

SENIOR ADVISORS

Sergio Benedetto, *IEEE Communications Society (USA)*
Vijay Bhargava, *University of British Columbia (Canada)*
Chen Qianbin, *Chongqing University of Posts and Telecommunications (China)*
Chen Shanzhi, *Datang Telecom Technology & Industry Group (China)*
Fang Binxing, *Beijing University of Posts and Telecommunications (China)*
Ge Ning, *Tsinghua University (China)*
Gong Ke, *Nankai University (China)*
Guo Jun, *Beijing University of Posts and Telecommunications (China)*
Hong Wei, *Southeast University (China)*
Hu Ruimin, *Wuhan University (China)*
Andrzej Jajszczyk, *AGH University of Science and Technology (Poland)*
Ji Yuefeng, *Beijing University of Posts and Telecommunications (China)*
Dan Kilper, *University of Arizona (USA)*
Kuang Linling, *Tsinghua University (China)*
Li Jiandong, *Xidian University (China)*
Li Shaoqian, *University of Electronic Science and Technology of China (China)*
Wei Li, *University of Victoria (Canada)*
Shu Lin, *University of California-Davis (USA)*
Liu Xinyi, *Hong Kong ASTRI (China)*
Liu Yan, *The State Radio Monitoring Center of China (China)*
Liu Yunjie, *China Unicom (China)*
Long Keping, *University of Science and Technology Beijing (China)*
Yves Louet, *CentraleSupélec (France)*
Ma Jianguo, *Guangdong University of Technology (China)*
Xiaoli Ma, *Georgia Institute of Technology (USA)*
Meng Luoming, *Beijing University of Posts and Telecommunications (China)*
Pei Qingqi, *Xidian University (China)*
Sha Xuejun, *Harbin Institute of Technology (China)*
Shen Changxiang, *Beijing University of Technology (China)*
Su Sen, *Beijing University of Posts & Telecommunications (China)*
Song Zhaohui, *National Natural Science Foundation of China (China)*
Peter Stavroulakis, *Technical University of Crete (Greece)*
Wang Jinlong, *Army Engineering University of PLA (China)*
Wang Qiao, *Southeast University (China)*
Wang Xinbing, *Shanghai Jiao Tong University (China)*
Wang Wenbo, *Beijing University of Posts and Telecommunications (China)*
Wei Gang, *South China University of Technology (China)*
Wei Guo, *University of Science and Technology of China (China)*
Stephen Weinstein, *Communication Theory and Technology Consulting Corp. (USA)*
Wu Hequan, *Chinese Academy of Engineering (China)*
Tsong-Ho Wu, *AT&T (USA)*
Xie Dongliang, *Beijing University of Posts and Telecommunications (China)*
Yang Yang, *ShanghaiTech University (China)*
Yang Yixian, *Beijing University of Posts and Telecomm (China)*
Yang Zhen, *Nanjing University of Posts and Telecommunications (China)*
Zhang Hongke, *Beijing Jiaotong University (China)*
Zhang Ping, *Beijing University of Posts and Telecomm (China)*
Zhang Zhenfeng, *Institute of Software, Chinese Academy of Sciences (China)*
Zhao Huiling, *China Telecom Beijing R&D (China)*
Zhou Xianwei, *University of Science & Technology Beijing (China)*
Zhu Longming, *ZTE Corporation (China)*
Douglas Zuckerman, *Applied Communications Sciences (USA)*

China 中国通信 Communications

June 2026 Vol. 23 No. 6

REVIEW PAPER

1 Blockchain-Based Security Solutions for the Internet of Vehicles: A Comprehensive Survey

Li Juxia, Zhang Lejun, Guo Ran, Su Shen, Wang Guopeng, Chen Chenglin, Long Wenjie, Wang Yuqian

COMMUNICATIONS THEORIES & SYSTEMS

31 Efficient Channel Estimation for Millimeter Wave and Terahertz Systems Enabled by Integrated Super-Resolution Sensing and Communication

Xu Jingran, Wang Huizhi, Zeng Yong, Xu Xiaoli, Wu Qingqing, Yang Fei, Chen Yan, Abbas Jamalipour

50 A Comprehensive Study on Target RCS Measurement for Integrated Sensing and Communication Channel

Wang Zhiqin, Zhang Yu, Ren Yuxin, Fan Wei, Yuan Zhiqiang, Wang Wenbo

60 An Efficient Subspace Projection Interference Suppression Receiver for Short Packet Transmission

Dong Chao, Zhang Zhengzhen, Huo Jiaqi, Cai Yuekai, Niu Kai

75 Impact of Channel Aging on Downlink Cell-Free Massive MIMO in High-Speed Railway Scenarios

Ding Qingfeng, Dai Xinquan, Li Yihao, Wang Song, Peng Huifan

86 End-to-End Hybrid Beamforming for mmWave Integrated Access and Backhaul with Implicit CSI: A Cost-Effective Approach

Lin Sisi, Chen Qimei, Xu Xiaoxia, Wen Dingzhu, Zhao Mingming, Jiang Hao

103 On Distortion of Fading Channels without and with Channel Coding in Real-Time Wireless Systems

He Meilin, Lei Yanchao, Wang Haiquan, Pan Peng

118 A Covert Communication Approach Based on Signal Overlay via Synchrosqueezing Transform

Wang Xianyu, Wang Ping, He Wen, Fang Hai

126 A Wideband MIMO Antenna Using Hybrid Coupler for WLAN and LTE Applications

Ngoc-Lan Nguyen, Hung Tran-Huy, Nghia Nguyen

137 A Single-Layer and Compact Design of 8-Port MIMO Array for 5G IoT Applications

Noi Truong-Quang, Anh Tran-Tuan, Tu Chu-Anh, Thai Dinh Nguyen, Tuyen Pham-Danh, Hung Tran-Huy

NETWORKS & SECURITY

146 Joint Access Node Selection and Fast Routing Optimization for LEO Satellite Networks

Zhang Yifan, Dong Tao, Liu Zhihui, Di Hang, Zhou Jianming

165 Hybrid Contention/Designation-Based Uplink OFDMA Random Access for Next-Gen WLANs

Xie Gang, Sun Kexin, Liu Yunbo, Liu Yuanan

181 Differentially Private Stochastic Gradient Descent with Vertical Gradient Perturbation and Selective Updates

Li Xiaoye, Zhao Wei, Sun Zhenlong, Yuan Yuan

196 Time-Efficient Data Dissemination in Multiantenna UAV-Enabled Downlink MISO-OFDM Systems with Imperfect CSI

Deng Liping, Jiang Hong, Xiao He, Luo Ying, Zhang Qiuyun, Ye Changqing

216 Cost-Aware Secure Offloading Based on Edge-Edge Collaboration in SDN-Enabled MEC Networks with Deep Reinforcement Learning

Nie Xuefang, Chen Xingbang, Zhou Tianqing, Zhou Qiangqiang, Zhang Jiliang

232 Reliable Spectrum Management Based on Blockchain-Enabled Priority Auction Consensus in Cognitive Radio

Liu Mingqian, Liu Zhenguo, Zhang Hongyi, Chen Yunfei, Li Ming, Tan Hui, Zhao Nan

EMERGING TECHNOLOGIES & APPLICATIONS

245 Bridging Large Language Models and 6G Networks: Overview and Open Issues

Qiang Xianke, Chang Zheng, Tang Jianhua, Feng Wei, Yang Chungang, Zhang Yan

262 A Novel Millimeter Wave Channel Emulation Platform for Satellite Communication Scenarios

Zhou Hao, Fei Dan, Chen Chen, Zhang Haobo, Yin Bowen, Ai Bo

279 Enhancing Feature Extraction for Indoor Fingerprint Localization Using Diversified Data

Jiao Jiayu, Wang Xiaojun, He Chenlin, Huang Yuhua, Tong Youjia

297 OTFS-Based Radar-Embedded Communications for High-Speed Scenarios

Liu Xiangli, Zhao Hexiang, Bai Xinlong

313 Secure Transmission in Dual-IRS-UAV Assisted IoT Communication System

Zhang Yu, Wang Zhenyu, Lu Weidang, Zhang Qingqing, Huang Guoxing, Gao Yuan

325 Efficient Profit-Aware UAV Charging Strategy in Wireless Sensor Networks

Xin Yuanxue, Ning Yue, Shi Pengfei

AUTHORIZED BY

China Association for Science and Technology

SPONSORED BY

China Institute of Communications

CO-SPONSORED BY

IEEE Communications Society

PUBLISHED BY

China Communications Magazine, Co., Ltd.

PUBLISHER

President Song Tong

Editorial Office Director Chen Fangxin

Editorial Staff Ji Nan Ma Ke Sun Xinyu

CORRESPONDENCE

Tel. : +86 10 6455 3845 +86 10 8205 1670

Fax : +86 10 6455 3845 Email: chinacom@china-cic.cn

Add: China Communications Magazine Co., Ltd.,

1st Floor, West Building, Postal and Telecommunications News Building, No. 11-1 Anyuan Road, Chaoyang District, Beijing 100029, China

PRINTED BY

Beijing Futai Printing Co., Ltd.

PUBLISHING DATE

15th of the Month

PRICE: (postage included)

Mainland of China RMB¥ 60 (per month)

H.K., Macao & Taiwan US\$ 240 (per year)

Overseas US\$ 480 (per year)

Domestic Postal Distribution Code: 2-539

Overseas Distribution Agent: China International Book Trading Corporation

CHINA COMMUNICATIONS has been included in SCIE index since March, 2007. It has been included in Scopus since March, 2009. In addition, all articles published in China Communications are available via the IEEE Xplore beginning from March, 2013

SUBMISSIONS

Electronic submissions are preferred, and should be submitted through the Manuscript Central (<http://mc03.manuscriptcentral.com/chinacomm>). For further information, please contact chinacom@china-cic.cn.

SUBSCRIPTIONS

Please send orders, address changes to chinacom@china-cic.cn

ADVERTISING

Advertising is accepted at the discretion of the publisher.

Email: chinacom@china-cic.cn

COPYRIGHT

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all co-authors, if any, as well as –tacitly or explicitly – by the responsible authorities at the institution where the work was carried out. The author warrants that his/her contribution is original and that he/she has full power to make this grant. The author signs for and accepts responsibility for releasing this material on behalf of any and all co-authors. Transfer of copyright to China Communications becomes effective if and when the article is accepted for publication. After submission of the Copyright Transfer Statement signed by the corresponding author, changes of authorship or in the order of the authors listed will not be accepted by China Communications. The copyright covers the exclusive right and license to reproduce, publish, distribute and archive the article in all forms and media of expression now known or developed in the future, including reprints, translations, photographic reproductions, microform, electronic form (offline, online) or any other reproductions of similar nature.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publishers. The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publishers can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.