

CURRICULUM VITAE

Dr. Xianfu Lei

May 2025

Xianfu Lei

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Personal information

Date of birth: December 18, 1981
 Place of birth: Lianyungang, P. R. China
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Work Address

School of Information Science
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 Southwest Jiaotong University (SWJTU)
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1 General Information

1.1 Academic Education

- Ph.D in Information and Communication Engineering,
 Southwest Jiaotong University, P. R. China 03/2005-09/2012
- Diploma in Communication Engineering,
 Southwest Jiaotong University, P. R. China 09/1999-07/2003

1.2 Academic and Research Affiliations

- **Southwest Jiaotong University, P. R. China** 2022-Present
Position: Full Professor
 Vice Director of International Cooperation Research Centre of Communications & Sensor Networks for Modern Transportation
Department: Information Science and Technology
- **Southwest Jiaotong University, P. R. China** 2015-2022
Position: Associate Professor
 Vice Director of International Cooperation Research Centre of Communications & Sensor Networks for Modern Transportation
Department: Information Science and Technology
- **Utah State University, USA** 2012-2014
Position: Research Fellow
Department: Electrical and Computer Engineering

2 Research Activities, Awards

2.1 Research Interests

Current research interests include:

- 6G Wireless Technologies
- Flexible Antenna Systems
- Intelligent Reflecting Surface Assisted Wireless Communications
- Symbiotic Radio for IoT Communications
- Emerging Communication Technologies
- Wireless Power Transfer and Applications
- Wireless Security
- Performance Analysis of General Communication Systems

2.2 Funded Projects (PI)

- “Theory and Key Technologies of Intelligent Communication and Computing in Complicated Heterogeneous Edge Environments”, NSFC, 2024-2027 (850,000 RMB).
- “RIS-aided NOMA Networks”, NSFC, 2023-2026 (550,000 RMB).
- “PHY Security in Buffer-aided NOMA Networks”, NSFC, 2020-2023 (650,000 RMB).
- “Air Interface for 5G”, Huawei HIRP Flagship Project, 2015-2018 (1200,000 RMB).
- “Adaptive Transmission Schemes for Two-way Relay Networks”, NSFC, 2016-2018 (223,000 RMB).
- “Non-orthogonal Multiple Access for Future 5G Systems”, Sichuan International Cooperation Project, 2017-2019 (300,000 RMB).
- “New Non-orthogonal Multiple Access Technologies”, Open Research Fund of National Mobile Communications Research Laboratory, 2017-2018 (70,000 RMB).

2.3 Ph.D. Theses Supervision

2.3.1 Current Ph.D. Students

- Hao Yang
- Pengju Wang
- Ziwei Wang
- Tianshu Li
- Zihao Huang
- Mingjiang Wu

2.3.2 Ph.D. Students Supervised

- | | |
|----------------|-----------|
| • Meng Shen | 2018-2024 |
| • Xiangjun Ma | 2017-2023 |
| • Jianglong Li | 2016-2022 |
| • Juanjuan Ren | 2016-2022 |

2.4 Awards and Distinctions

- Best Magazine Paper Award, IEEE Vehicular Technology Society, 2023
- Best Paper Award, IEEE/CIC ICC'20, 2020
- Exemplary Editor, IEEE Open Journal of the Communications Society, 2020
- Exemplary Area Editor, IEEE Communications Letters, 2021
- Exemplary Editor, IEEE Communications Letters, 2019
- IEEE WCSP 10-Year Anniversary Excellent Paper Award, 2019
- Best Paper Award, IEEE WCSP'18, 2018.
- Exemplary Reviewer, IEEE Communications Letters, 2013
- Exemplary Reviewer, IEEE Wireless Communications Letters, 2013
- Excellent Doctorate Dissertation Award, Southwest Jiaotong University, 2012

2.5 Citations, May 2025

GOOGLE SCHOLAR: 9621

3 Teaching Experience

3.1 Undergraduate Courses in SWJTU

Principles of Communications (2015-present).

3.2 Postgraduate Courses in SWJTU

Fundamentals of Wireless Communications (2015-present).

3.3 Postgraduate Courses in USU

Advanced Wireless Networks (Fall 2013, Guest Lecturer)

3.4 Supervision of Diploma Theses

Since 2015, he has supervised fifty-five (55) diploma theses.

4 Professional and Scholarly Activities

4.1 Editorial Activities

- *IEEE Communications Letters*, Executive Editor since 2023
- *IEEE Communications Magazine*, Editor since 2024
- *IEEE Transactions on Communications*, Associate Editor 2020-2025
- *IEEE Wireless Communications Letters*, Associate Editor 2020-2025
- *IEEE Communications Letters*, Area Editor for Communication Theory 2019-2023
- *IEEE Communications Letters*, Senior Editor 2019-2019
- *IEEE Communications Letters*, Associate Editor 2014-2019
- *IEEE Open Journal of the Communications Society*, Associate Editor 2019-2025
- *Electronics Letters (IET)*, Associate Editor 2021-2024
- *Journal of Networks and Computer Applications (Elsevier)*, Associate Editor 2016-2018
- *Wireless Communications and Mobile Computing*, Associate Editor 2016-2017
- *Telecommunication Systems*, Associate Editor 2015-2017
- *KSII Transactions on Internet and Information Systems*, Associate Editor 2016-2017
- *Security and Communication Networks*, Associate Editor 2014-2016
- *IEEE Open Journal of Vehicular Technology*, Guest Editor of the Special Issue on “Recent Advances in Security and Privacy for 6G Networks” 2022-2023
- *IEEE Journal on Selected Areas in Communications (JSAC)*, Guest Editor of the Special Issue on “Non-orthogonal Multiple Access for 5G Systems” 2016-2017
- *EURASIP Journal on Wireless Communications and Networking*, Lead Guest Editor of the Special Issue on “Energy Harvesting Wireless Communications” 2014-2015

4.2 Conferences Activities

- TPC Co-Chair, IEEE ICCT’24–Internet-of-Things & Sensor Networks Track
- TPC Co-Chair, IEEE ICC 2018–Ad-Hoc and Sensor Networking Symposium
- TPC Co-Chair, IEEE WiMob’16–Wireless Communications Track
- TPC Co-Chair, CHINACOM 2014–Wireless Communications and Networking Symposium
- TPC Co-Chair, IWCMC 2014 Green Communications and Networking Workshop
- Tutorial Co-Chair, IEEE ComManTel’14
- Publication Chair, IEEE IWSDA’11, IEEE WOCC’16

- TPC Member, IEEE ICC (2011-2025)
- TPC Member, IEEE GLOBECOM (2011-2025)
- TPC Member, IEEE WCNC
- TPC Member, IEEE PIMRC
- TPC Member, IEEE VTC Spring, VTC Fall

4.3 Book Contribution

- [B2] Z. Zhang, H. Sun, and **X. Lei**, Non-orthogonal Multiple Access, *Encyclopedia of Wireless Networks*, Editors: Xuemin (Sherman) Shen, Xiaodong Lin, Kuan Zhang, 2018.
- [B1] **X. Lei**, Contribution (new Integral, pp. 655, eqn. 6.264.4) to *Table of Integrals, Series, and Products*, 8th Edition, I.S. Gradshteyn and I.M. Ryzhik, San Diego, CA: Academic Press, Oct. 2014.

4.4 Selected Journal Publications (Published/Accepted)

- [J112] F. Song, H. Xing, L. Xu, M. Xiao, Y. Liu, M. Deng, X. Chen, and **X. Lei**, “Multi-Objective Dependent Task Scheduling, Resource Allocation, and Service Caching in Aerial-Ground Integrated MEC,” *IEEE Transactions on Intelligent Transportation Systems*, DOI: 10.1109/TITS.2025.3569315, 2025.
- [J111] Y. Zhong, Y. Li, Y. Xiao, **X. Lei**, and M. Xiao, “Pilot precoding and CSI feedback compression for FDD near-field XL-MIMO communications,” *IEEE Internet of Things Journal*, DOI: 10.1109/JIOT.2025.3566579, 2025.
- [J110] Y. Li, S. Yang, Y. Xiao, **X. Lei**, and M. Xiao, “Statistical CSI-based weighted sum-rate maximization for fluid antenna-aided multiuser communications,” *IEEE Wireless Communications Letters*, DOI: 10.1109/LWC.2025.3559517, 2025.
- [J109] Z. Wang, **X. Lei**, P. T. Mathiopoulos, and G. Wang, “Transmit power optimization of cooperative NOMA-aided secure ISAC systems with SWIPT,” *IEEE Transactions on Vehicular Technology*, DOI: 10.1109/TVT.2025.3553908, 2025.
- [J108] Z. Huang, **X. Lei**, M. Shen, M. Wu, X. Li, and G. K. Karagiannidis, “Secrecy rate maximization for STAR-RIS-assisted MIMO cognitive radio networks,” *IEEE Wireless Communications Letters*, DOI: 10.1109/LWC.2025.3529587, 2025.
- [J107] Q. Jin, L. Fan, **X. Lei**, J. Zhao, and A. Nallanathan, “Covert communication of multi-antenna AF relaying networks,” *IEEE Transactions on Communications*, DOI: 10.1109/TCOMM.2025.3534475, 2025.
- [J106] M. Wu, **X. Lei**, I. Al-Nahhal, O. A. Dobre, and L. Sun, “Transmission design and optimization for STAR-RIS-assisted symbiotic radio systems,” *IEEE Transactions on Communications*, DOI: 10.1109/TCOMM.2025.3538832, 2025.
- [J105] L. He, L. Fan, **X. Lei**, P. Fan, A. Nallanathan, and G. K. Karagiannidis, “The road toward general edge intelligence: Standing on the shoulders of foundation models,” *IEEE Communications Magazine*, DOI: 10.1109/MCOM.003.2400445, 2025.

- [J104] Y. Wang, L. Dan, Y. Xiao, H. Chen, **X. Lei**, and W. Xiang, “Design and performance analysis of constant envelope precoded OFDM systems,” *IEEE Wireless Communications Letters*, vol. 14, no. 3, pp. 666–670, March 2025.
- [J103] M. Shen, **X. Lei**, X. Zhou, and G. K. Karagiannidis, “STAR-RIS assisted secure MIMO communication networks: Transmit power minimization for perfect and imperfect CSI,” *IEEE Transactions on Communications*, vol. 73, no. 3, pp. 1487–1500, March 2025.
- [J102] Y. Zhang, Z. Yang, J. Cui, **X. Lei**, Y. Wu, J. Zhang, C. Fang, and Z. Ding, “Secure beamforming designs for maximizing secrecy sum rate in MISO-NOMA networks,” *Digital Communications and Networks*, vol. 11, no. 1, pp. 83–91, February 2025.
- [J101] J. Li, L. Yang, Q. Wu, **X. Lei**, F. Zhou, F. Shu, X. Mu, Y. Liu, and P. Fan, “Active RIS-aided NOMA-enabled Space-Air-Ground integrated networks with cognitive radio,” *IEEE Journal on Selected Areas in Communications*, vol. 43, no. 1, pp. 314–333, January 2025.
- [J100] Z. Zhang, Y. Wu, Z. Ma, **X. Lei**, L. Lei, and Z. Wei, “Coordinated multi-satellite transmission for OTFS-based 6G LEO satellite communication systems,” *IEEE Journal on Selected Areas in Communications*, vol. 43, no. 1, pp. 156–170, January 2025.
- [J99] X. Zheng, Y. Wu, L. Fan, **X. Lei**, R. Q. Hu, and G. K. Karagiannidis, “Dual-functional UAV-empowered Space-Air-Ground networks: Joint communication and sensing,” *IEEE Journal on Selected Areas in Communications*, vol. 42, no. 12, pp. 3412–3427, December 2024.
- [J98] M. Shen, **X. Lei**, P. T. Mathiopoulos, X. Tang, R. Q. Hu, and P. Fan, “Robust transmission design for IRS-aided secure cognitive radio systems against internal eavesdropping,” *IEEE Transactions on Wireless Communications*, vol. 23, no. 12, pp. 17841–17855, December 2024.
- [J97] M. Shen, L. Li, and **X. Lei**, “Robust beamforming for active reconfigurable intelligent surface-aided secure CR-NOMA systems,” *IEEE Transactions on Vehicular Technology*, vol. 73, no. 12, pp. 18748–18754, December 2024.
- [J96] H. Zhan, L. Fan, C. Li, **X. Lei**, and F. Li, “Cloud-edge learning for adaptive video streaming in B5G Internet-of-Thing systems,” *IEEE Internet of Things Journal*, vol. 11, no. 24, pp. 40140–40148, December 2024.
- [J95] M. Wu, **X. Lei**, and D. B. da Costa, “STAR-RIS-assisted full-duplex symbiotic radio,” *IEEE Wireless Communications Letters*, vol. 13, no. 11, pp. 2945–2949, November 2024.
- [J94] S. Tang, Q. Yang, L. Fan, **X. Lei**, A. Nallanathan, and G. K. Karagiannidis, “Contrastive learning based semantic communications,” *IEEE Transactions on Communications*, vol. 72, no. 10, pp. 6328–6343, October 2024.
- [J93] L. Lv, D. Xu, R. Q. Hu, Y. Ye, L. Yang, **X. Lei** et al., “Safeguarding next-generation multiple access using physical layer security techniques: A tutorial,” *Proceedings of the IEEE*, vol. 112, no. 9, pp. 1421–1466, September 2024.
- [J92] J. Peng, H. Xing, Y. Li, L. Feng, L. Xu, and **X. Lei**, “Task-oriented multi-user semantic communication with lightweight semantic encoder and fast training for resource-constrained terminal devices,” *IEEE Wireless Communications Letters*, vol. 13, no. 9, pp. 2427–2431, September 2024.

- [J91] Z. Peng, T. Li, C. Pan, **X. Lei**, and S. Jin, “Two-timescale transmission design for wireless communication systems aided by active RIS,” *IEEE Transactions on Vehicular Technology*, vol. 73, no. 8, pp. 12166–12171, August 2024.
- [J90] Z. Cui, G. Wang, J. Gao, **X. Lei**, and C. Tellambura, “Channel estimation for backscatter communication systems under circuit sensitivity constraint,” *IEEE Transactions on Vehicular Technology*, vol. 73, no. 5, pp. 7441–7446, May 2024.
- [J89] Z. Zhang, Y. Wu, **X. Lei**, L. Lei, and Z. Wei, “Toward 6G multicell orthogonal time frequency space systems: Interference coordination and cooperative communications,” *IEEE Vehicular Technology Magazine*, vol. 19, no. 1, pp. 55–64, March 2024.
- [J88] Y. Wu, S. Tang, L. Zhang, L. Fan, **X. Lei**, and X. Chen, “Resilient machine learning-based semantic-aware MEC networks for sustainable next-G consumer electronics,” *IEEE Transactions on Consumer Electronics*, vol. 70, no. 1, pp. 2188–2199, February 2024.
- [J87] X. Ma, **X. Lei**, P. T. Mathiopoulos, and D. B. da Costa, “Active STAR-RIS aided cell-free massive MIMO: A performance study,” *IEEE Transactions on Vehicular Technology*, vol. 73, no. 2, pp. 2936–2941, February 2024.
- [J86] S. Chen, L. Yang, and **X. Lei**, “Performance analysis of UAV-based mixed underwater PLC-RF systems,” *Digital Communications and Networks*, vol. 10, no. 5, pp. 1332–1340, October 2024.
- [J85] W. Zhou, J. Xia, F. Zhou, L. Fan, **X. Lei**, A. Nallanathan, and G. K. Karagiannidis, “Profit maximization for cache-enabled vehicular mobile edge computing networks,” *IEEE Transactions on Vehicular Technology*, vol. 72, no. 10, pp. 13 793–13 798, October 2023.
- [J84] L. He, L. Fan, **X. Lei**, X. Tang, P. Fan, and A. Nallanathan, “Learning-based MIMO detection with dynamic spatial modulation,” *IEEE Transactions on Cognitive Communications and Networking*, vol. 9, no. 6, pp. 1489–1502, December 2023.
- [J83] Y. Gao, Y. Xiao, **X. Lei**, Q. Zhu, D. Niyato, K.-K. Wong, P. Fan, and R. Q. Hu, “Pricing for reconfigurable intelligent surface aided wireless networks: Models and principles,” *IEEE Network*, vol. 37, no. 3, pp. 102–110, May/June 2023.
- [J82] J. Ren, **X. Lei**, Z. Peng, X. Tang, and O. A. Dobre, “RIS-assisted cooperative NOMA with SWIPT,” *IEEE Wireless Communications Letters*, vol. 12, no. 3, pp. 446–450, March 2023.
- [J81] S. Tang, K. He, L. Chen, L. Fan, **X. Lei**, and R. Q. Hu, “Collaborative cache-aided relaying networks: Performance evaluation and system optimization,” *IEEE Journal on Selected Areas in Communications*, vol. 41, no. 3, pp. 706–719, March 2023.
- [J80] M. Wu, **X. Lei**, X. Zhou, X. Tang, and O. A. Dobre, “RIS-assisted energy- and spectrum-efficient symbiotic transmission in NOMA systems,” *IEEE Transactions on Communications*, vol. 71, no. 5, pp. 2801–2815, May 2023.
- [J79] M. Shen, **X. Lei**, P. T. Mathiopoulos, and R. Q. Hu, “Robust beamforming design for IRS-aided secure communication systems under complete imperfect CSI,” *IEEE Transactions on Vehicular Technology*, vol. 72, no. 6, pp. 8204–8209, June 2023.

- [J78] X. Ma, **X. Lei**, P. T. Mathiopoulos, K. Yu, and X. Tang, “Scalable cell-free massive MIMO systems with finite resolution ADCs/DACs over spatially correlated rician fading channels,” *IEEE Transactions on Vehicular Technology*, vol. 72, no. 6, pp. 7699–7716, June 2023.
- [J77] W. Zhou, L. Fan, F. Zhou, F. Li, **X. Lei**, W. Xu, and A. Nallanathan, “Priority-aware resource scheduling for UAV-mounted mobile edge computing networks,” *IEEE Transactions on Vehicular Technology*, vol. 72, no. 7, pp. 9682–9687, July 2023.
- [J76] L. Chen, L. Fan, **X. Lei**, T. Q. Duong, A. Nallanathan, and G. K. Karagiannidis, “Relay-assisted federated edge learning: Performance analysis and system optimization,” *IEEE Transactions on Communications*, vol. 71, no. 6, pp. 3387–3401, June 2023.
- [J75] X. Ma, **X. Lei**, X. Zhou, and X. Tang, “Secrecy performance evaluation of scalable cell-free massive MIMO systems: A stochastic geometry approach,” *IEEE Transactions on Information Forensics and Security*, vol. 18, pp. 2826–2841, 2023.
- [J74] L. Mohjazi, L. Bariah, S. Muhaidat, **X. Lei**, and A. Shami, “Guest editorial special section on recent advances in security and privacy for 6G networks,” *IEEE Open Journal of Vehicular Technology*, vol. 4, pp. 470–474, 2023.
- [J73] X. Lai, L. Fan, **X. Lei**, Y. Deng, G. K. Karagiannidis, and A. Nallanathan, “Secure mobile edge computing networks in the presence of multiple eavesdroppers,” *IEEE Transactions on Communications*, vol. 70, no. 1, pp. 500–513, January 2022.
- [J72] Z. Zhao, J. Xia, L. Fan, **X. Lei**, G. K. Karagiannidis, and A. Nallanathan, “System optimization of federated learning networks with a constrained latency,” *IEEE Transactions on Vehicular Technology*, vol. 71, no. 1, pp. 1095–1100, January 2022.
- [J71] Y. Guo, R. Zhao, S. Lai, L. Fan, **X. Lei**, and G. K. Karagiannidis, “Distributed machine learning for multiuser mobile edge computing systems,” *IEEE Journal of Selected Topics in Signal Processing*, vol. 16, no. 3, pp. 460–473, April 2022.
- [J70] Z. Ye, Z. Zhou, P. Fan, Z. Liu, **X. Lei**, and X. Tang, “Low ambiguity zone: Theoretical bounds and doppler-resilient sequence design in integrated sensing and communication systems,” *IEEE Journal on Selected Areas in Communications*, vol. 40, no. 6, pp. 1809–1822, June 2022.
- [J69] L. He, K. He, L. Fan, **X. Lei**, A. Nallanathan, and G. K. Karagiannidis, “Toward optimally efficient search with deep learning for large-scale MIMO systems,” *IEEE Transactions on Communications*, vol. 70, no. 5, pp. 3157–3168, May 2022.
- [J68] K. He, L. He, L. Fan, **X. Lei**, Y. Deng, and G. K. Karagiannidis, “Efficient memory-bounded optimal detection for GSM-MIMO systems,” *IEEE Transactions on Communications*, vol. 70, no. 7, pp. 4359–4372, July 2022.
- [J67] S. Tang, J. Xia, L. Fan, **X. Lei**, W. Xu, and A. Nallanathan, “Dilated convolution based CSI feedback compression for massive MIMO systems,” *IEEE Transactions on Vehicular Technology*, vol. 71, no. 10, pp. 11 216–11 221, October 2022.
- [J66] J. Li, **X. Lei**, P. D. Diamantoulakis, L. Fan, and G. K. Karagiannidis, “Security optimization of cooperative NOMA networks with friendly jamming,” *IEEE Transactions on Vehicular Technology*, vol. 71, no. 12, pp. 13 422–13 428, December 2022.

- [J65] Q. Long, Y. Chen, H. Zhang, and **X. Lei**, “Software defined 5G and 6G networks: A survey,” *Mobile Networks and Applications*, vol. 27, no. 5, pp. 1792–1812, October 2022.
- [J64] M. Shen, Z. Huang, **X. Lei**, and L. Fan, “BER analysis of NOMA with max-min relay selection,” *China Communications*, vol. 18, no. 7, pp. 172–182, July 2021.
- [J63] M. Wu, **X. Lei**, X. Zhou, Y. Xiao, X. Tang, and R. Q. Hu, “Reconfigurable intelligent surface assisted spatial modulation for symbiotic radio,” *IEEE Transactions on Vehicular Technology*, vol. 70, no. 12, pp. 12918–12931, December 2021.
- [J62] J. Ren, **X. Lei**, and P. T. Mathiopoulos, “Jointly adaptive distributed beamforming and resource allocation for buffer-aided multiple-relay NOMA networks,” *IEEE Transactions on Communications*, vol. 69, no. 11, pp. 7603–7617, November 2021.
- [J61] C. Liu, S. Liu, **X. Lei**, A. R. Adhikary, and Z. Zhou, “Three-phase Z-complementary triads and almost complementary triads,” *Cryptography and Communications*, vol. 13, pp. 763–773, September 2021.
- [J60] **X. Lei**, M. Wu, F. Zhou, X. Tang, R. Q. Hu, and P. Fan, “Reconfigurable intelligent surface-based symbiotic radio for 6G: design, challenges, and opportunities,” *IEEE Wireless Communications Magazine*, vol. 28, no. 5, pp. 210–216, October 2021.
- [J59] J. Ren, **X. Lei**, P. D. Diamantoulakis, F. Zhou, X. Tang, and O. A. Dobre, “NOMA for wireless-powered communication networks with buffered sources,” *IEEE Transactions on Vehicular Technology*, vol. 70, no. 9, pp. 9088–9102, September 2021.
- [J58] X. Ma, **X. Lei**, W. Xu, P.T. Mathiopoulos, “Performance analysis of TDD multicell massive MIMO systems with non-orthogonal pilots and hardware imperfections in Rician fading channels,” *IEEE Transactions on Vehicular Technology*, vol. 70, no. 2, pp. 1347–1364, February 2021.
- [J57] J. Li, **X. Lei**, P. D. Diamantoulakis, F. Zhou, P. Sarigiannidis, and G. K. Karagiannidis, “Resource allocation in buffer-aided cooperative non-orthogonal multiple access systems,” *IEEE Transactions on Communications*, vol. 68, no. 12, pp. 7429–7445, December 2020.
- [J56] T. Ma, Y. Xiao, X. Lei, P. Yang, **X. Lei**, O. A. Dobre, “Large intelligent surface assisted wireless communications with receive spatial modulation and antenna selection,” *IEEE Journal on Selected Areas in Communications*, vol. 38, no. 11, pp. 2562–2574, November 2020.
- [J55] J. Ren, **X. Lei**, P. D. Diamantoulakis, Q. Chen, and G. K. Karagiannidis, “Buffer-aided secure relay networks with SWIPT,” *IEEE Transactions on Vehicular Technology*, vol. 69, no. 6, pp. 6485–6499, June 2020.
- [J54] S. E. Trevlakis, A. -A. A. Boulogeorgos, N. D. Chatzidiamantis, G. K. Karagiannidis, and **X. Lei**, “Electrical vs optical cell stimulation: A communication perspective,” *IEEE Access*, vol. 8, pp. 192259–192269, 2020.
- [J53] D. Gu, J. Yang, **X. Lei**, and R. Gao, “Power scaling for multi-pair massive MIMO two-way relaying system under rician fading,” *Telecommunication Systems*, vol. 72, pp. 401–412, November 2019.
- [J52] K. Zhai, Z. Ma, and **X. Lei**, “Accurate performance analysis of coded large-scale multiuser MIMO systems with MMSE receivers,” *Sensors*, vol. 19, no. 13, p. 2884, 2019.

- [J51] Z. Zhang, Y. Xiao, Z. Ma, M. Xiao, Z. Ding, **X. Lei**, G. K. Karagiannidis, and P. Fan, “6G wireless networks: vision, requirements, architecture, and key technologies,” *IEEE Vehicular Technology Magazine*, vol. 14, no. 3, pp. 28–41, September 2019.
- [J50] Z. Zhao, R. Zhao, J. Xia, **X. Lei**, D. Li, and L. Fan, “A novel framework of three-hierarchical offloading optimization for MEC in industrial IoT networks,” *IEEE Transactions on Industrial Informatics*, vol. 16, no. 8, pp. 5424–5434, August 2019.
- [J49] Y. Zhang, F. Gao, L. Fan, **X. Lei**, and G. K. Karagiannidis, “Backscatter communications over correlated nakagami- m fading channels,” *IEEE Transactions on Communications*, vol. 67, no. 2, pp. 1693–1704, February 2019.
- [J48] J. Xia, L. Fan, W. Xu, **X. Lei**, X. Chen, and G. K. Karagiannidis, “Secure cache-aided multi-relay networks in the presence of multiple eavesdroppers,” *IEEE Transactions on Communications*, vol. 67, no. 11, pp. 7672–7685, November 2019.
- [J47] X. Lai, L. Fan, **X. Lei**, J. Li, N. Yang, and G. K. Karagiannidis, “Distributed secure switch-and-stay combining over correlated fading channels,” *IEEE Transactions on Information Forensics and Security*, vol. 14, no. 8, pp. 2088–2101, August 2019.
- [J46] Y. Zhang, F. Gao, L. Fan, **X. Lei**, and G. K. Karagiannidis, “Secure communications for multi-tag backscatter systems,” *IEEE Wireless Communications Letters*, vol. 8, no. 4, pp. 1146–1149, August 2019.
- [J45] L. Fan, N. Zhao, **X. Lei**, Q. Chen, and G. K. Karagiannidis, “Outage probability and optimal cache placement for multiple amplify-and-forward relay networks,” *IEEE Transactions on Vehicular Technology*, vol. 67, no. 12, pp. 12373–12378, December 2018.
- [J44] Z. Zhang, Z. Ma, M. Xiao, **X. Lei**, Z. Ding, and P. Fan, “Fundamental tradeoffs of unicast, multicast and non-orthogonal multicast in ultra-dense networks,” *IEEE Transactions on Communications*, vol. 66, no. 8, pp. 3555–3570, August 2018.
- [J43] F. Zhou, L. Fan, **X. Lei**, Q. Tan, and H. Zhang, “Edge caching with transmission schedule for multiuser multirelay networks,” *IEEE Communications Letters*, vol. 22, no. 4, pp. 776–779, April 2018.
- [J42] J. Yang, L. Chen, **X. Lei**, Z. Ding, P. Fan, and X. Gao, “Efficient transmission in multi-antenna AF two-way relay network,” *IEEE Transactions on Vehicular Technology*, vol. 67, no. 5, pp. 4182–4191, May 2018.
- [J41] Z. Zhang, Z. Ma, **X. Lei**, M. Xiao, C. Wang, and P. Fan, “Power domain non-orthogonal transmission for cellular mobile broadcasting: basic scheme, system design and coverage performance,” *IEEE Wireless Communications*, vol. 25, no. 2, pp. 90–99, April 2018.
- [J40] D. Xie, X. Lai, **X. Lei**, and L. Fan, “Cognitive multiuser energy harvesting decode-and-forward relaying system with direct links,” *IEEE Access*, vol. 6, pp. 5596–5606, 2018.
- [J39] D. Deng, L. Fan, **X. Lei**, W. Tan, and D. Xie, “Joint user and relay selection for cooperative NOMA networks,” *IEEE Access*, vol. 5, pp. 20220–20227, 2017.
- [J38] Z. Ding, **X. Lei**, G. K. Karagiannidis, R. Schober, J. Yuan, and V. K. Bhargava, “A survey on non-orthogonal multiple access for 5G networks: research challenges and future trends,”

- IEEE Journal on Selected Areas in Communications*, vol. 35, no. 10, pp. 2181–2195, October 2017.
- [J37] L. Yu, P. Fan, **X. Lei**, and P. Takis Mathiopoulos, “BER analysis of SCMA systems with codebooks based on star-QAM signaling constellations,” *IEEE Communications Letters*, vol. 21, no. 9, pp. 1925–1928, September 2017.
 - [J36] Z. Yang, **X. Lei**, Z. Ding, P. Fan, and G. K. Karagiannidis, “On the uplink sum rate of SCMA system with randomly deployed users,” *IEEE Wireless Communications Letters*, vol. 6, no. 3, pp. 338–341, June 2017.
 - [J35] L. Fan, **X. Lei**, N. Yan, T. Q. Duong, and G. K. Karagiannidis, “Secrecy cooperative networks with outdated relay selection over correlated fading channels,” *IEEE Transactions on Vehicular Technology*, vol. 66, no. 8, pp. 7599–7603, August 2017.
 - [J34] Z. Yang, J. Cui, **X. Lei**, Z. Ding, P. Fan, and D. Chen, “Impact of factor graph on average sum rate for uplink sparse code multiple access (SCMA) systems,” *IEEE Access*, vol. 4, pp. 6585–6590, 2016.
 - [J33] L. Fan, **X. Lei**, N. Yan, T. Q. Duong, and G. K. Karagiannidis, “Secure communications with multiple amplify-and-forward with co-channel interference,” *IEEE Journal of Selected Topics in Signal Processing*, vol. 10, no. 8, pp. 1494–1505, December 2016.
 - [J32] Z. Dong, P. Fan, **X. Lei**, and E. Panayirci, “Power and rate adaptation based on CSI and velocity variation for OFDM systems under doubly-selective fading channels,” *IEEE Access*, vol. 4, pp. 6833–6845, 2016.
 - [J31] Z. Dong, P. Fan, R. Q. Hu, J. Gunther, and **X. Lei**, “On the spectral efficiency of rate and subcarrier bandwidth adaptive OFDM systems using very fast fading channels,” *IEEE Transactions on Vehicular Technology*, vol. 65, no. 8, pp. 6038–6050, August 2016.
 - [J30] J. Yang, L. Chen, **X. Lei**, K. P. Peppas, and T. Q. Duong, “Dual-hop cognitive amplify-and-forward relaying networks over η - μ fading channels,” *IEEE Transactions on Vehicular Technology*, vol. 65, no. 8, pp. 6290–6300, August 2016.
 - [J29] **X. Lei**, R. Q. Hu, L. Fan, P. Fan, and T. Q. Trung, “Performance of switch and stay combining in two-way relay networks with ANC and TDBC protocols,” *Wireless Communications and Mobile Computing*, vol. 16, no. 6, pp. 624–642, June 2016.
 - [J28] **X. Lei**, R. Q. Hu, L. Fan, and G. Wu, “Opportunistic source scheduling in multi-source two-way relay networks,” *Wireless Communications and Mobile Computing*, vol. 16, no. 4, pp. 459–468, April 2016.
 - [J27] Z. Dong, P. Fan, E. Panayirci, and **X. Lei**, “Conditional power and rate adaptation for MQAM/OFDM systems under CFO with perfect and imperfect channel estimation errors,” *IEEE Transactions on Vehicular Technology*, vol. 64, no. 11, pp. 5042–5055, November 2015.
 - [J26] X. Wang, K. Li, R-G Cheng, P. Fan, **X. Lei**, and R. Q. Hu, “Cost analysis of a hybrid movement- and time-based location update scheme in cellular networks,” *IEEE Transactions on Vehicular Technology*, vol. 64, no. 11, pp. 5314–5326, November 2015.

- [J25] Z. Dong, P. Fan, and **X. Lei**, “Power adaptation in OFDM based on velocity variation under rapidly time-varying channels,” *IEEE Communications Letters*, vol. 19, no. 4, pp. 689–692, April 2015.
- [J24] L. Fan, **X. Lei**, H. Chen, and W. Zhou, “Impact of channel estimation error on fixed-gain two-way relay network with user/antenna selection,” *Transactions on Emerging Telecommunications Technologies*, vol. 25, no. 5, pp. 490–495, May 2014.
- [J23] X. Li, S. Wang, L. Fan, and **X. Lei**, “Mixture approximation to the amplitude statistics of isotropic α -stable clutter,” *Signal Processing*, vol. 99, pp. 86–91, June 2014.
- [J22] L. Fan, **X. Lei**, T. Q. Trung, M. ElKashlan and G. K. Karagiannidis, “Secure multiuser communications in multiple amplify-and-forward relay networks,” *IEEE Transactions on Communications*, vol. 62, no. 9, pp. 3299–3310, September 2014.
- [J21] L. Fan, **X. Lei**, T. Q. Trung, R. Q. Hu, and M. ElKashlan, “Multiuser cognitive radio networks: joint impact of direct and relayed communications,” *IEEE Transactions on Wireless Communications*, vol. 13, no. 9, pp. 5043–5055, September 2014.
- [J20] X. Wang, **X. Lei**, P. Fan, R. Q. Hu, and R-G Cheng, “Cost analysis of movement-based location management in PCS networks: An embedded Markov chain approach,” *IEEE Transactions on Vehicular Technology*, vol. 63, no. 4, pp. 1886–1902, April 2014.
- [J19] L. Fan, **X. Lei**, R. Q. Hu, and W. Seah, “Outdated relay selection in two-way relay network,” *IEEE Transactions on Vehicular Technology*, vol. 62, no. 8, pp. 4051–4057, August 2013.
- [J18] **X. Lei**, L. Fan, D. S. Michalopoulos, P. Fan, and R. Q. Hu, “Outage probability of TDBC protocol in multiuser two-way relay systems with Nakagami-m fading,” *IEEE Communications Letters*, vol. 17, no. 3, pp. 487–490, March 2013.
- [J17] L. Fan, **X. Lei**, R. Q. Hu, and S. Zhang, “Distributed switch-and-stay combining for two-way relay networks with a single amplify-and-forward relay,” *IEEE Wireless Communications Letters*, vol. 2, no. 4, pp. 379–382, August 2013.
- [J16] J. Yang, P. Fan, Q. Chen, and **X. Lei**, “Delay-limited throughput analysis of cooperative HARQ in asymmetric fading channels,” *IET Communications*, vol. 7, no. 7, pp. 595–601, July 2013.
- [J15] M. Yan, Q. Chen, **X. Lei**, T. Q. Trung, and P. Fan, “Outage probability of switch and stay combining in two-way relay networks,” *IEEE Wireless Communications Letters*, vol. 1, no. 4, pp. 296–299, August 2012.
- [J14] L. Fan, **X. Lei**, P. Fan, and R. Q. Hu, “Outage probability analysis and power allocation of two-way relay networks with user selection and outdated channel state information,” *IEEE Communications Letters*, vol. 16, no. 5, pp. 638–641, May 2012.
- [J13] L. Fan, X. Li, **X. Lei**, W. Li, and F. Gao, “On the distribution of SaS noise and its application in performance analysis for linear rake receivers,” *IEEE Communications Letters*, vol. 16, no. 2, pp. 186–189, February 2012.
- [J12] K. Yu, P. Fan, L. Hao, and **X. Lei**, “Multiuser detectors for large CDMA random access systems over Rayleigh fading channels,” *Wireless Communications and Mobile Computing*, vol. 12, no. 6, pp. 503–515, June 2012.

- [J11] J. Yang, P. Fan, T. Q. Duong, and **X. Lei**, “Exact performance of two-way relay networks in Nakagami-m fading,” *IEEE Transactions on Wireless Communications*, vol. 10, no. 3, pp. 980–987, March 2011.
- [J10] L. Fan, **X. Lei**, “A comment on performance analysis of uplink cognitive cellular networks with opportunistic scheduling,” *IEEE Communications Letters*, vol. 15, no. 4, pp. 361, April 2011.
- [J9] L. Fan, **X. Lei**, and W. Li, “Exact closed-form expression for ergodic capacity of amplify-and-forward relaying in channel-noise-assisted cooperative networks with relay selection,” *IEEE Communications Letters*, vol. 15, no. 3, pp. 332–333, March 2011.
- [J8] K. Yu, Y. Sun, P. Fan, **X. Lei**, and Lei Shu, “Performance analysis of large CDMA random access systems with retransmission diversity over fading channels,” *KSII Transactions on Internet and Information Systems*, vol. 4, pp. 509–528, 2010.
- [J7] B. Liu, H. Chen, **X. Lei**, F. Ren, and K. Sezaki, “Node distance based redundancy reliable transport in underwater sensor networks,” *EURASIP Journal on Wireless Communications and Networking*, vol. 2010 (2010), Article ID 358071.
- [J6] **X. Lei**, P. Fan, “On the error performance of M-ary modulation schemes in Rician-Nakagami fading channels,” *Wireless Personal Communications*, vol. 53, no. 4, pp. 591–602, June 2010.
- [J5] **X. Lei**, P. Fan, “A note on effect of multiple antennas at the source on outage probability for amplify-and-forward relaying systems,” *IEEE Transactions on Wireless Communications*, vol. 8, no. 9, pp. 4486–4487, September 2009.
- [J4] **X. Lei**, P. Fan, and P. T. Mathiopoulos, “Asymptotic performance analysis of general order rectangular QAM over fading channels,” *Journal of Electronics*, vol. 29, no. 6, December 2009.
- [J3] **X. Lei**, P. Fan, “Comment on outage probability analysis of a MIMO relay channel with orthogonal space-time codes,” *IEEE Communications Letters*, vol. 12, no. 10, pp. 720–721, October 2008.
- [J2] **X. Lei**, P. Fan, “Exact symbol error probability of general order rectangular QAM with MRC diversity reception over Nakagami-m fading channels,” *IEEE Communications Letters*, vol. 11, no. 12, pp. 958–960, December 2007.
- [J1] **X. Lei**, P. Fan, and Q. Chen, “On the average of the product of two Gaussian-Q functions over Nakagami-q (Hoyt) fading and its application,” *IEEE Communications Letters*, vol. 11, no. 10, pp. 805–807, October 2007.

4.5 Selected Conference Publications

- [C53] Z. Wang, **X. Lei**, D. B. da Costa, and K. Yu, “Secure transmission design for RSMA-ISAC systems,” in *Proc. IEEE 2024th International Conference on Communication Technology (ICCT)*, Chengdu, China, October 2024.
- [C52] M. Wu, **X. Lei**, I. Al-Nahhal, O. A. Dobre, and L. Sun, “Low complexity transmission for STAR-RIS-assisted symbiotic radio using OOK,” in *Proc. IEEE 2024th International Conference on Communication Technology (ICCT)*, Chengdu, China, October 2024.

- [C51] S. Tang, Q. Yang, L. Fan, **X. Lei**, Y. Deng, and A. Nallanathan, “Contrastive learning based semantic communication for wireless image transmission,” in *Proc. IEEE 98th Vehicular Technology Conference (VTC2023-Fall)*, Hong Kong, October 2023.
- [C50] H. Chen, Y. Wang, S. Wu, and **X. Lei**, “BEM OTFS receiver with EKF-based channel estimation and interference cancellation for high-mobility communications,” in *Proc. IEEE/CIC International Conference on Communications in China (ICCC Workshops)*, Dalian, China, August 2023.
- [C49] Z. Wang and **X. Lei**, “Effective capacity analysis of RIS-aided wireless networks in the finite blocklength regime,” in *Proc. International Conference on Internet of Things, Communication and Intelligent Technology (IoTCIT)*, Singapore, April 2023.
- [C48] F. Zhou, Y. Li, X. Zhang, Q. Wu, **X. Lei**, and R. Q. Hu, “Cognitive semantic communication systems driven by knowledge graph,” in *Proc. IEEE International Conference on Communications (IEEE ICC)*, Seoul, Korea, Republic of, May 2022.
- [C47] X. Ma, **X. Lei**, X. Zhang, P. T. Mathiopoulos, K. Yu, and X. Tang, “Uplink detection and accessing scheme for scalable cell-free massive MIMO systems,” in *Proc. IEEE International Conference on Communications (IEEE ICC)*, Seoul, Korea, Republic of, May 2022.
- [C46] Q. Zhu, X. Zhang, Y. Xiao, Y. Gao, **X. Lei**, and Z. Xiong, “Optimization of intelligent reflecting surface aided wireless networks with user mobility,” in *Proc. International Symposium on Networks, Computers and Communications (ISNCC)*, Shenzhen, China, July 2022.
- [C45] M. Wu, Y. Xiao, Y. Gao, and **X. Lei**, “Design of quality-of-experience criteria for resource allocation toward 6G wireless networks: A review and new directions,” in *Proc. IEEE Vehicular Technology Conference (VTC2022-Fall)*, London, United Kingdom, September 2022.
- [C44] Y. Xu, K. Yu, L. Li, **X. Lei**, L. Hao, and C.-X. Wang, “A 3D non-stationary mmwave channel model for vacuum tube ultra-high-speed train channels,” in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Nanjing, China, March 2021.
- [C43] Y. Liu, X. Tang, and **X. Lei**, “Explicit construction of $(k + r, k)$ MDS code with small sub-packetization level and optimal access property for all nodes,” in *Proc. International Conference on Communications, Information System and Computer Engineering (CISCE)*, Beijing, China, May 2021.
- [C42] Z. Ye, Z. Zhou, P. Fan, **X. Lei**, Z. Liu, and X. Tang, “Signal design with low/zero ambiguity zone characteristics for joint radar-communication systems,” in *Proc. IEEE/CIC International Conference on Communications in China (ICCC)*, Xiamen, China, July 2021.
- [C41] Y. Han, Y. Xiao, Y. Gao, **X. Lei**, B. Dong, and G. K. Karagiannidis, “Power allocation for cross-media communications with hybrid VLC/RF,” in *Proc. IEEE Vehicular Technology Conference (VTC2021-Fall)*, Norman, OK, USA, September 2021.
- [C40] Y. Xu, K. Yu, L. Li, **X. Lei**, L. Hao, and C. X. Wang, “A 3D Non-stationary MmWave Channel Model for Vacuum Tube Ultra-High-Speed Train Channels,” in *Proc. IEEE Wireless Communications and Networking Conference (IEEE WCNC)*, Nanjing, China, April 2020.
- [C39] J. Ren, **X. Lei**, P. D. Diamantoulakis, Q. Chen, and G. K. Karagiannidis, “Secure transmission scheme design for SWIPT in buffer-aided relay networks,” in *Proc. IEEE Vehicular Technology Conference (VTC Spring '20)*, Antwerp, Belgium, May 2020.

- [C38] J. Ren, **X. Lei**, F. Zhou, P. D. Diamantoulakis, O. A. Dobre, and G. K. Karagiannidis, "Throughput maximization in buffer-aided wireless-powered NOMA networks," in *Proc. IEEE International Conference on Communications (IEEE ICC)*, Dublin, Ireland, May 2020.
- [C37] J. Li, **X. Lei**, P. D. Diamantoulakis, P. G. Sarigiannidis, and G. K. Karagiannidis, "Buffer-aided relaying for downlink NOMA systems with direct links," in *Proc. IEEE International Conference on Communications (IEEE ICC)*, Shanghai, China, May 2019.
- [C36] Y. Zhang, F. Gao, L. Fan, **X. Lei**, and G. K. Karagiannidis "Backscatter communication systems with MRC over correlated nakagami-m fading channels," in *Proc. Asia-Pacific Conference on Communications (APCC)*, Ningbo, China, November 2018.
- [C35] P. D. Diamantoulakis, K. N. Pappi, Z. Ma, **X. Lei**, P. C. Sofotasios, and G. K. Karagiannidis "Airborne radio access networks with simultaneous lightwave information and power transfer (SLIPT)," in *Proc. IEEE Global Communications Conference (IEEE GLOBECOM)*, Abu Dhabi, December 2018.
- [C34] L. Fan, **X. Lei**, N. Zhao, P. Fan, and G. K. Karagiannidis, "Secure probabilistic caching for stochastic multi-user multi-relay networks," in *Proc. IEEE International Conference on Wireless Communications and Signal Processing (WCSP)*, Hangzhou, China, October 2018.
- [C33] Z. Dong, P. Fan, and **X. Lei**, "Genetic algorithm-assisted data detection for OFDM systems under rapidly time-varying channels," in *Proc. IEEE Vehicular Technology Conference (VTC Spring'17)*, Sydney, Australia, May 2017.
- [C32] J. Cui, P. Fan, **X. Lei**, and Z. Ding, "Downlink power allocation in SCMA systems with finite alphabet constraint," in *Proc. IEEE Vehicular Technology Conference (VTC Spring '17)*, Sydney, Australia, May 2017.
- [C31] F. Shi, D. Xie, W. Tan, **X. Lei**, and L. Fan, "Hybrid cache placement for improving physical layer security in cooperative networks," in *Proc. IEEE International Conference on Wireless Communications and Signal Processing (WCSP)*, Hangzhou, China, October 2017.
- [C30] L. Yu, P. Fan, Z. Ma, **X. Lei**, and D. Chen, "An optimized joint design and analysis of irregular SCMA codebook based on rotated angles and EXIT chart," in *Proc. IEEE Vehicular Technology Conference (VTC Fall '16)*, Montreal, Canada, September 2016.
- [C29] Y. Li, **X. Lei**, P. Fan, and D. Chen, "Joint iterative interference alignment and SCMA technique for MIMO-OFDM systems," in *Proc. IEEE Vehicular Technology Conference (VTC Spring '16)*, Nanjing, China, May 2016.
- [C28] D. Cai, P. Fan, **X. Lei**, Y. Liu, and D. Chen, "Multi-dimensional SCMA codebook design on constellation rotation and interleaving," in *Proc. IEEE Vehicular Technology Conference (VTC Spring '16)*, Nanjing, China, May 2016.
- [C27] J. Yang, T. Q. Trung, M. ElKashlan, **X. Lei**, and X. Gao, "Multiuser scheduling for cognitive MIMO with channel estimation errors and feedback delay," in *Proc. IEEE International Conference on Communications (IEEE ICC)*, London, UK, May 2015.
- [C26] Y. Li, **X. Lei**, P. Fan, and D. Chen, "An SCMA-based uplink inter-cell interference cancellation technique for 5G wireless systems," in *Proc. IEEE International Conference on Wireless Communications and Signal Processing (WCSP)*, Nanjing, China, October 2015.

- [C25] J. Zhao, P. Fan, N. C. Beaulieu, and **X. Lei**, “Switching rates of selection diversity and switch-and-stay diversity on mixed high-speed train channels,” in *Proc. IEEE International Conference on High-Mobility Wireless Communications (HMWC)*, Xi’an, China, October 2015.
- [C24] L. Yu, **X. Lei**, P. Fan, and D. Chen, “An optimized design of SCMA codebook based on star-QAM signaling constellations,” in *Proc. IEEE International Conference on Wireless Communications and Signal Processing (WCSP)*, Nanjing, China, October 2015.
- [C23] Z. Dong, P. Fan, E. Panayrci, and **X. Lei**, “Partial power and rate adaptation for MQAM/OFDM systems under CFO,” in *Proc. IEEE Vehicular Technology Conference (VTC Fall ’14)*, Vancouver, Canada, September 2014.
- [C22] Z. Dong, P. Fan, and **X. Lei**, “Mobility adaptation in OFDM systems over rapidly time-varying fading channels,” in *Proc. IEEE International Conference on Communication Systems (ICCS)*, Macau, China, November 2014.
- [C21] **X. Lei**, L. Fan, R. Q. Hu, D. S. Michalopoulos and P. Fan, “Secure multiuser communications in multiple decode-and-forward relay networks with direct links,” in *Proc. IEEE Global Communications Conference (IEEE GLOBECOM)*, Austin, USA, December 2014.
- [C20] L. Fan, **X. Lei**, T. Q. Duong, M. El Kashlan, and G. K. Karagiannidis, “Secure multiuser Multiple amplify-and-forward relay networks in presence of multiple eavesdroppers,” in *Proc. IEEE Global Communications Conference (IEEE GLOBECOM)*, Austin, USA, 2014.
- [C19] **X. Lei**, R. Q. Hu, T. Q. Trung, L. Fan, and M. El Kashlan, “Multiuser cognitive relay networks with direct links,” in *Proc. IEEE International Conference on Communications (IEEE ICC)*, Sydney, Australia, December 2014.
- [C18] T. Q. Trung, **X. Lei**, and H-J. Zepemick, “MIMO amplify-and-forward relay systems with dissimilar channel characteristics,” in *Proc. IEEE International Conference on Computing, Management & Telecommunications (IEEE ComManTel)*, Da Nang, Vietnam, April 2014.
- [C17] X. Wang, **X. Lei**, R. Q. Hu, and Y. Qian, “Modeling of tracking area list-based location update scheme in long term evolution,” in *Proc. IEEE International Conference on Communications (IEEE ICC)*, Sydney, Australia, June 2014.
- [C16] J. Yang, **X. Lei**, X. Gao, and X. Hu, “Symbol error probability of non-coherent MFSK with square-law diversity combining in generalized η - μ fading channels,” in *Proc. International Conference on Communications and Networking in China (CHINACOM)*, Maoming, China, August 2014.
- [C15] X. Wang, **X. Lei**, R. Q. Hu, and G. Wu, “Cost analysis of movement-based location update scheme using an approach of embedded Markov chain,” in *Proc. International Conference on Computing, Networking and Communication (ICNC)*, Honolulu, USA, February 2014.
- [C14] **X. Lei**, X. (Richard) Chen, R. Q. Hu, and G. Wu, “Mobile association for heterogeneous wireless relay networks with statistical QoS guarantees,” in *Proc. IEEE Global Telecommunications (IEEE GLOBECOM)*, Atlanta, USA, December 2013.
- [C13] **X. Lei**, R. Q. Hu, F. Gao, and Y. Qian, “Switch and stay combining for relay systems with multiple AF relays,” in *Proc. IEEE Global Telecommunications (IEEE GLOBECOM)*, Atlanta, USA, December 2013.

- [C12] L. Fan, **X. Lei**, R. Q. Hu, and W. Seah, "Impact of outdated relay selection on two-way relay network," in *Proc. IEEE Wireless Communications and Networking Conference (IEEE WCNC)*, Shanghai, China, April 2013.
- [C11] **X. Lei**, L. Fan, P. Fan, R. Q. Hu, and X. Wang, "Outage probability and BER of switch-and-stay combining in two-way relay systems with analog network coding," in *Proc. IEEE Wireless Communications and Networking Conference (IEEE WCNC)*, Shanghai, China, April 2013.
- [C10] **X. Lei**, W. Zhou, P. Fan, and L. Fan, "Impact of outdated channel state information on multiuser cooperative relay networks in co-channel interference environments," in *Proc. IEEE/CIC International Conference on Communication in China (IEEE ICC)*, Beijing, China, August 2012.
- [C9] T. Q. Duong, C. Yuen, H.-J. Zepernick, and **X. Lei**, "Average sum-rate of distributed Alamouti space-time scheme in two-way amplify-and-forward relay networks," in *Proc. IEEE Global Communications Conference (IEEE GLOBECOM)*, Anaheim, USA, December 2010.
- [C8] L. Fan, **X. Lei**, and F. Gao, "Closed-form BER analysis of MIMO systems with impulsive noise using bi-parameter Cauchy-Gaussian mixture approximation," in *Proc. IEEE International Conference on Wireless Communications and Signal Processing (WCSP)*, Suzhou, China, October 2010.
- [C7] L. Fan, F. Gao, Y. Feng, **X. Lei**, and Y. Jiang, "On the use of signal subspace information in blind FIR channel estimation," in *Proc. IEEE International Conference on Systems and Control in Aeronautics and Astronautics (ISSCAA)*, Harbin, China, June 2010.
- [C6] L. Fan, J. Li, Y. Lin, **X. Lei**, and Y. Jiang, "A novel group frequency-hopping scheme for OFDM modulated multiuser systems," in *Proc. IEEE International Conference on Systems and Control in Aeronautics and Astronautics (ISSCAA)*, Harbin, China, June 2010.
- [C5] **X. Lei**, N. C. Beaulieu, and P. Fan, "Average outage and non-outage duration of selective decode-and-forward relaying," in *Proc. The Canadian Workshop on Information Theory (CWIT)*, Ottawa, Canada, May 2009.
- [C4] **X. Lei**, P. Fan, and P. T. Mathiopoulos, "BER and ergodic capacity analysis of dual-hop amplify-and-forward relay channel in Nakagami-m fading," in *Proc. International Workshop on Signal Design and its Applications in Communications (IWSDA)*, Fukuoka, Japan, October 2009.
- [C3] K. Yu, Y. Sun, P. Fan, and **X. Lei**, "Performance of large CDMA random access systems with retransmission diversity over fading channels," in *Proc. IEEE Wireless Communications and Networking Conference (IEEE WCNC)*, Budapest, Hungary, April 2009.
- [C2] **X. Lei**, P. Fan, and H. Chen, "SEP of general rectangular QAM signal with MRC diversity over Nakagami-q (Hoyt) fading channels," in *Proc. IET International Conference on Wireless, Mobile and Multimedia Networks (ICWMMN)*, Beijing, China, October 2008.
- [C1] **X. Lei**, P. Fan, and L. Hao, "Performance analysis of general rectangular QAM with MRC diversity over Nakagami-m fading channels with arbitrary fading parameters," in *Proc. International Conference on Wireless Communications, Networking and Mobile Computing (WICOM)*, Shanghai, China, September 2007.