

EDITOR'S UPDATES — JUNE 2023

Welcome to the June 2023 Edition of the *IEEE Communications Standards Magazine*. This edition features the second part of the Special Issue (SI) "Autonomous Networks: Opportunities, Challenges, and Applications," where the first part was published in September 2022. Five articles are included in the second part and they will be introduced by the editor team of the SI.

There are also five papers accepted under the Open Call with topics ranging from 5G systems, the IEEE 802 standards, to security standards. Specifically, the first article, entitled "NR Enhancements for Downlink MIMO in Rel-18," explores performance requirements, challenges, and potential technologies for massive multiple-input multiple-output (MIMO) enhancement in the Release 18 specifications in the 3rd Generation Partnership Project (3GPP). Critical challenges and potential solutions are introduced, followed by solution evaluation and insights from authors.

The title of the second article is "Packet-Based Fronthauling in 5G Networks: Network Slicing-Aware Packetization." In this article, a packet-based fronthaul architecture and payload characteristics considering network slicing are investigated. A packetization method supporting diverse Quality of Services requirements is presented and its open issues are discussed.

The third article is entitled "Robust Edge AI for Real-Time Industry 4.0 Applications in 5G Environment." It presents an Edge Artificial Intelligence (AI) system for realtime industry 4.0 applications. The AI system is able to conduct model combination design and model deployment design based on application requirements in terms of, for example, accuracy and latency. The robustness of the system is also discussed under physical failure.

The fourth article is "IEEE 802.19.3 Coexistence Recommendations for IEEE 802.11 and IEEE 802.15.4 Based Systems Operating in Sub-1 GHz Frequency Bands." It introduces technologies developed for Sub-1 GHz frequency band low-power wide-area wireless communication by different IEEE 802 working groups and addresses the co-existence issue of these technolo-



Zander Lei

gies. The coexistence methods developed in IEEE 802.19.3 and recommendations are provided after performance evaluation.

The last article, but not the least, is "New Directions and Challenges within Identity and Access Management." It discusses standards development in the area of identity and access management to address security and privacy issues when sensitive information needs to be shared in cloud-based services, social webs, and mobile apps etc. A few potential paths through different standard development organizations, e.g. Internet Engineering Task Force (IETF), Kantara Initiative, and OpenID Foundation, are provided together with insights on various protocols in the making.

I would like to thank all the authors for submitting their manuscripts to the *IEEE Communications Standards Magazine* and the peer reviewers for reviewing the manuscripts. Morgan Carleton, Jennifer Porcello, and Christina Keller on the Communications Society staff have been limitless in their support of this publication. Glenn Parsons, the Founding EiC, has been helping handle the IEEE Commentary Column and Carlos Cordeiro, the AEiC, has been pulling together articles for both the Industry Commentary Column and the News Column.

With the recent declaration of an end to the Covid global public health emergency by the World Health Organization, all the standards activities are expected to be back to normal and I wish everyone a prosperous and fruitful year ahead.

BIOGRAPHY

ZANDER LEI (lei.zhongding@huawei.com) is a Senior Researcher at Shield Lab, Huawei Singapore Research Center. He has been working on 5G security for 3GPP networks since 2016. Prior to joining Huawei, he had been a lab head and senior scientist with the Agency for Science, Technology, and Research (A-STAR) of Singapore, doing research and participating in standardization activities on various aspects in wireless systems and networks. He was the associate editor-in-chief of *IEEE Communications Standards Magazine* from 2017 to 2019, the chair/co-chair and chief editor for the Task Forces developing Singapore Standards on IoT and ITS respectively, from 2014 to 2018, the vice chair of IEEE 802.11ah Task Group from 2014 to 2016, and PHY technical editor of the IEEE 802.22 Working Group from 2006.

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