

Lei Li

Ph.D. Candidate, The Chinese University of Hong Kong, Shenzhen

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Education

Ph.D. Candidate, Computer and Information Engineering Jan. 2020–Present
The Chinese University of Hong Kong (CUHK), Shenzhen GPA: 3.85/4.0

Ph.D. Student, Electrical Engineering Aug. 2018–Aug. 2019
Virginia Tech (VT), Blacksburg, VA, USA GPA: 3.88/4.0

M.S., Information and Communication Engineering Sept. 2014 – Mar. 2017
Beijing Institute of Technology (BIT), Beijing GPA: 86.4/100

B.E., Communication Engineering (Siyuan Honor Program) Sept. 2010–June 2014
Beijing Jiaotong University (BJTU), Beijing GPA: 88.5/100

Research Experiences

Channel state information (CSI) sensing and recovery in massive MIMO systems

- L. Li, X. Zeng, Y.-F. Liu, Y. Xu, and T.-H. Chang, "CSI sensing from heterogeneous user feedbacks: a constrained phase retrieval approach," *accepted by IEEE Trans. Wireless Commun.*, 2023
- L. Li, M. Zhu, S. Xia and T. -H. Chang, "Downlink CSI recovery in massive MIMO systems by proactive sensing," *IEEE Wireless Commun. Lett.*, 2023
- L. Li, Q. Chen, X. Zeng and T. -H. Chang, "Downlink CSI sensing from heterogeneous user feedbacks: a constrained phase retrieval approach," in *IEEE SPAWC 2022*

Integrated sensing and communication (ISAC)

- L. Li, T. Cai, and T.-H. Chang, "ISAC Beamforming Optimization for robust transmission in dynamic mmWave MIMO networks," *accepted by IEEE ICASSP, 2024*
- T. Cai, L. Li, and T.-H. Chang, "Sensing-assisted Distributed User Scheduling and Beamforming in Multi-cell MmWave Networks," *accepted by IEEE ICASSP, 2024*
- M. Zhu, L. Li, S. Xia and T.-H. Chang, "Information and sensing beamforming optimization for multi-user multi-target MIMO ISAC systems," *EURASIP J. Adv. Signal Process.*, 2023
- M. Zhu, L. Li, S. Xia and T.-H. Chang, "Information and sensing beamforming optimization for multi-user multi-target MIMO ISAC systems," in *IEEE ICASSP, 2023 (Top %3 Paper Recognition)*

Unmanned aerial vehicle (UAV) communication

- L. Li, T.-H. Chang and S. Cai, "UAV positioning and power control for wireless two-way relaying," *IEEE Trans. Wireless Commun.*, 2020
- L. Li, T.-H. Chang and S. Cai, "UAV positioning and power control for wireless two-way relaying," in *IEEE SPAWC, 2019*

Others: DoA estimation, multi-user beamforming, secure communication, SCMA, and visual light communication (VLC)

- S. Li, L. Li, B. Liu, Y. Song, M. Li, J. Ren, and W. Jiang, "High precision fast direction-of-arrival estimation method for planar array," in *Space: Science & Technology (2022)*
- L. Li, J. Chen, C. Li, B. Li, N. Wang and Z. Fei, "Balancing energy efficiency and user rate fairness in multicell networks," in *IEEE WPMC 2016*

- Ni. Wang, **L. Li**, J. Chen, Z. Fei and J. Kuang, "The ADMM-based beamforming design with per-antenna power constraints," in *IEEE WPMC 2016*
- B. Li, **L. Li**, D. He, J. Chen and W. Kong, "Energy efficient secure transmission in massive MIMO systems with pilot attack," in *IEEE WCSP 2016*
- C. Sun, **L. Li**, J. Chen *et al.*, "System-level performance estimation of SCMA," in *IEEE ICCS 2016*
- M. Feng, Y. Zeng, K. Zhou *et al.*, "Adaptive screen modulation schemes for mobile device employing optical camera communication," in *IEEE ICUFN 2014*.

Skills

- Experienced knowledge in wireless communication, network optimization, 4G-LTE, and 5G-NR.
- Familiar with air interface performance analysis, characterization and optimization
- Academic Language: C/C++, Python, Matlab, and \LaTeX

Honors and Awards

- Graduate Research Conference Poster Award, Second Place, CUHK-Shenzhen 2022
- National Endeavor Scholarship 2012 & 2013
- Second Class Scholarship of BIT 2014 & 2015
- Second Class Scholarship of BJTU 2012 & 2013
- Merit Student of BJTU 2013
- Second Prize in Electronic Design Contest at BJTU 2013
- Outstanding Award in the 4th Innovational Work Election on Electronics and Information Design for College Students, Chinese Institute of Electronics 2013

Extracurricular Activities

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| Graduate Teaching Assistant at CUHK-Shenzhen | <i>May. 2020–Dec. 2023</i> |
| Graduate Teaching Assistant at VT | <i>Aug. 2017–May 2018</i> |
| Graduate Teaching Assistant at BIT | <i>May 2015</i> |
| President of Class Committee, Class Siyuan 1001 (Siyuan Honor Program), BJTU | <i>Sept. 2013–June 2014</i> |
| Class Committee Member in Charge of Studies, Class Siyuan 1001, BJTU | <i>Sept. 2012–June 2013</i> |

Language

TOEFL IBT: 104 (reading 30, listening 27, speaking 20, writing 27)
 GRE: 332.5 (verbal 163, quantitative 166, analytical writing 3.5)