

# CURRICULUM VITAE

## Lei Shi

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Hefei University of Technology  
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### STATUS

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- Associate Professor

### EDUCATION

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- Visiting Scholar (August 2015 – August 2016) George Washington University, Department of Computer Science
  - Major: Computer Engineering
  - Advisor: Prof. Xiuzhen Cheng
- Ph.D. (June 2012) Hefei University of Technology, Department of Computer and Information
  - Major: Computer Engineering; Minor: Wireless Networks
  - Dissertation Title: Cross-layer Optimization for Wireless Network with Multi-packet Reception
  - Advisor: Prof. Jianghong Han
- M.S. (June 2005) Hefei University of Technology, Department of Computer and Information
  - Major: Computer Engineering; Minor: Computer Networks
  - Dissertation Title: The Research and Implement of Vehicle Software System Based on  $\mu$  C/OS- II and CAN Bus
  - Advisor: Prof. Guoxiang Zhou
- B.S. (June 2002) Hefei University of Technology, Department of Computer and Information
  - Major: Computer Science

### PROFESSIONAL EXPERIENCE

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- Associate Professor, January 2015 – Present Hefei University of Technology, Department of Computer and Information
- Assistant Professor, September 2008 – December 2014 Hefei University of Technology, Department of Computer and Information
- Teaching Assistant, September 2005 – September 2008 Hefei University of Technology, Department of Computer and Information

### MAJOR HONORS AND AWARDS

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- 2014, the Multimedia Courseware Contest of China, Third Prize
- 2013, Journal of Electronic Measurement and Instrument, Excellent Paper Award
- 2013, the Smart City and the Internet of Things Conference in Anhui Province, Second Prize
- 2010, Hefei University of Technology, Advanced Educational Worker
- 2009, Department of Computer and Information, the Most Popular Teacher for Students
- 2005, the Computer Technology Contest in Anhui Province, First Prize
- 2005, Hefei University of Technology, Excellent Master Graduate

- 2004, 2003 and 2001 Honorable Award in international Mathematical Contest in Modeling (MCM)

## FUNDED RESEARCH PROJECTS

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- “High Throughput Strategies for the Mine Locomotive Wireless Networks based on Interference Management,” *National Natural Science Foundation of China*, no.: 61501161, total amount: **¥260,000**, duration: 01/01/2016–12/31/2018.
- “Cross-Layer Design of Wireless Sensor Network with Wireless Power Transfer,” *National Natural Science Foundation of China*, no.: 61370088, total amount: **¥750,000**, duration: 01/01/2014–12/31/2017, Participate, PI: Prof. Jianghong Han.
- “Cross-Layer Optimization of Wireless Multi-hop Network with Multi-packet Reception,” *Specialized Research Fund for the Doctoral Program of Higher Education of China*, no.: 20100111110004, total amount: **¥80,000**, duration: 01/01/2011–12/31/2013, Participate, PI: Prof. Jianghong Han.

## PUBLICATIONS

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### Journal Papers:

1. **Lei Shi**, Yi Shi, Xing Wei, Xu Ding and Zhenchun Wei. “Cost Minimization Algorithms for Data Center Management”. *IEEE Transactions on Parallel and Distributed Systems*, vol. 28, no. 1, pp. 60-71, Jan. 2017.
2. **Lei Shi**, Zhengli Liu, Jianghong Han, Yi Shi and Zhechun Wei. “High Throughput Algorithm for Base Station Placement with Multi-hop Wireless Networks based on Interference Management.” *Journal of Electronic Measurement and Instrument*, vol. 30, no. 3, pp. 389-399, Mar. 2016.
3. Xiaojuan Zhu, Yang Lu, Jianghong Han and **Lei Shi**. “Transmission Reliability Evaluation for Wireless Sensor Networks.” *International Journal of Distributed Sensor Networks*. vol. 12, no. 2, pp. 1-10, Feb. 2016.
4. Xu Ding, **Lei Shi**, Jianghong Han and Jingting Lu. “The Study of Cross-layer Optimization for Wireless Rechargeable Sensor Networks Implemented in Coal Mines,” *Sensors*, vol. 16, no. 171, Jan. 2016.
5. Liaoyuan Wu, Jianghong Han, Xing Wei, **Lei Shi** and Xu Ding. “The Mine Locomotive Wireless Network Strategy Based on Successive Interference Cancellation,” *Sensors*, vol. 15, no.11, pp. 28257-28270, Nov. 2015.
6. Xu Ding, Jianghong Han and **Lei Shi**, “The Optimization Based Dynamic and Cyclic Working Strategies for Rechargeable Wireless Sensor Networks with Multiple Base Stations and Wireless Energy Transfer Devices,” *Sensors*, vol. 15, no. 3, pp. 6270-6305, Mar. 2015.
7. Xu Ding, Jianghong Han, **Lei Shi**, Wei Xia and Zhenchun Wei, “Problem of the dynamic topology architecture of rechargeable wireless sensor networks,” *Journal on Communications*, vol. 36, no. 1, pp. 1-13, Jan. 2015.
8. **Lei Shi**, Jianjun Zhang, Yi Shi, Xu Ding and Zhenchun Wei, “Optimal Base Station Placement for Wireless Sensor Networks with Successive Interference Cancellation,” *Sensors*, vol. 15, pp. 1676-1690, Jan. 2015.
9. **Lei Shi**, Jianghong Han, Dong Han, Xu Ding and Zhenchun Wei, “The Dynamic Routing Algorithm for Renewable Wireless Sensor Networks with Wireless Power Transfer,” *Computer Networks*, vol. 74, Part A, pp. 34-52, Dec. 2014.
10. **Lei Shi**, Jianghong Han, Yi Shi and Zhenchun Wei, “High Capacity Cross Layer Optimization Strategy for Multi-hop Wireless Network with Interference Management,” *Journal on Communications*, vol. 35, no. 12, pp. 89-97, Dec. 2014.
11. Zhenchun Wei, Zengwei Lv, Cheng Yang, Jianghong Han and **Lei Shi**, “Wireless Positioning method Based on Correctness Judgment of Received Signal Strength for Mine Locomotive,” *Chinese Journal of Scientific Instrument*, vol. 35, no. 1, pp. 178-184, Jan. 2014.

12. **Lei Shi**, Yi Shi, Zhenchun Wei and Jianghong Han, “Cross-Layer Algorithm for the Wireless Network with Interference Management,” *Journal of Electronic Measurement and Instrument*, vol. 27, no. 11, pp. 1005-1010, No. 2013. **(Excellent Paper Award)**
13. Jianghong Han, Fan Yang, Zhengyu Liu, **Lei Shi** and Li Zhang, “Direction Transmission Protocol of Highway Traffic Information Assisted by Roadside-infrastructure,” *Telecommunications Science*, vol. 29, no. 1, pp. 57-62, Jan. 2013.
14. Jianghong Han, Xu Ding, **Lei Shi**, Dong Han and Zhenchun Wei, “Research on the Time-varying Charging and Dynamic Data Routing Strategy for Rechargeable Wireless Sensor Networks,” *Journal on Communications*, vol. 33, no. 12, pp. 1-10, Dec. 2012.
15. Jianghong Han, Jie Gao, **Lei Shi** and Zhengyu Liu, “Power-controlled Multi-packet Reception Optimization Strategy,” *Telecommunications Science*, vol. 28, no. 12, pp. 48-53, Dec. 2012.
16. **Lei Shi**, Jianghong Han, Yi Shi and Zhenchun Wei, “Cross-Layer Optimization for Wireless Mesh Network with Multi-packet Reception,” *Journal of Applied Sciences*, vol. 30, no. 3, pp. 227-233, Jun. 2012.
17. **Lei Shi**, Jianghong Han, Yi Shi and Zhenchun Wei, “Maximizing Throughput for Wireless Sensor Network with Multi-packet Reception,” *Telecommunications Science*, vol. 27, no. 3, pp. 47-53, Mar. 2011.

### Conference Papers:

1. **Lei Shi**, Yi Shi, Zhenchun Wei, Guoxiang Zhou and Xu Ding. “The Power Control Strategy for Mine Locomotive Wireless Network Based on Successive Interference Cancellation.” *The 11th International Conference on Wireless Algorithms, Systems, and Applications (WASA)*, pp. 207-218, Bozeman, USA, August 8-10, 2016.
2. Kai Xing, Shuo Zhang, **Lei Shi**, Haojin Zhu and Yuepeng Wang. “A localized backbone renovating algorithm for wireless ad hoc and sensor networks.” in *Proceedings of IEEE Conference on Computer Communications (INFOCOM)*, pp. 2184–2192, Turin, Italy, Apr. 14–19, 2013.
3. **Lei Shi**, Yi Shi, Yuxiang Ye, Zhenchun Wei and Jianghong Han. “An Efficient Interference Management Framework for Multi-hop Wireless Networks.” In *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, pp. 1129-1134, Shanghai, China, Apr. 7-10, 2013.
4. Jianghong Han, Xu Ding, **Lei Shi**, Dong Han and Zhenchun Wei. “A Theoretical Study on the Orientation Problem in Linear Wireless Sensor Networks.” In *Proceedings of the 7th International Conference on Wireless Algorithms, Systems, and Applications(WASA)*, pp. 722-732, Huangshan, China, Aug. 8-10, 2012.
5. **Lei Shi**, Jianghong Han, Yi Shi and Zhenchun Wei. “Cross-layer Optimization for Wireless Sensor Network with Multi-packet Reception.” In *Proceedings of the 5th International ICST Conference on Communications and Networking in China (CHINACOM)*, pp. 1-5, Beijing, China, Aug. 25-27, 2010.

### INSTRUCTING FOR THE FOLLOWING STUDENTS

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1. Zhengli Liu (M.S.)
2. Yu Gao (M.S.)

### PROFESSIONAL ACTIVITIES

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#### Professional Affiliations

- Member of the *Research Association of Computer Education in Colleges and University of Anhui Province*

#### Reviewer for the following Conferences:

- IEEE Conference on Computer Communications (INFOCOM), 2012–2016
- IEEE International Conference on Communications (ICC), 2015, 2014, 2012, 2011
- IEEE Wireless Communications and Networking Conference (WCNC), 2015, 2014, 2012, 2011
- IEEE Global Telecommunications Conference (GLOBECOM), 2012, 2011
- IEEE Military Communications Conference (MILCOM), 2012, 2011

**Reviewer for the following Journal:**

- IEEE Transaction on Mobile Computing