publisher. HTE has been formed in the January 29, 1949, in Hungary – hence celebrating its 70th anniversary this year. It was born when the Low Voltage and Radio-technical Section of Hungarian Electro-technical Association (founded in 1900), merged with the Hungarian Kinotechnical Association. The name at the time reflected the technical interests and needs: Scientific Association for Communications Engineering, Precision Mechanics and Optics. This has changes twenty years ago to the current name – expressing the integration of information technology and communications –, although the abbreviation remained in Hungarian.

The current issue shows a true nature of our Journal: seven papers written by authors of 11 nationalities. Our international authors cover various domains of infocommunications: from radio propagation optimization problems through opto-electronic modulators to security and safety of cyber-physical systems – including applications on robotic arms. Let us have a brief overview of the papers in this issue.

Addressing security, safety, and organizational standard compliance in Cyber-Physical Systems, A. Bicaku et. al. present a

monitoring and standard compliance verification framework for Industry 4.0 application scenarios, with the aim to provide an automated standard compliance.

In his contemporary survey, D. Kanellopoulos covers various issues on multimedia synchronization. He presents the basic control schemes for Inter-Destination Multimedia Synchronization, and focuses on related solutions and standardization efforts for emerging distributed multimedia applications.

C. Ciftlikli and M. Al-Obaidi combined Alamouti space-time block code (STBC) with block diagonalization for downlink MU-MIMO system over Rician channel for 5G. Their results show that for best performance, this combined system should be extended with Alamouti STBC.

In their paper entitled "Cost function based soft feedback iterative channel estimation in OFDM underwater acoustic communication", G. Qiao et. al. propose an iterative receiver, which – according to simulation results and experiments at sea – outperforms current solutions.

Z. Luo et. al. propose a minimum BER criterion based robust blind separation (BSS) for MIMO systems. Their results show that this method outperforms conventional ML-based BSS methods in speed of convergence and separation accuracy.

The opto-electronic oscillator with Mach-Zender modulator by A. Bortsov and M. Smolskiy offers a model for phasenoise analysis – and the model is applied successfully for the proposed system.

Finally, R. Szabo and A. Gontean demonstrate their results on applying the Six Sigma toolset for sun tracker robotic arm optical distance measurement evaluation at different positions.

Seventy years for our Association, and ten years for our Journal – this is a year for celebration: remembering some legendary achievements, and aiming for new challenges.



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