# Zhonghui Li



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## Honors

- Outstanding Paper Award, China Association for Science and Technology, 2022.
- Outstanding Doctoral Dissertation Award, Anhui Province, 2025.

#### SERVICES

**TPC Member:** IEEE Global Communications Conference (GLOBECOM 2024, 2025); International Wireless Communications & Mobile Computing Conference (IWCMC 2025).

Session Chair: The International Conference on Wireless Communications and Signal Processing (WC&SP), 2024.

Reviewer: IEEE Network, IEEE JSAC, China Communications, IEEE TNSM, IEEE/ACM ToN, IEEE Computational Intelligence Magazine, Quantum Information Processing, IET Quantum Communications.

### INTERESTS

Quantum Networking, Distributed Quantum Computing, Quantum Artificial Intelligence.

# Anhui University

## **BIOGRAPHY**

I am currently a post-doctoral researcher at the University of Science and Technology of China (USTC). I received my bachelor's degree from the School of Information and Software Engineering, University of Electronic Science and Technology of China, in 2018, and received my Ph.D degree from the School of Cyber Science and Technology, USTC, in 2023. My current research interests include quantum information networks, distributed quantum computing, and quantum artificial intelligence. So far, I have published more than 20 papers in international journals or conferences such as IEEE Communications Surveys & Tutorials, IEEE/ACM Transactions on Networking (ToN), IEEE Network, IEEE Transactions on Network and Service Management (TNSM). Besides, I have been invited many times to be a reviewer for international journals such as China Communications, IEEE Network, IEEE TNSM, IEEE/ACM ToN.

## EXPERIENCES

#### Anhui University

2025-Now

School of Information Science and Technology, Post-Doctoral researcher.

University of Science and Technology of China

2023-2025

School of Information Science and Technology, Post-Doctoral researcher.

University of Science and Technology of China

2018-2023

School of Cyber Science and Technology, Ph.D

University of Electronic Science and Technology of China 2014–2018 School of Information and Software Engineering, Bachelor.

### **PROJECTS**

National Natural Science Foundation of China

2025.01-2027.12

Research on Key Technologies for End-to-End Entanglement Delivery in Future Large-Scale Quantum Information Networks, ongoing, PI.

Anhui Provincial Natural Science Foundation

2024.09 - 2026.08

Research on Key Network Technologies for Data Qubit Transmission in Entanglement-assisted Quantum Communication Networks, ongoing, PI,

### SELECTED PUBLICATIONS

- Zhonghui Li, Kaiping Xue\*, Jian Li, Nenghai Yu, David S. L. Wei, Ruidong Li. "Connection-oriented and Connectionless Remote Entanglement Distribution Strategies in Quantum Networks," *IEEE Network*, vol. 36, no. 6, pp. 150-156, 2022.
- Zhonghui Li, Kaiping Xue\*, Jian Li, Lutong Chen, Ruidong Li, Zhaoying Wang, Nenghai Yu, David S. L. Wei, Qibin Sun, Jun Lu. "Entanglement-Assisted Quantum Networks: Mechanics, Enabling Technologies, Challenges, and Research Directions," *IEEE Communications Surveys and Tutorials*, vol. 25, no. 4, pp. 2133-2189, 2023.
- Zhonghui Li, Kaiping Xue\*, Jian Li, Nenghai Yu, David S. L. Wei, Ruidong Li. "Efficient Remote Entanglement Distribution in Quantum Networks: A Segment-based Method," *IEEE Transactions on Network and Service Management*, vol. 21, no. 1, pp. 249-265, 2024.
- Zhonghui Li, Jian Li\*, Kaiping Xue\*, Lutong Chen, Nenghai Yu, Qibin Sun, Jun Lu. "NarrowGap: Reducing Bottlenecks for End-to-End Entanglement Distribution in Quantum Networks," *IEEE/ACM Transactions on Networking*, vol. 33, no. 1, pp. 162-177, 2025.
- Jian Li, Peng Zheng, **Zhonghui Li\***, Yuqi Yang, Nenghai Yu, Qibin Sun, Jun Lu. "Decentralized Key Management and Service in Quantum Key Distribution Networks: An Experimental Implementations," accepted by *IEEE Journal on Selected Areas in Communications*, 2025.