

Infocommunications Journal

A PUBLICATION OF THE SCIENTIFIC ASSOCIATION FOR INFOCOMMUNICATIONS (HTE)

March 2025

Volume XVII

Number 1

ISSN 2061-2079

Authors, co-authors of the March 2025 issue	1
<i>PAPERS FROM OPEN CALL</i>	
Effect of the Imperfect Channel Estimation on Achievable NOMA Rate	2
Reducing the Peak to Average Power Ratio in Optical NOMA Waveform Using Airy-Special Function based PTS Algorithm	11
Channel Estimation Methods in Massive MIMO: A Comparative Review of Machine Learning and Traditional Techniques	19
Horn Antenna Development at 80 GHz for Tank Level Probing Radar Applications	32
Physically Tenable Analysis and Control of Scattering from Reconfigurable Intelligent Surfaces	40
Quantum Network Security: A Quantum Firewall Approach	48
Evaluation of traditional and eBPF-based packet processing in Kubernetes for network slicing	56
Support Vector Machines: Theory, Algorithms, and Applications.....	66
A Siamese-based Approach to Improve Parkinson's Disease Detection and Severity Prediction from Speech Using X-Vector Embedding	76
<i>CALL FOR PAPER / PARTICIPATION</i>	
CNSM 2025 / 21st International Conference on Network and Service Management / Bologna, Italy	82
IEEE ETFA 2025 / 30th IEEE International Conference on Emerging Technologies and Factory Automation / Porto, Portugal	83
MASCOTS 2025 / 33rd International Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems / Paris, France	85
<i>ADDITIONAL</i>	
Guidelines for our Authors	84

Technically Co-Sponsored by





Who we are

Founded in 1949, the Scientific Association for Infocommunications (formerly known as Scientific Society for Telecommunications) is a voluntary and autonomous professional society of engineers and economists, researchers and businessmen, managers and educational, regulatory and other professionals working in the fields of telecommunications, broadcasting, electronics, information and media technologies in Hungary.

Besides its 1000 individual members, the Scientific Association for Infocommunications (in Hungarian: HÍRKÖZLÉSI ÉS INFORMATIKAI TUDOMÁNYOS EGYESÜLET, HTE) has more than 60 corporate members as well. Among them there are large companies and small-and-medium enterprises with industrial, trade, service-providing, research and development activities, as well as educational institutions and research centers.

HTE is a Sister Society of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and the IEEE Communications Society.

What we do

HTE has a broad range of activities that aim to promote the convergence of information and communication technologies and the deployment of synergic applications and services, to broaden the knowledge and skills of our members, to facilitate the exchange of ideas and experiences, as well as to integrate and

harmonize the professional opinions and standpoints derived from various group interests and market dynamics.

To achieve these goals, we...

- contribute to the analysis of technical, economic, and social questions related to our field of competence, and forward the synthesized opinion of our experts to scientific, legislative, industrial and educational organizations and institutions;
- follow the national and international trends and results related to our field of competence, foster the professional and business relations between foreign and Hungarian companies and institutes;
- organize an extensive range of lectures, seminars, debates, conferences, exhibitions, company presentations, and club events in order to transfer and deploy scientific, technical and economic knowledge and skills;
- promote professional secondary and higher education and take active part in the development of professional education, teaching and training;
- establish and maintain relations with other domestic and foreign fellow associations, IEEE sister societies;
- award prizes for outstanding scientific, educational, managerial, commercial and/or societal activities and achievements in the fields of infocommunication.

Contact information

President: **FERENC VÁGUJHELYI** • elnok@hte.hu

Secretary-General: **GÁBOR KOLLÁTH** • kollath.gabor@hte.hu

Operations Director: **PÉTER NAGY** • nagy.peter@hte.hu

Address: H-1051 Budapest, Bajcsy-Zsilinszky str. 12, HUNGARY, Room: 502

Phone: +36 1 353 1027

E-mail: info@hte.hu, Web: www.hte.hu