Journal Papers

1. Q. Yu, D. Mishra, H. Wang, D. He, J. Yuan and M. Matthaiou, "System-Level Performance Analysis of LoRa-Based LEO Satellite Constellations for IoT Communications," *IEEE Wireless Commun. Lett.*, 2025.
2. Z. Liu, N. Wu, D. He, W. Yuan, and C. Yuen, "Meta-Learning Empowered Receiver Design for MIMO-OFDM System under HPA Nonlinearity," *IEEE Trans. Veh. Technol.*, 2025.
3. M. Yuan, D. He, H. Yin, H. Wang, F. Liu, Z. Wang, and T. Q.S. Quek, "Hybrid Beamforming for mmWave Integrated Sensing and Communication with Multi-static Cooperative Localization," *IEEE Trans. Wireless Commun*., 2025.
4. Y. Chen, D. He, H. Wang, W. Yuan, and T. Q.S. Quek, "Joint Channel and Clipping Amplitude Estimation and Signal Detection for Clipped OTFS," *IEEE Trans. Wireless Commun.*, 2025.
5. B. Li, D. He and Q. Tao, "Towards LoRa-Based LEO Satellite IoT: A Stochastic Geometry Perspective," *IEEE Internet Things J.*, 2025.
6. D. He, W. Yuan, J. Wu and R. Liu, "Ubiquitous UAV Communication Enabled Low-Altitude Economy: Applications, Techniques, and 3GPP's Efforts," *IEEE Netw.*, 2025.
7. Q. Yu, D. Mishra, H. Wang, D. He, J. Yuan and M. Matthaiou, "Towards LoRa-Based LEO Satellite IoT: A Stochastic Geometry Perspective," *IEEE Internet Things J.*, 2025.
8. Z. Kang, D. He, H. Wang, Z. Wang and Z. Han, "Tensor-Based Unified Joint Channel Estimation and Active Device Detection Scheme for High-Mobility Grant-Free Random Access Scenarios," *IEEE Internet Things J.*, vol. 12, no. 14, pp. 26415-26429, Jul. 2025.
9. Z. Liu, N. Wu, D. He, W. Yuan, Y. Li and T. Q. S. Quek, "GNN-Assisted BiG-AMP: Joint Channel Estimation and Data Detection for Massive MIMO Receiver," *IEEE Trans. Wireless Commun.*, vol. 24, no. 6, pp. 4631-4646, Apr. 2025.
10. T. Yang, D. He, H. Hou, H. Wang, H. Yin, Y. Huang, Z. Wang and T. Q.S. Quek, "A Unified Tensor-Based Joint AUD and ISAC Parameter Estimation With Large-Scale User Access," *IEEE Trans. Cognit. Commun. Netw.*, 2025.
11. N. Wu, H. Li, D. He, A. Nallanathan and T. Q. S. Quek, "Integrated Sensing and Communication Receiver Design for OTFS-Based MIMO System: A Unified Variational Inference Framework," *IEEE J. Sel. Areas Commun.*, vol. 43, no. 4, pp. 1339-1353, Apr. 2025.
12. Q. Yu, H. Wang, D. He and Z. Lu, "Enhanced Group-Based Chirp Spread Spectrum Modulation: Design and Performance Analysis," *IEEE Internet Things J.*, vol. 12, no. 5, pp. 5079-5092, 1 Mar., 2025.
13. Q. Yu, D. He, Z. Lu and H. Wang, "Layered Group-Based Chirp Spread Spectrum Modulation: Waveform Design and Performance Analysis," *IEEE Trans. Commun.*, vol. 73, no. 7, pp. 5051-5064, Jul. 2025.
14. A. Francis Kawoya, H. Wang and D. He, "A Lightweight and Efficient Key Generation Scheme from OFDM Subcarriers' Channel Responses," *IEEE Wireless Commun. Lett*., vol. 13,

no. 11, pp. 3177-3181, Nov. 2024.

15. D. He, Z. Zhang, H. Lin, Z. Wu, Y. Huang, and Z. Wang, "Performance Comparison of Single-Carrier and Multi-Carrier Waveforms over Terahertz Wireless Channels, " *Digit. Commun. Netw.*, vol. 10, no. 5, pp. 1297–1304, Oct. 2024.
16. Y. Chen, D. He, Z. Lu, M. Yuan and H. Wang, "Design of Precoded Waveform With Low PAPR for High Mobility Communication Systems," *IEEE Commun. Lett*., vol. 28, no. 9, pp. 2156-2160, Sept. 2024.
17. D. He, H. Hou, R. Jiang, X. Yu, Z. Zhao, Y. Mo, Y. Huang, W. Yu and T. Q. S. Quek, "Integrating Sensing and Communication for IoT Systems: Task-Oriented Control Perspective," *IEEE Internet Things Mag.*, vol. 7, no. 4, pp. 76-83, Jul. 2024.
18. Z. Liu, D. He, N. Wu, Q. Yan and Y. Li, "Model-Driven IEP-GNN Framework for MIMO Detection with Bayesian Optimization," *IEEE Wireless Commun. Lett*., vol. 13, no. 2, pp. 387-391, Feb. 2024.
19. M. Abood, H. Wang, D. He, M. Fathy, S. Rashid, M. Alibakhshikenari, B. S. Virdee, S. Khan, G. Pau, I. Dayoub, P . Livreri and T. A. Elwi, "An LSTM-Based Network Slicing Classification Future Predictive Framework for Optimized Resource Allocation in C-V2X," *IEEE Access*, vol. 11, pp. 129300-129310, 2023.
20. Q. Yu, D. He, Z. Lu and H. Wang, "SSK-Based PSK-LoRa Modulation for IoT Communications," *IEEE Open J. Commun. Society,* vol. 4, pp. 1487-1498, 2023.
21. Y. Qi, T. Zhang, Y. Feng, Z. Qin and D. He, "Design and Implementation of Spectrally Efficient Frequency Division Multiplexing Receiver," *IEEE Access*, vol. 11, pp. 121482-121491, 2023.
22. M. Yuan, H. Wang, H. Yin and D. He, "Alternating Optimization Based Hybrid Transceiver Designs for Wideband Millimeter-Wave Massive Multiuser MIMO-OFDM Systems," *IEEE Trans. Wireless Commun.*, vol. 22, no. 12, pp. 9201-9217, Dec. 2023.
23. Z. Huang, D. He and Z. Wang, "Two-Stage LMMSE/DNN Receiver for High-Order Modulation," *IEEE Commun. Lett*., vol. 27, no. 8, pp. 2068-2072, Aug. 2023.
24. D. He, Z. Sha, H. Liu, T. Mao and Z. Wang, "UAV-Assisted Satellite-Terrestrial Secure Communication Using Large-Scale Antenna Array With One-Bit ADCs/DACs," *IEEE Trans. Commun.*, vol. 71, no. 1, pp. 580-594, Jan. 2023.
25. J. Lu, D. He and Z. Wang, "DeepAntiJam: Stackelberg Game-Oriented Secure Transmission via Deep Reinforcement Learning," *IEEE Commun. Lett.*, vol. 26, no. 9, pp. 1984-1988, Sept. 2022.
26. Z. Huang, D. He, J. Chen, Z. Wang and S. Chen, "Autoencoder with fitting network for Terahertz wireless communications: A deep learning approach," *China Commun*., vol. 19, no. 3, pp. 172-180, Mar. 2022.
27. D. Peng, D. He, Y. Li and Z. Wang, "Integrating Terrestrial and Satellite Multibeam Systems Toward 6G: Techniques and Challenges for Interference Mitigation," *IEEE Wireless Commun.,*

vol. 29, no. 1, pp. 24-31, Feb. 2022.

28. D. He and Z. Wang, "Deep Learning-Assisted Demodulation for TeraHertz Communications Under Hybrid Distortions," *IEEE Commun. Lett*., vol. 26, no. 2, pp. 325-329, Feb. 2022.
29. J. Lu, D. He and Z. Wang, "Secure Routing in Multihop Ad-Hoc Networks With SRR-Based Reinforcement Learning," *IEEE Wireless Commun. Lett*., vol. 11, no. 2, pp. 362-366, Feb. 2022.
30. D. He, Z. Wang, T. Q. S. Quek, S. Chen and L. Hanzo, "Deep Learning-Assisted TeraHertz QPSK Detection Relying on Single-Bit Quantization," *IEEE Trans. Commun.*, vol. 69, no. 12, pp. 8175-8187, Dec. 2021.
31. K. Ma, D. He, H. Sun, Z. Wang and S. Chen, "Deep Learning Assisted Calibrated Beam Training for Millimeter-Wave Communication Systems," *IEEE Trans. Commun*., vol. 69, no. 10, pp. 6706-6721, Oct. 2021.
32. H. Zhao, D. He, Z. Kang and H. Wang, "Orthogonal Time Frequency Space (OTFS) With Dual-Mode Index Modulation," *IEEE Wireless Commun. Lett.*, vol. 10, no. 5, pp. 991-995, May 2021.
33. H. Zhou, D. He, and H. Wang, " Joint relay and jammer selection for secure cooperative networks with a full-duplex active eavesdropper," *IET Commun.*, vol. 14, no. 6, pp. 1043-1055, 2020.
34. D. He, H. Wang and H. Zhou, "Learning-Based Secure Communication Against Active Eavesdropper in Dynamic Environment," *IET Commun.*, vol. 13, no. 15, pp. 2235-2242, 2019.
35. D. He, C. Liu, H. Wang and T. Q. S. Quek, "Learning-Based Wireless Powered Secure Transmission," *IEEE Wireless Commun. Lett.*, vol. 8, no. 2, pp. 600-603, Apr. 2019.
36. D. He, C. Liu, T. Q. S. Quek and H. Wang, "Transmit Antenna Selection in MIMO Wiretap Channels: A Machine Learning Approach," *IEEE Wireless Commun. Lett.*, vol. 7, no. 4, pp. 634-637, Aug. 2018.

Conference Papers

1. Y. Chen, D. He, S. Li and T. Mao, " Codebook Design for Holographic MIMO: Near-Field Prospects and Road to Standardization," *2025 International Wireless Communications and Mobile Computing* (IWCMC), Abu Dhabi, United Arab Emirates, 2025, pp. 1084-1090.
2. Y. Cao, D. He, T. Yang, H. Wang and R. Jiang, " Low-Complexity Joint Range and Velocity Estimation for OFDM-Based Integrated Sensing and Communication," *2025 International Wireless Communications and Mobile Computing* (IWCMC), Abu Dhabi, United Arab Emirates, 2025, pp. 1047-1052.
3. F. Zhao, Z. Pan, X. Xia, M. Yuan, D. He and H. Hou, "Beamforming Optimization for STAR-RIS-Assisted Integrated Sensing and Communication," *2025 International Wireless Communications and Mobile Computing* (IWCMC), Abu Dhabi, United Arab Emirates, 2025,

pp. 740-745.

4. L. Li, C. Yang, H. Li and D. He, "DRL-Based Service Function Chains Embedding Through Network Function Virtualization in STINs," *2024 IEEE International Conference on Signal, Information and Data Processing* (ICSIDP), Zhuhai, China, 2024, pp. 1-5.

5. G. Jiao, R. Jiang, Y. Peng and D. He, "Parameter Estimation of Sensing Targets in OTFS-ISAC: Challenges and Applications," *2024 IEEE International Conference on Signal, Information and Data Processing* (ICSIDP), Zhuhai, China, 2024, pp. 1-6.

6. T. Yang, D. He, H. Hou, H. Wang, Y. Huang, Z. Wang and T. Q.S. Quek, "A Unified Tensor-Based Joint Communication and Sensing Parameter Estimation for ISAC with Large-Scale User Access," *2024 IEEE International Conference on Signal, Information and Data Processing* (ICSIDP), Zhuhai, China, 2024, pp. 1-6.

7. D. He and H. Hou, "UAV-Assisted Legitimate Wireless Surveillance: Performance Analysis and Optimization," *2024 IEEE International Conference on Unmanned Systems* (ICUS), Nanjing, China, 2024, pp. 1975-1979.

8. Z. Yue, Y. Huang, H. Hou and D. He, "Cell-Free Integrated Sensing and Communication for UGV Detection Based on Decomposed Back Projection Algorithm," *2024 IEEE International Conference on Unmanned Systems* (ICUS), Nanjing, China, 2024, pp. 1504-1509.

9. J. Liu, T. Mao, D. He, Y. Yang, Z. Gao, D. Zheng and J. Zhang, "Reinforcement-Learning-Enabled Beam Alignment for Water-Air Direct Optical Wireless Communications," *2024 IEEE/CIC International Conference on Communications in China* (ICCC), Hangzhou, China, 2024, pp. 138-143.

10. L. Li, H. Liu, T. Mao, D. He and H. Hou, "Learning-Assisted Receiver for ACO-OFDM with Device Imperfections," *2024 IEEE/CIC International Conference on Communications in China* (ICCC), Hangzhou, China, 2024, pp. 2012-2016.

11. J. Liu, T. Mao, Y. Huang and D. He, "An Action Recognition Algorithm Based on Two-Stream Deep Learning for Metaverse Applications," *2024 International Wireless Communications and Mobile Computing* (IWCMC), Ayia Napa, Cyprus, 2024, pp. 639-642.

12. Y. Zhan, D. He, S. An and H. Wang, "Improved Impulsive Noise Suppression Method: Joint Myriad Detection and Gaussian Fitting Robust Local Weighted Smoothing," *2023 9th International Conference on Computer and Communications* (ICCC), Chengdu, China, 2023, pp. 752-756.

13. T. Yang, D. He, Z. Lu, H. Wang, H. Zhao and Z. Wu, "BiLSTM-Based Frame Synchronization for Overlapped S-AIS Signals: A Learning-Empowered Approach," *2023 IEEE/CIC International Conference on Communications in China* (ICCC), Dalian, China, 2023, pp. 1-6.

14. T. Zhu, Y. Sun, D. He and H. Wang, "PCA-BD-Based Broadband Hybrid Precoding for Multi-user Massive MIMO Systems," *2022 IEEE 22nd International Conference on Communication Technology* (ICCT), Nanjing, China, 2022, pp. 184-189.

15. K. Ma, D. He, H. Sun and Z. Wang, "Deep Learning Assisted mmWave Beam Prediction with

Prior Low-frequency Information," *2021 IEEE International Conference on Communications*(ICC), Montreal, QC, Canada, 2021, pp. 1-6.

16. J. Lu, D. He and Z. Wang, "Learning-Assisted Secure Relay Selection with Outdated CSI for Finite-State Markov Channel," *2021 IEEE 93rd Vehicular Technology Conference* (VTC2021-Spring), Helsinki, Finland, 2021, pp. 1-5.

17. D. He, H. Zhou, H. Wang and D. Yang, "Secure Communication with Wireless Powered Friendly Jammers under Multiple Eavesdroppers," *2019 IEEE 89th Vehicular Technology Conference* (VTC2019-Spring), Kuala Lumpur, Malaysia, 2019, pp. 1-5.

18. H. Zhou, D. He, H. Wang and D. Yang, "Optimal Relay Selection with a Full-Duplex Active Eavesdropper in Cooperative Wireless Networks," *2019 IEEE 89th Vehicular Technology Conference* (VTC2019-Spring), Kuala Lumpur, Malaysia, 2019, pp. 1-5.

19. B. Li, L. Li, D. He, J. Chen and W. Kong, "Energy-efficient secure transmission in massive MIMO systems with pilot attack," *2016 8th International Conference on Wireless Communications & Signal Processing* (WCSP), Yangzhou, China, 2016, pp. 1-5.

20. Z. Long, H. Wang, N. Guan, N. Wu and D. He, "Indirect Learning Hybrid Memory Predistorter Based on Polynomial and Look-Up-Table," *2015 IEEE 81st Vehicular Technology Conference* (VTC Spring), Glasgow, UK, 2015, pp. 1-5.