

# Xiaolong Zheng

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- RESEARCH INTERESTS**      **Wireless networking:** Cross-technology communication; Wireless coexistence  
**Pervasive computing:** Ubiquitous sensing systems; Human-centric mobile computing
- EDUCATION**      **The Hong Kong University of Science and Technology**, Clearwater Bay, Hong Kong  
▪ *Doctor of Philosophy (Ph.D.)*      Sep 2011 – Jun 2015  
• Department of Computer Science & Engineering  
• Adviser: Professor Yunhao Liu and Professor Lionel M. Ni  
**Dalian University of Technology**, Dalian, Liaoning, China  
▪ *Bachelor of Engineering (B.E.)*      Sep 2007 – Jul 2011
- WORK EXPERIENCE**      **Tsinghua University**, Beijing, China  
▪ *Postdoctoral Research Associate*      Sep 2015 – present  
• Department: School of Software  
• Supervisor: Professor Yunhao Liu
- FUNDS**      ▪ Principal Investigator, National Natural Science Foundation of China (**NSFC**), No. 61672320, “Research on Exploiting Wireless Signatures for Coexistence of Wireless Sensor Networks”, 2017.01-2020.12.  
▪ Co-PI, National Natural Science Foundation of China (**NSFC**), No. 61672240, “Research on Key Technologies of Situation Computing based on Semantics Location for Mobile Crowd Sensing Environments”, 2017.01-2020.12.  
▪ Principal Investigator, China Postdoctoral Science Foundation, No. 2016M601034, “Interference-Resilient Duty Cycling for Low Power Wireless Sensor Networks”, 2016-2018.
- PUBLICATIONS**      **CONFERENCE** ( # student mentored by me)
- [1] **Xiaolong Zheng**, Yuan He, Xiuzhen Guo, “StripComm: Interference-Resilient Cross-Technology Communication in Coexisting Environments”, in *IEEE International Conference on Computer Communications (INFOCOM)*, Honolulu, HI, USA, Apr 2018.
  - [2] Xiuzhen Guo<sup>#</sup>, Yuan He, **Xiaolong Zheng**, Liangcheng Yu, Omprakash Gnawali, “ZigFi: Harnessing Channel State Information for Cross-Technology Communication”, in *IEEE International Conference on Computer Communications (INFOCOM)*, Honolulu, HI, USA, Apr 2018.
  - [3] Yilun Zheng, Yuan He, Meng Jin, **Xiaolong Zheng**, Yunhao Liu, “RED: RFID-based Eccentricity Detection for High-speed Rotating Machinery”, in *IEEE International Conference on Computer Communications (INFOCOM)*, Honolulu, HI, USA, Apr 2018.
  - [4] Zihao Yu, Chengkun Jiang, Yuan He, **Xiaolong Zheng**, Xiuzhen Guo, “Crocs: Cross-Technology Clock Synchronization for WiFi and ZigBee”, in *International Conference on Embedded Wireless Systems and Networks (EWSN)*, Madrid, Spain, Feb 2018.
  - [5] Junchen Guo<sup>#</sup>, Yuan He, **Xiaolong Zheng**, “PanGu: Towards A Software-Defined Architecture for Multi-function Wireless Sensor Networks”, in *IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, Shenzhen, China, Dec 2017. (**Best Student Paper Award**)
  - [6] Xiuzhen Guo<sup>#</sup>, **Xiaolong Zheng**, Yuan He, “WiZig: Cross-Technology Energy Communication over a Noisy Channel”, in *IEEE International Conference on Computer Communications (INFOCOM)*, Atlanta, USA, May 2017.
  - [7] **Xiaolong Zheng**, Jiliang Wang, Longfei Shangguan, Zimu Zhou, Yunhao Liu, “Smokey: Ubiquitous Smoking Detection with Commercial WiFi Infrastructures”, in *IEEE International Conference on Computer Communications (INFOCOM)*, San Francisco, USA, Apr 2016.
  - [8] Meng Jin, Yuan He, **Xiaolong Zheng**, Dingyi Fang, Dan Xu, Tianzhang Xing, Xiaojiang Chen, “Smoggy-Link: Fingerprinting Interference for Predictable Wireless Concurrency”, in *International Conference on Network Protocols (ICNP)*, Singapore, Nov 2016.
  - [9] Zhichao Cao, Jiliang Wang, Daibo Liu, **Xiaolong Zheng**, “Chase: Taming Concurrent Broadcast for Flooding in Asynchronous Duty Cycle Networks”, in *International Conference on Network Protocols (ICNP)*, Singapore, Nov 2016.

- [10] Longfei Shangguan, Zimu Zhou, **Xiaolong Zheng**, Lei Yang, Yunhao Liu, Jinsong Han, “ShopMiner: Mining Customer Shopping Behavior in Physical Clothing Stores with Passive RFIDs”, in *ACM Conference on Embedded Networked Sensor Systems (SenSys)*, Seoul, South Korea, Nov 2015.
- [11] Daibo Liu, Mengshu Hou, Zhichao Cao, Yuan He, Xiaoyu Ji, **Xiaolong Zheng**, “COF: Exploiting Concurrency for Low Power Opportunistic Forwarding”, in *IEEE International Conference on Network Protocols (ICNP)*, San Francisco, USA, Nov 2015.
- [12] Jiliang Wang, **Xiaolong Zheng**, Xufei Mao, Zhichao Cao, Daibo Liu, Yunhao Liu, “Connecting the Dots: Reconstructing Network Behavior with Individual and Lossy Logs”, in *International Conference on Parallel Processing (ICPP)*, Beijing, China, Sep 2015.
- [13] **Xiaolong Zheng**, Zhichao Cao, Jiliang Wang, Yuan He, Yunhao Liu, “ZiSense: Towards Interference Resilient Duty Cycling in Wireless Sensor Networks”, in *ACM Conference on Embedded Networked Sensor Systems (SenSys)*, Memphis, USA, Nov 2014.
- [14] Longfei Shangguan, Zheng Yang, Zimu Zhou, **Xiaolong Zheng**, Chenshu Wu, Yunhao Liu, “CrossNavi: Enabling Crossroad Navigation for the Blind with Commodity Phones”, in *ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp)*, Seattle, USA, Sep 2014.
- [15] **Xiaolong Zheng**, Jiliang Wang, Wei Dong, Yuan He, Yunhao Liu, “Survival of the Fittest: Data Dissemination with Selective Negotiation in Wireless Sensor Networks”, in *IEEE International Conference on Mobile Ad-Hoc and Sensor Systems (MASS)*, Hangzhou, China, Oct 2013.

**JOURNAL** (\* corresponding author)

- [1] **Xiaolong Zheng**, Jiliang Wang, Longfei Shangguan, Zimu Zhou, Yunhao Liu, “Design and Implementation of a CSI-based Ubiquitous Smoking Detection System”, submitted to *IEEE/ACM Transactions on Networking (ToN)*, vol. 25 no. 6, pp. 3781–3793. Dec 2017.
- [2] Zhichao Cao, Daibo Liu, Jiliang Wang, **Xiaolong Zheng**, “Chase: Taming Concurrent Broadcast for Flooding in Asynchronous Duty Cycle Networks”, submitted to *IEEE/ACM Transactions on Networking (ToN)*, vol. 25 no. 5, pp. 2872–2885. Oct 2017.
- [3] **Xiaolong Zheng**, Zhichao Cao, Jiliang Wang, Yuan He, Yunhao Liu, “Interference Resilient Duty Cycling for Sensor Networks under Co-existing Environments”, *IEEE Transactions on Communications (TCOM)*, vol. 65, no. 7, pp. 2971–2984, Jul 2017.
- [4] Zimu Zhou, Longfei Shangguan, **Xiaolong Zheng\***, Lei Yang, Yunhao Liu, “Design and Implementation of an RFID-based Customer Shopping Behavior Mining System in Physical Clothing Stores”, *IEEE/ACM Transactions on Networking (ToN)*, vol. 25, no. 4, pp. 2405–2418, Apr 2017.
- [5] **Xiaolong Zheng**, Jiliang Wang, Wei Dong, Yuan He, Yunhao Liu, “Bulk Data Dissemination in Wireless Sensor Networks: Analysis, Implications and Improvement”, *IEEE Transactions on Computers (TC)*, vol. 65, no. 5, pp. 1428–1439, May 2016.
- [6] Jie Zhang, **Xiaolong Zheng**, Zhanyong Tang, Tianzhang Xing, Xiaojiang Chen, Dingyi Fang, Rong Li, Xiaoqing Gong, Feng Chen, “Privacy Leakage in Mobile Sensing: Your Unlock Passwords Can Be Leaked through Wireless Hotspot Functionality”, *Mobile Information Systems*, Mar 2016.
- [7] Yuan He, **Xiaolong Zheng** “Research on Wireless Network Co-Existence at 2.4 GHz”, *Journal of Computer Research and Development*, vol. 51, no. 1, pp. 26–37, Jan 2016.
- [8] **Xiaolong Zheng**, Meng Wan, “A Survey on Data Dissemination in Wireless Sensor Networks”, *Journal of Computer Science and Technology (JCST)*, vol. 29, no. 3, pp. 470–486, May 2014.

## PROFESSIONAL SERVICE

**Submission Chair:** IEEE TrustCom 2014

**TPC Member:** DCOSS 2018, IEEE ICC 2017/2018, IEEE ICPADS 2016/2017, IEEE ISPA 2016/2017, IEEE ISCC 2017, EWSN 2017 Poster & Demo, WCSP 2017, ACCSE 2017.

**Journal Reviewer:** Transactions on Networking (ToN), Transactions on Mobile Computing (TMC), PACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), IEEE Communications Magazine, Ad Hoc & Sensor Wireless Networks.

## HONORS & AWARDS

- Best Student Paper Award, IEEE ICPADS 2017 2017
- The International Postdoctoral Exchange Fellowship Program (Recruitment Project) 2016