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EDUCATION

Ph.D., City University of Hong Kong, 2008, Electrical Engineering

RESEARCH INTERESTS

My research interest is in the general areas of statistical signal processing, communications, and information theory, including but not limited to

- Network information theory
- 5G wireless communications and beyond
- Compressed sensing and structured signal recovery
- Machine learning.

HONOURS AND AWARDS

- Best Paper Award, International Conferences on Communications (ICC) 2014
- Best Paper Award Finalist, IEEE Global Communications Conference (GlobeCom) 2014
- Information Theory Young Scientist Award (信息论青年新星奖), 2015, Chinese Electronic Society
- Best Research Award 2015, by the School of Inf. Sci. and Tech., ShanghaiTech University
- Senior member, IEEE
- Best Journal Paper Award, IEEE Technical Committee on Green Communications and Computing (TCGCC), 2017
- 第十四届四川省青年科技奖，四川省委组织部，2017
- 第十二批四川省学术与技术带头人后备人选，2018
- 中国电子学会科学技术奖二等奖，2018

PUBLICATIONS

Books and Book Chapters:

1. Yingjun (Angela) Zhang, Congmin Fan, and **Xiaojun Yuan**, *Scalable Signal Processing in Cloud Radio Access Networks*, Springer, 2019.
2. Qinghua Guo, **Xiaojun Yuan**, and Li Ping, "Multi-user detection techniques for potential 3GPP long term evolution (LTE) schemes," *Multi-Carrier Spread Spectrum*, Springer, pp. 77-86, 2007.

Refereed Journal Publications

1. **Xiaojun Yuan**, Ying-Jun Zhang, Yuanming Shi, Wenjing Yan, Hang Liu, "Reconfigurable-intelligent-surface empowered 6G wireless communications: Challenges and opportunities," submitted to *IEEE Wireless Communications Magzine*.
2. Hang Liu, **Xiaojun Yuan***, Ying-Jun (Angela) Zhang, "Matrix-calibration-based cascaded channel estimation for reconfigurable intelligent surface assisted multiuser MIMO," to appear at *IEEE J. Sel. Areas Commun.*
3. Shuchao Jiang, **Xiaojun Yuan**, Xin Wang, Chongbin Xu, and Wei Yu, "Joint user identification, channel estimation, and signal detection for grant-free NOMA," to appear at *IEEE Trans. Wireless Commun.*
4. Hang Liu, **Xiaojun Yuan***, and Ying Jun (Angela) Zhang, "Statistical beamforming for FDD downlink massive MIMO via spatial information extraction and beam selection," to appear at *IEEE Trans. Wireless Commun.*
5. Bin Duo, Qingqing Wu, **Xiaojun Yuan**, and Rui Zhang, "Energy efficiency maximization for full-duplex UAV secrecy communication," *IEEE Trans. Veh. Tech.*, vol. 69, no. 4, pp. 4590-4595, April 2020.
6. Tao Huang, **Xiaojun Yuan**, Jinhong Yuan, and Wei Xiang, "Optimization of data exchange in 5G vehicle-to-infrastructure edge networks," to appear in *IEEE Trans. Veh. Tech.*
7. Mingchen Zhang, **Xiaojun Yuan***, and Zhen-Qing He, "Variance state propagation for structured sparse Bayesian learning," to appear at *IEEE Trans. Signal Processing*.
8. Wenjing Yan, **Xiaojun Yuan***, Zhen-Qing He, and Xiaoyan Kuai, "Passive beamforming and information transfer design for large intelligent surface aided multiuser MIMO systems," to appear at *IEEE J. Sel. Areas Commun.*
9. Wenjing Yan, Xiaoyan Kuai, and **Xiaojun Yuan***, "Passive beamforming and information transfer via large intelligent surface," *IEEE Wireless Commun. Lett.*, vol. 9, no. 4, pp. 533-537, April 2020.
10. Peilan Wang, Jun Fang, **Xiaojun Yuan**, Zhi Chen, Huiping Duan, and Hongbin Li, "Intelligent reflecting surface-assisted millimeter wave communications: Joint active and passive precoding design," submitted to *IEEE Trans. Veh. Tech.*
11. Sixian Li, Duo Bin, **Xiaojun Yuan***, Ying-Chang Liang, and Marco Di Renzo, "Reconfigurable intelligent surface assisted UAV communication: Joint trajectory design and passive beamforming," to appear at *IEEE Wireless Commun. Lett.*
12. Jiaqi Shi, Qianqian Zhang, Ying-Chang Liang, and **Xiaojun Yuan**, "Distributed deep-learning for power allocation in D2D networks with outdated interference information," submitted to *IEEE Trans. Commun.*
13. Congmin Fan, Ying Jun (Angela) Zhang, and **Xiaojun Yuan***, "Machine learning for heterogeneous ultra-dense networks with graphical representations," preprint.
14. Xiaoyan Kuai, **Xiaojun Yuan***, and Wenjing Yan, "Coexistence of human-type and machine-type communications in mmWave massive MIMO," submitted to *IEEE J. Sel. Areas Commun.*
15. Yi Liu, **Xiaojun Yuan***, Ying-Chang Liang, and Zhu Han, "Affinity propagation based iterative detection and muti-interference cancellation for cognitive IoT," submitted to *IEEE Wireless Commun. Lett.*
16. Xiaoyan Kuai, **Xiaojun Yuan***, Wenjing Yan, Hang Liu, and Ying Jun (Angela) Zhang, "Double-sparsity learning based channel-and-signal estimation in massive MIMO with generalized spatial modulation," to appear at *IEEE Trans. Commun.*
17. **Xiaojun Yuan**, Haiyang Xin, Soung-Chang Liew, and Yong Li, "Capacity of the Gaussian two-pair two-way relay channel to within ½ bit," *IEEE Trans. Inf. Theory*, vol. 65, no. 12, pp. 8273-8304, Dec. 2019.
18. Xiaoyan Kuai, **Xiaojun Yuan***, Ying-Chang Liang, "Turbo message-passing based

receiver design for time-varying OFDM systems," *IEEE Trans. Commun.*, vol. 67, no. 10, pp. 7058-7072, Oct. 2019.

19. Zhen-Qing He and **Xiaojun Yuan**[*], "Cascaded channel estimation for large intelligent metasurface assisted massive MIMO," to appear at *IEEE Wireless Commun. Lett.*
20. Zhipeng Xue, **Xiaojun Yuan**[*], Junjie Ma, and Yi Ma, "TARM: A turbo-type algorithm for affine rank minimization," *IEEE Trans. Signal Processing*, vol. 67, no. 22, pp. 5730-5745, Nov. 2019.
21. Congmin Fan, **Xiaojun Yuan**[*], and Ying Jun (Angela) Zhang, "CNN-based signal detection for banded linear systems," *IEEE Trans. Wireless Commun.*, vol. 18, no. 9, pp. 4394-4407, Sep. 2019.
22. Siguo Bi, Zhaoxi Fang, **Xiaojun Yuan**, and Xin Wang, "Joint base station activation and coordinated downlink beamforming for HetNets: Efficient optimal and suboptimal algorithms," *IEEE Trans. Veh. Tech.*, vol. 68, no. 4, April 2019.
23. Junjie Ma, Lei Liu, **Xiaojun Yuan**, and Li Ping, "On orthogonal AMP in coded linear vector systems," *IEEE Trans. Wireless Commun.*, vol. 18, no. 12, Dec. 2019.
24. Hai Cheng, **Xiaojun Yuan**[*], and Tao Yang, "Generalized signal-space alignment based physical-layer network coding over distributed MIMO system," *IEEE Access*, vol. 7, pp. 48430-48444, April 2019.
25. Xiaoyan Kuai, Lei Chen, **Xiaojun Yuan**[*], and An Liu, "Structured turbo compressed sensing for downlink massive MIMO-OFDM channel estimation," *IEEE Trans. Wireless Commun.*, vol. 18, no. 8, pp. 3813-3826, Aug. 2019.
26. 李勇，袁晓军[*]，"完整数据交换模型下多用户集群的多输入多输出多向中继信道的自由度分析"，中国科学院大学学报，已接收。
27. Xuehai He, Zhipeng Xue, and Xiaojun Yuan, "Learned turbo message passing for affine rank minimization and compressed robust principal component analysis," *IEEE Access*, vol. 7, no. 1, pp. 140606-140617, Dec. 2019.
28. Wenjing Yan and **Xiaojun Yuan**[*], "Semi-blind channel-and-signal estimation for uplink massive MIMO with channel sparsity," *IEEE Access*, vol. 7, no. 1, pp. 95008-95020, Dec. 2019.
29. Zhen-Qing He, **Xiaojun Yuan**[*], and Lei Chen, "Super-resolution channel estimation for massive MIMO via clustered sparse Bayesian learning," *IEEE Trans. Veh. Tech.*, vol. 68, no. 6, pp. 6156-6160, June 2019.
30. Lei Chen and **Xiaojun Yuan**[*], "Blind multiuser detection in massive MIMO channels with clustered sparsity," *IEEE Wireless Commun. Letters*, vol. 8, no. 4, pp. 1052-1055, Aug. 2019.
31. Yi Liu, Xiaoyan Kuai, **Xiaojun Yuan**[*], Ying-Chang Liang, and Liang Zhou, "Learning based iterative interference cancellation for cognitive internet of things," *IEEE IoT Journal*, vol. 6, no. 4, pp. 7213-7224, Aug. 2019.
32. Hang Liu, **Xiaojun Yuan**[*], and Ying Jun (Angela) Zhang, "Super-resolution blind channel-and-signal estimation for massive MIMO with one-dimensional antenna array," *IEEE Trans. Signal Processing*, vol. 67, no. 17, pp. 4433-4448, Sep. 2019.
33. Tian Ding, **Xiaojun Yuan**[*], and Soung-Chang Liew, "Sparsity learning based multiuser detection in grant-free massive-device multiple access," *IEEE Trans. Wireless Commun.*, vol. 18, no. 7, pp. 3569-3582, July 2019.
34. Qianqian Zhang, Huayan Guo, Ying-Chang Liang, and **Xiaojun Yuan**, "Constellation learning based signal detection for ambient backscatter communication systems," *IEEE J. Sel. Areas Commun.*, vol. 37, no. 2, pp. 452-463, Feb. 2019.
35. Hai Cheng, **Xiaojun Yuan**[*], and Yihua Tan, "Generalized compute-compress-and-forward," *IEEE Trans. Inf. Theory*, vol. 65, no. 1, pp. 462-481, Jan. 2019.
36. Zhipeng Xue, **Xiaojun Yuan**[*], and Yang Yang, "Turbo approximate message

passing for robust principal component analysis," *IEEE J. Sel. Topics in Signal Processing (JSTSP),* vol. 12, no. 6, pp. 1182-1196, Dec. 2018.

37. **Xiaojun Yuan**, Congmin Fan, and Ying Jun (Angela) Zhang, "Fundamental limits of training-based multiuser MIMO systems," *IEEE Trans. Wireless Commun*., vol. 17, no. 11, pp. 7544-7558, Nov. 2018.
38. 程海，**袁晓军**，"广义计算压缩转发：一种新型中继策略"，《电子设计工程》，2019年2月。
39. Tian Ding, **Xiaojun Yuan***, and Soung-Chang Liew, "Algorithmic beamforming design for MIMO multiway relay channel with clustered full data exchange," *IEEE Trans. Veh. Tech*., vol. 67, no. 10, pp. 10081-10186, Oct. 2018.
40. Zhen-Qing He and **Xiaojun Yuan***, "Block iteratively reweighted algorithms for robust symmetric nonnegative matrix factorization," *IEEE Signal Processing Letters*, vol. 25, no. 10, pp. 1510-1514, Oct. 2018.
41. An Liu, Lixiang Lian, Vincent Lau, and **Xiaojun Yuan**, "Downlink channel estimation in multi-user massive MIMO with hidden Markovian sparsity," *IEEE Trans. Signal Processing*, vol. 66, no. 18, pp. 4796-4810, Sep. 15, 2018.
42. Xiaoyan Kuai, **Xiaojun Yuan***, Ying-Chang Liang, "Message-passing based OFDM receiver for time-varying sparse multipath channels," *IEEE Trans. Veh. Tech.*, vol. 67, no. 10, pp. 10097-10101, Oct. 2018.
43. Zhaoxi Fang and **Xiaojun Yuan***, "Distributed energy beamforming and information transfer for multiway relay networks," *IEEE Access*, vol. 6, no. 1, pp. 38977-38985, Dec. 2018.
44. **Xiaojun Yuan,** Jianwen Zhang, Ying Jun (Angela) Zhang, Xiang Zhao and Xiaoyan Kuai, "MIMO multiway distributed-relay channel with full data exchange: An achievable rate perspective," *IEEE Access*, vol. 6, no. 1, pp. 41139-41152, Dec. 2018.
45. Lei Chen, An Liu, and **Xiaojun Yuan***, "Structured turbo compressed sensing for massive MIMO channel estimation using a Markov prior," *IEEE Trans. Vehicular Technology*, vol. 67, no. 5, pp. 4635-4639, May 2018.
46. Kangqi Liu, **Xiaojun Yuan**, and Meixia Tao, "On the DoF region for the asymmetric MIMO two-way X relay channel," *IEEE Trans. Communications*, vol. 66, no. 1, pp. 119-132, Jan. 2018.
47. Jianwen Zhang, **Xiaojun Yuan***, and Ying Jun (Angela) Zhang, "Blind signal detection in massive MIMO: Exploiting the channel sparsity," *IEEE Trans. Commun.*, vol. 66, no. 2, pp. 700-712, Feb. 2018.
48. Rui Wang, **Xiaojun Yuan**, and Jun Wu, "Degrees of freedom of MIMO multipair two-way relay channel with delayed channel state information," *IEEE Signal Processing Letters*, vol. 25, no. 2, pp. 243-247, Feb. 2018.
49. Zichao Sun, Li Chen, **Xiaojun Yuan**, and Yushan Yakufu, "Design and analysis of BICM-ID for two-way relay channels with physical-layer network coding," *IEEE Trans. Vehicular Technology*, vol. 66, no. 11, pp. 10170-10182, Sep. 2017.
50. Zhipeng Xue, Junjie Ma, and **Xiaojun Yuan***, "Denoising-based turbo compressed sensing," *IEEE Access*, vol. 5, pp. 7193-7204, April 2017.
51. Jianwen Zhang, Tianwei Wei, **Xiaojun Yuan***, and Rui Zhang, "Multi-antenna constant envelope wireless power transfer," *IEEE Trans. Green Communications and Networking*, vol. 1, no. 4, pp. 1-10, Dec. 2017. (**Best journal paper award**)
52. Kangqi Liu, Meixia Tao, and **Xiaojun Yuan**, "Optimal DoF region for the asymmetric two-pair MIMO two-way relay channel," *IEEE Trans. Signal Processing*, vol. 65, no. 7, pp. 1700-1711, April 1, 2017.
53. Jianwen Zhang, **Xiaojun Yuan***, and Yin Jun (Angela) Zhang, "Locally orthogonal training design based on graph coloring in Cloud-RANs," *IEEE Trans. Wireless Communications*, vol. 16, no. 10, pp. 6426-6437, Oct. 2017.

54. Congmin Fan, **Xiaojun Yuan***, Ying Jun (Angela) Zhang, "Scalable uplink signal detection in C-RANs via randomized Gaussian message passing," *IEEE Trans. Wireless Communications*, vol. 16, no. 8, pp. 5187-5200, Aug. 2017.
55. Tian Ding, **Xiaojun Yuan***, and Soung Chang Liew, "On the degrees of freedom of the symmetric multi-relay MIMO Y channel," *IEEE Trans. Wireless Communications*, vol. 16, no. 9, pp. 5673-5688, Sep. 2017.
56. Tao Yang, **Xiaojun Yuan**, and Qifu Tyler Sun, "A signal-space aligned network coding approach to distributed MIMO," *IEEE Trans. Signal Processing*, vol. 65, no. 1, pp. 27-40, Jan. 2017.
57. Kangqi Liu, **Xiaojun Yuan**, and Meixia Tao, "Optimal degrees of freedom region for the asymmetric MIMO Y channel," *IEEE Communications Letters*, vol. 99, Sept. 2016.
58. Congmin Fan, Ying Jun (Angela) Zhang, and **Xiaojun Yuan**, "Advances and Challenges towards a scalable cloud radio access network," *IEEE Communications Magazine*, vol. 54, no. 6, pp. 29-35, June 2016.
59. Rui Wang, **Xiaojun Yuan***, and Raymond W. Yeung, "MIMO multipair two-way relaying with distributed relays: Joint signal alignment and interference neutralization," *IEEE Trans. Inform. Theory*, vol. 62, no. 3, pp. 1326-1343, March 2016.
60. Yihua Tan and **Xiaojun Yuan***, "Compute-compress-and-forward: Exploiting asymmetry of wireless relay networks," *IEEE Trans. Signal Processing*, vol. 64, no. 2, pp. 511-524, Jan. 15, 2016.
61. Zhaoxi Fang, **Xiaojun Yuan**, Xin Wang, and Changgang Li, "Non-regenerative cellular two-way relaying with large-scale antenna arrays," *IEEE Trans. Vehicular Technology*, vol. 65, no. 7, pp. 4959-4972, July 2016.
62. Haiyang Xin, **Xiaojun Yuan***, and Soung Chang Liew, "Multiuser MIMO two-way relaying: A principal-angle perspective," *IEEE Trans. Signal Processing*, vol. 64, no. 2, pp. 380-394, Jan. 15, 2016.
63. Congmin Fan, Yingjun (Angela) Zhang, and **Xiaojun Yuan***, "Dynamic nested clustering for parallel PHY-layer processing in Cloud-RANs," *IEEE Trans. Wireless Commun.*, vol. 15, no. 3, pp. 1881-1894, March 2016.
64. Junjie Ma, **Xiaojun Yuan**, and Li Ping, "On the performance of turbo signal recovery with partial DFT sensing matrix," *IEEE Signal Processing Letters*, vol. 22, no. 10, pp. 1580-1584, Oct. 2015.
65. Zhaoxi Fang, **Xiaojun Yuan**, and Xin Wang, "Distributed energy beamforming for simultaneous wireless information and power transfer in the two-way relay channel," *IEEE Signal Processing Letters*, vol. 22, no. 6, pp. 656-660, Jun 2015.
66. Rui Wang, **Xiaojun Yuan***, and Meixia Tao, "Degrees of freedom of MIMO multiway relay channel with clustered pairwise exchange," *IEEE J. Sel. Areas Commun.*, vol. 33, no. 2, pp. 337-351, Feb. 2015.
67. Junjie Ma, **Xiaojun Yuan***, and Li Ping, "Turbo compressed sensing with partial DFT sensing matrix," *IEEE Signal Processing Letters*, vol. 22, no. 2, pp. 158-161, Feb. 2015.
68. **Xiaojun Yuan**, Li Ping, Chongbin Xu, and Aleksandar Kavcic, "Achievable rates of MIMO systems with linear precoding and iterative LMMSE detection," *IEEE Trans. Inform. Theory*, vol. 60, no. 11, pp. 7073-7089, Nov. 2014.
69. **Xiaojun Yuan**, Junjie Ma, and Li Ping, "Energy-spreading-transform based MIMO systems: Iterative equalization, evolution analysis, and precoder optimization," *IEEE Trans Wireless Commun.*, vol. 13, no. 9, pp. 5237-5250, Sep. 2014.
70. Rui Wang and **Xiaojun Yuan***, "MIMO multiway relaying with pairwise data exchange: A degrees of freedom perspective," *IEEE Trans. Signal Processing*, vol. 62, no. 20, pp. 5294-5307, Oct. 2014.

71. Zhaoxi Fang, **Xiaojun Yuan***, and Xin Wang, "Towards the asymptotic sum capacity of the MIMO cellular two-way relay channel," *IEEE Trans. Signal Processing*, vol. 62, no. 16, pp. 4039-4051, Aug. 2014.
72. **Xiaojun Yuan**, "MIMO multiway relaying with clustered full data exchange: Signal space alignment and degrees of freedom," *IEEE Trans. Wireless Commun.*, vol. 13, no. 12, pp. 6795-6808, Dec. 2014.
73. Peng Wang, Yonghui Li, **Xiaojun Yuan**, Lingyang Song, and Branka Vucetic, "Tens of gigabits wireless communications over E-band LoS MIMO channels with uniform linear antenna arrays," *IEEE Trans. Wireless Commun*., vol. 13, no. 7, pp. 3791-3805, July 2014.
74. Zhaoxi Fang, Xin Wang, and **Xiaojun Yuan**, "Beamforming design for multiuser two-way relaying: A unified approach via max-min SINR," *IEEE Trans. Signal Processing*, vol. 61, no. 23, pp. 5841-5852, Dec. 2013.
75. Fanggang Wang and **Xiaojun Yuan**, "Zero-forcing multi-way relaying with sum rate maximization," *Transactions on Emerging Telecommunications Technologies*, Aug. 2013.
76. Fanggang Wang, **Xiaojun Yuan***, Soung Chang Liew, and Yonghui Li, "Bidirectional cellular relay network with distributed relaying," *IEEE J. Sel. Areas Commun.*, vol. 31, no. 10, pp. 2082-2098, Oct. 2013.
77. **Xiaojun Yuan**, Tao Yang, and Iain B. Collings, "Multiple-input multiple-output two-way relaying: A space-division approach," *IEEE Trans. Inform. Theory*, vol. 59, no. 10, pp. 6421-6440, Oct. 2013.
78. Fanggang Wang, **Xiaojun Yuan***, Soung Chang Liew, and Dongning Guo, "Wireless MIMO switching: Weighted sum mean square error and sum rate optimization," *IEEE Trans. Inform. Theory*, vol. 59, no. 9, pp.5297-5312, Sept. 2013.
79. Chongbin Xu, **Xiaojun Yuan**, Li Ping, and Xiaokang Lin, "Power allocation for linearly precoded OFDM systems with imperfect CSIT," *IEEE Wireless Commun. Letters*, vol. 2, no. 3, pp. 315-318, June 2013.
80. Tao Yang, **Xiaojun Yuan**, Li Ping, Iain B. Collings, and Jinghong Yuan, "A new physical-layer network coding scheme with eigen-direction alignment precoding for MIMO two-way relaying," *IEEE Trans. Commun*., vol. 61, no. 3, pp. 973-986, March 2013.
81. Jianwen Zhang, **Xiaojun Yuan***, and Li Ping, "Hermitian precoding for distributed MIMO systems with individual channel state information," *IEEE J. Sel. Areas Commun.*, vol. 31, no. 2, pp. 241-251, Feb. 2013.
82. Tao Yang, **Xiaojun Yuan***, and Iain B. Collings, "Reduced-dimension cooperative precoding for MIMO two-way relay channels," *IEEE Trans. Wireless Commun.*, vol. 11, no. 11, pp. 1536-1276, Nov. 2012.
83. Geng Nian, **Xiaojun Yuan***, and Li Ping, "Dual-diagonal LMMSE channel estimation for OFDM systems," *IEEE Trans. Signal Processing*, vol. 60, no. 9, pp. 4734-4746, Sept. 2012.
84. **Xiaojun Yuan**, Rong Sun, and Li Ping, "Simple capacity-achieving ensembles of rateless erasure-correcting codes," *IEEE Trans. Commun.,* vol. 58, no. 1, pp. 110-117, Jan. 2010.
85. **Xiaojun Yuan**, Chongbin Xu, Li Ping, and Xiaokang Lin, "Precoder design for multiuser MIMO ISI channels based on iterative LMMSE detection," *IEEE J. Select. Topics Signal Processing (JSTSP)*, vol. 3, no. 6, pp. 1118-1128, Dec. 2009.
86. Li Ping, Jun Tong, **Xiaojun Yuan**, and Qinghua Guo, "Superposition coded modulation and iterative linear MMSE detection," *IEEE J. Select. Areas Commun. (JSAC)*, vol. 27, no. 6, pp. 995-1004, August 2009.
87. **Xiaojun Yuan** and Li Ping, "Quasi-systematic doped LT codes," *IEEE J. Select.*

Areas Commun. (JSAC), vol. 27, no. 6, pp. 866-875, August 2009.

88. Haitao Li, **Xiaojun Yuan**, Li Ping, and Xiaokang Lin, "On water-filling precoding for coded single-carrier systems," *IEEE Commun. Lett.*, vol. 13, no. 1, pp. 34-36, Jan. 2009.
89. **Xiaojun Yuan**, Haitao Li, Li Ping, and Xiaokang Lin, "Optimized spectrum-shaping strategy for coded single-carrier transmission," *IEEE Signal Processing Lett.*, vol. 15, pp. 809-812, 2008.
90. **Xiaojun Yuan** and Li Ping, "On systematic LT codes," *IEEE Commun. Lett.*, vol. 12, no. 9, pp. 681-683, Sept. 2008.
91. **Xiaojun Yuan**, Qinghua Guo, and Li Ping, "Low-complexity iterative detection in multi-user MIMO ISI channels," *IEEE Signal Processing Lett.*, vol. 15, pp. 25-28, 2008.
92. **Xiaojun Yuan**, Qinghua Guo, Xiaodong Wang, and Li Ping, "Evolution analysis of low-cost iterative equalization in coded linear systems with cyclic prefixes," *IEEE J. Select. Areas Commun. (JSAC)*, vol. 26, no. 2, pp. 301-310, Feb. 2008.
93. Qinghua Guo, **Xiaojun Yuan**, and Li Ping, "Single- and multi- carrier IDMA schemes with cyclic prefixing and zero padding techniques," *European Trans. Telecommunications*, vol. 19, no. 5, pp. 537-547, Jan. 2008.

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Refereed Conference Publications

1. Jiaqi Shi, Qianqian Zhang, Ying-Chang Liang, and Xiaojun Yuan, "Distributed deep learning power allocation for D2D network based on outdated information," *Proc. IEEE Wireless Communications and Networking Conference (IEEE WCNC 2020)*, Seoul, South Korea, 6-9 April 2020.
2. Xiaoyan Kuai, Xiaojun Yuan, and Wenjing Yan, "Blind detection in coexistence of human-type and machine-type communications," *Proc. IEEE International Conference on Communication Technology (IEEE ICCT 2019)*, Xi'an, China, Oct. 16-19, 2019.
3. Xuehai He, Zhipeng Xue, and Xiaojun Yuan, "Learned turbo-type affine rank minimization," *Proc. 2019 11th International Conference on Wireless Communications and Signal Processing (WCSP 2019)*, Xi'an, China, Oct. 2019.
4. Shuchao Jiang, **Xiaojun Yuan**, Xin Wang, and Chongbin Xu, "Joint user identification, channel estimation, and signal detection for grant-free NOMA," *Proc. IEEE Global Communications Conference* (*GLOBECOM 2019*), Waikoloa, HI, USA, Dec. 9-13, 2019.
5. Hang Liu, **Xiaojun Yuan**, and Ying Jun (Angela) Zhang, "Beam-selection-based statistical beamforming for FDD massive MIMO: Exploiting spatial reciprocity," *Proc. IEEE Global Communications Conference* (*GLOBECOM 2019*), Waikoloa, HI, USA, Dec. 9-13, 2019.
6. Kunlun Wang, Yong Zhou, Yang Yang, **Xiaojun Yuan**, and Xiliang Luo, "Task offloading in NOMA-based fog computing networks: A deep Q-learning approach," *Proc. IEEE Global Communications Conference* (*GLOBECOM 2019*), Waikoloa, HI, USA, Dec. 9-13, 2019.
7. Xiaoyan Kuai, **Xiaojun Yuan***, Wenjing Yan, Hang Liu, and Ying Jun (Angela) Zhang, "Sparsity learning based blind signal detection for massive MIMO with generalized spatial modulation," *IEEE/CIC International Conference on Communications in China (ICCC 2019)*, Changchun, China, August 11-13, 2019.
8. Wenjing Yan and **Xiaojun Yuan***, "Semi-blind signal detection for uplink massive

MIMO with channel sparsity," in *Proc. IEEE Int. Conf. Commun. (ICC)*, Shanghai, China, May 20-24, 2019.

9. Hang Liu, **Xiaojun Yuan**, and Yingjun (Angela) Zhang, "Message-passing based blind signal detection for massive MIMO with general antenna arrays," in *Proc. IEEE Int. Conf. Commun. (ICC)*, Shanghai, China, May 20-24, 2019.
10. Mingchen Zhang, Fanggang Wang, **Xiaojun Yuan**, and Lei Chen, "2D structured turbo compressed sensing for channel estimation in OTFS systems," in *Proc. 2018 IEEE International Conference on Communication Systems (ICCS)*, Chengdu, pp. 45-49, Dec. 2018.
11. Jie Yuan, Qianqian Zhang, Ying-Chang Liang, and **Xiaojun Yuan**, "A clustering detector for spatial modulation system," in *Proc. 2018 IEEE International Conference on Communication Systems (ICCS)*, Chengdu, Dec. 2018.
12. Junjie Ma, Lei Liu, **Xiaojun Yuan**, and Li Ping, "On orthogonal AMP in coded linear vector systems," *10th International Symposium on Turbo Codes & Iterative Information Processing*, Hong Kong, China, Dec. 3-7, 2018.
13. Yi Liu, Zhuohang He, Xiaoyan Kuai, and **Xiaojun Yuan**[*], "Learning based interference cancellation for cognitive radio," *10th International Symposium on Turbo Codes & Iterative Information Processing*, Hong Kong, China, Dec. 3-7, 2018.
14. Xiaoyan Kuai, **Xiaojun Yuan**[*], and Ying-Chang Liang, "Bayesian message-passing based OFDM receiver for doubly-spread multipath channels," *10th International Symposium on Turbo Codes & Iterative Information Processing*, Hong Kong, China, Dec. 3-7, 2018.
15. Rui Wang, **Xiaojun Yuan**[*], Jun Wu, and Wei Zhang, "Optimal DoF region of MIMO Y channel with hybrid data exchanges," *Proc. IEEE Global Communications Conference* (*GLOBECOM 2018*), Abu Dhabi, UAE, Dec. 9-13, 2018.
16. Tian Ding, **Xiaojun Yuan**[*], and Soung-Chang Liew, "Structured sparsity learning based multiuser detection in massive-device multiple access," *Proc. IEEE Global Communications Conference* (*GLOBECOM 2018*), Abu Dhabi, UAE, Dec. 9-13, 2018.
17. Congmin Fan, **Xiaojun Yuan**[*], and Ying Jun (Angela) Zhang, "Deep-learning-based signal detection for banded linear systems," *Proc. IEEE Global Communications Conference* (*GLOBECOM 2018*), Abu Dhabi, UAE, Dec. 9-13, 2018.
18. Qianqian Zhang, Huayan Guo, Ying-Chang Liang, and **Xiaojun Yuan**, "Clustering-inspired signal detection for ambient backscatter communication systems," *Proc. IEEE Global Communications Conference* (*GLOBECOM 2018*), Abu Dhabi, UAE, Dec. 9-13, 2018.
19. Lei Chen and **Xiaojun Yuan**[*], "Massive MIMO-OFDM channel estimation via structured turbo compressed sensing," in *Proc. IEEE International Conference on Communications (ICC 2018)*, Kansas City, United States, May 20-24, 2018.
20. Zhipeng Xue, **Xiaojun Yuan**[*], and Junjie Ma, "TARM: A turbo-type algorithm for affine rank minimization," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2018)*, Calgary, Canada, April 15-20, 2018.
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Patents:

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4. 专利名称：《一种基于网格编码的中继通信方法》，专利号：201710573396.2，中国专利局。
5. 专利名称：《一种针对并发频谱访问模型的非合作式二级用户接收机》，专利号：201810874349.6，中国专利局，已授权，授权日期：2020.05.01。
6. 专利名称：《一种用于压缩感知后视频数据流前后背景恢复方法》，专利号：201810667783.7，中国专利局，已授权，授权日期：2020.07.10。
7. 专利名称：《基于智能终端的灾后呼吸检测系统》，专利号：201910476112.7，中国专利局。
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PROJECTS

参与单位负责人，《大规模无线通信物理层基础理论与技术》，国家重点研发计划“宽带通信和新型网络”重点专项

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项目负责人，《军事侦察信号检测的Turbo压缩感知方法》，教育部高技术基础研究项目

项目负责人，《机器学习在5G算法中的应用研究和验证》，四川省教育厅自然科学重点项目

Principal Investigator, China Recruitment Program of Global Young Experts, China, 2016-2018,

Principal Investigator of "Network Coding for MIMO Multiway Relay Channels: Design, Analysis, and Performance Optimization," NSFC (No. 61471241), China, 2015-2018,

Principal Investigator of "Design of Reliable Physical-Layer Network Coding for MIMO Relay Networks," RGC General Research Fund, Hong Kong, 2012-2015 (RGC Ref Number: 418712)

Co-Investigator of "Shenzhen Key Laboratory: Network Coding Technologies and Applications," Shenzhen, China, 2013-2014,

Co-Investigator of "Spectrum and Energy Efficiency Multiuser Cooperative Communications," NSFC (No. 61372079), China, 2014-2017,

PROFESSIONAL ACTIVITIES

Membership

Senior member, IEEE
Senior member, Chinese Electronic Society
Editor, *IEEE Transactions on Wireless Communications*, 2018-present
Editor, *IEEE Transactions on Communications*, 2016-present
Editor, *Recent Patents on Telecommunications*, 2012-2013