王雷

Email: lei.wang@ieee.org · 电话：158 4097 6539

个人简介

　　大连理工大学教授、博士生导师，软件学院副院长，辽宁省泛在网络及软件服务重点实验室副主任，大连理工大学-獐子岛集团联合实验室主任。研究领域包括物联网，无线网络，网络安全等。分别于 1995 年，1998 年，2001 年在天津大学获得计算机学士、硕士和博士学位。首尔国立大学博士后 (2006) 及美国华盛顿州立大学 (2007) 博士后。曾就职于国际知名研究机构贝尔实验室中国研究院 (2001-2004) 和三星研究院 (韩国)(2004-2006)。已发表论文 130 余篇，包括 INFOCOM 等高水平论文，累计引用 1900 余次。主持国家自然科学基金项目 3 项，辽宁省自然基金 1 项以及诺基亚全球基金等横向项目，科技部重点研发计划子课题一项。科技部"道路安全科技行动计划（十二五）"（支撑计划）专家工作组成员。IEEE 计算机学会及通信学会会员和 ACM Professional 会员，中国计算机学会高级会员，无线传感器网络专委会委员，ACM 大连分会常务副主席。

教育背景

- 1998/03–2001/07，天津大学，计算机科学与技术，博士，导师：舒炎泰
- 1995/09–1998/07，天津大学，计算机科学与技术，硕士，导师：舒炎泰
- 1991/09–1995/07，天津大学，计算机科学与技术，学士

研究领域

- 物联网
- 机器学习
- 网络安全

工作经历

- 2018/05–至今, 大连理工大学软件学院，副院长
- 2017/04–至今, 大连理工大学-獐子岛集团股份有限公司水下机器人联合实验室主任
- 2014/01–至今, 辽宁省泛在网络及软件服务重点实验室副主任
- 2012/12–至今, 大连理工大学软件学院，教授
- 2008/04–2012/12, 大连理工大学软件学院，副教授
- 2006/03–2006/12, 首尔国立大学电信学院，研究员
- 2004/03–2006/03, 三星数字研究院 (韩国水原)，高级研究员
- 2001/10–2004/03, 贝尔实验室中国基础科学研究院，高级研究员
- 2007/01–2008/01, 美国华盛顿州立大学，博士后

科研项目

1. 国家自然科学应急管理项目，61842601，水下机器人目标抓取大赛科技活动，2019.01-2019.12，95 万元，在研，主持
2. 国家自然科学基金重点项目，61733002，水下敏捷机器人抓捕性能智能评测模型与融合平台，2018.01-2022.12，300 万元，在研，项目第二负责人
3. 国家自然科学基金面上项目，61272524，多接入点无线热点网络中优化选择接入控制研究，2013/01-2016/12，80 万元，已结题，主持
4. 国家自然科学基金面上项目，61070181，无线传感器网络面向全局公平的拥塞控制研究，2011/01-2013/12，30 万元，已结题，主持
5. 辽宁省自然科学基金，20102021，高性能无线传感器网络协议研究，2011/01-2012/12，5 万元，已结题，主持
6. 教育部留学回国启动基金，面向公平的高吞吐率无线传感器网络研究，2011/01-2012/12，3 万元，已结题，主持
7. 大连市高新区科技创新计划，面向森林监控的高性能无线传感器网络协议，2010/01-2012/06，30 万元，已结题，主持
8. 诺基亚公司，诺基亚全球科研资助项目：A Universal ZigBee Management Tool on Smart Phones (WP7)，2012/01-2013/12，1 万欧元，已结题，主持

社会服务

- IEEE 会员，ACM 会员，AAAS 会员，中国计算机学会高级会员
- ACM 大连常务副主席
- 辽宁省工信厅网络安全专家

授权专利

1. 一种基于 WiFi-MESH 的被动嗅探定位方法，2016.1.21，中国，201610040813.2
2. 一种无线 MESH 网络下风/太阳能互补供电的视频监控系统，2011.11.17，中国，ZL 2011 1 0264556.5
3. 一种无线 Mesh 路由器 2011.11.17，中国，ZL 2011 1 0366362.9

发表论文

[1] Liang Sun, Lei Wang, Jian Fang, Jialin Liu, and Can Ma. Mihbs: A mobile interface of high bandwidth for wireless sensor networks. *IEEE Access*, 7:8235–8244, 2019.

[2] Jian Fang, Lei Wang, Zhenquan Qin, Jialin Liu, and Bingxian Lu. Gcc: Group-based csi feedback compression for mu-mimo networks. *Mobile Networks and Applications*, 23(3):407–418, 2018.

[3] Linlin Guo, Lei Wang, Jialin Liu, Wei Zhou, and Bingxian Lu. Huac: Human activity recognition using crowdsourced wifi signals and skeleton data. *Wireless Communications and Mobile Computing*, 2018, 2018.

[4] Naigao Jin, Xin Zhou, Zihan Wang, Yu Liu, and Lei Wang. Robust sequence-based localization in acoustic sensor networks. In *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3809–3813. IEEE, 2018.

[5] Bin Li, Xiangqi Kong, and Lei Wang. Optimal load-balancing for high-density wireless networks with flow-level dynamics. *arXiv preprint arXiv:1805.00158*, 2018.

[6] Chi Lin, Jiaye Hu, Yu Sun, Fenglong Ma, Lei Wang, and Guowei Wu. Wiau: An accurate device-free authentication system with resnet. In *2018 15th Annual IEEE International Conference on Sensing, Communication, and Networking (SECON)*, pages 1–9. IEEE, 2018.

[7] Chi Lin, Zhiyuan Wang, Jing Deng, Lei Wang, Jiankang Ren, and Guowei Wu. mts: Temporal-and spatial-collaborative charging for wireless rechargeable sensor networks with multiple vehicles. In *IEEE INFOCOM 2018-IEEE Conference on Computer Communications*, pages 99–107. IEEE, 2018.

[8] Chen Ling, Lei Wang, Jun Lang, Qiufen Xia, Guoxuan Chang, Kun Wang, and Peng Zhao. Linca: A page loading time optimization approach for users subject to internet access restriction. In *Companion of the The Web Conference 2018 on The Web Conference 2018*, pages 69–70. International World Wide Web Conferences Steering Committee, 2018.

[9] Jialin Liu, Lei Wang, Jian Fang, Linlin Guo, Bingxian Lu, and Lei Shu. Multi-target intense human motion analysis and detection using channel state information. *Sensors*, 18(10):3379, 2018.

[10] Bingxian Lu, Zhenquan Qin, Yingxiao Sun, Junyu Hu, and Lei Wang. A dynamic self-adapting mechanism for zigbee performance assurance under wi-fi interference. *IEEE Sensors Journal*, 18(9):3900–3909, 2018.

[11] Bingxian Lu, Zhenquan Qin, Mingyi Yang, Xu Xia, Renjie Zhang, and Lei Wang. Spoofing attack detection using physical layer information in cross-technology communication. In *2018 15th Annual IEEE International Conference on Sensing, Communication, and Networking (SECON)*, pages 1–2. IEEE, 2018.

[12] Bingxian Lu, Lei Wang, Jialin Liu, Wei Zhou, Linlin Guo, Myeong-Hun Jeong, Shaowen Wang, and Guangjie Han. Lasa: Location aware wireless security access control for iot systems. *Mobile Networks and Applications*, pages 1–13, 2018.

[13] Zhenquan Qin, Jiaxin Du, Guangjie Han, Gaopeng Yong, Linlin Guo, and Lei Wang. Lol: localization-free online keystroke tracking using acoustic signals. *Soft Computing*, pages 1–13, 2018.

[14] Liang Sun, Lei Wang, Zhenquan Qin, Zhuxiu Yuan, and Yuanfang Chen. A novel on-line association algorithm for supporting load balancing in multiple-ap wireless lan. *Mobile Networks and Applications*, pages 1–12, 2018.

[15] Yingxiao Sun, Zhenquan Qin, Junyu Hu, Lei Wang, Jiaxin Du, and Yan Ren. Enabling zigbee link performance robust under cross-technology interference. In *International Conference on Wireless Algorithms, Systems, and Applications*, pages 450–461. Springer, 2018.

[16] Xiaojie Wang, Zhaolong Ning, Xiping Hu, Edith C-H Ngai, Lei Wang, Bin Hu, and Ricky YK Kwok. A city-wide real-time traffic management system: Enabling crowdsensing in social internet of vehicles. *IEEE Communications Magazine*, 56(9):19–25, 2018.

[17] Xiaojie Wang, Zhaolong Ning, and Lei Wang. Offloading in internet of vehicles: A fog-enabled real-time traffic management system. *IEEE Transactions on Industrial Informatics*, 14(10):4568–4578, 2018.

[18] Xiaojie Wang, Zhaolong Ning, MengChu Zhou, Xiping Hu, Lei Wang, Bin Hu, Ricky YK Kwok, and Yi Guo. A privacy-preserving message forwarding framework for opportunistic cloud of things. *IEEE Internet of Things Journal*, 5(6):5281–5295, 2018.

[19] Wei Zhou, Lei Wang, Bingxian Lu, Naigao Jin, Linlin Guo, Jialin Liu, Honglei Sun, and Hui Liu. Unmanned aerial vehicle detection based on channel state information. In *2018 IEEE International Conference on Sensing, Communication and Networking (SECON Workshops)*, pages 1–5. IEEE, 2018.

[20] Chunsheng Zhu, Victor CM Leung, Joel JPC Rodrigues, Lei Shu, Lei Wang, and Huan Zhou. Social sensor cloud: Framework, greenness, issues, and outlook. *IEEE Network*, 32(5):100–105, 2018.

[21] Yuanfang Chen, Lei Shu, and Lei Wang. Traffic flow prediction with big data: A deep learning based time series model. In *2017 IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)*, pages 1010–1011. IEEE, 2017.

[22] Jian Fang, Lei Wang, Zhenquan Qin, Jialin Liu, and Bingxian Lu. Lfc: Adaptive location-based csi feedback compression for mu-mimo networks. In *2017 International Smart Cities Conference (ISC2)*, pages 1–5. IEEE, 2017.

[23] Linlin Guo, Lei Wang, Jialin Liu, Wei Zhou, Bingxian Lu Tao Liu, Guangxu Li, and Chen Li. A novel benchmark on human activity recognition using wifi signals. In *2017 IEEE 19th International Conference on e-Health Networking, Applications and Services (Healthcom)*, pages 1–6. IEEE, 2017.

[24] Kaiqing Hao and Lei Wang. Detecting crowdsourcing spammers in community question answering websites. In *International Conference on Emerging Internetworking, Data & Web Technologies*, pages 412–423. Springer, Cham, 2017.

[25] Jialin Liu, Lei Wang, Linlin Guo, Jian Fang, Bingxian Lu, and Wei Zhou. A research on csi-based human motion detection in complex scenarios. In *2017 IEEE 19th International Conference on e-Health Networking, Applications and Services (Healthcom)*, pages 1–6. IEEE, 2017.

[26] Lei Shu, Yuanfang Chen, Zhiqiang Huo, Neil Bergmann, and Lei Wang. When mobile crowd sensing meets traditional industry. *Ieee Access*, 5:15300–15307, 2017.

[27] Lei Shu, Lei Wang, Jianwei Niu, Chunsheng Zhu, and Mithun Mukherjee. Releasing network isolation problem in group-based industrial wireless sensor networks. *IEEE Systems Journal*, 11(3):1340–1350, 2017.

[28] Liang Sun, Lei Wang, Zhenquan Qin, Zehao Ma, and Zhuxiu Yuan. A novel on-line association algorithm in multiple-ap wireless lan. In *International Conference on Wireless Algorithms, Systems, and Applications*, pages 890–902. Springer, Cham, 2017.

[29] Feng Tian, Lei Wang, Xinyang Liu, and Shan Gao. Patching traceroute using geographic information in neutrality inference crowdsourcing. In *2017 3rd International Conference on Big Data Computing and Communications (BIGCOM)*, pages 1–9. IEEE, 2017.

[30] Xiaojie Wang, Lei Wang, and Zhaolong Ning. A privacy-reserved approach for message forwarding in opportunistic networks. In *2017 IEEE 31st International Conference on Advanced Information Networking and Applications (AINA)*, pages 1070–1075. IEEE, 2017.

[31] Junyu Hu, Zhenquan Qin, Yingxiao Sun, Lei Shu, Bingxian Lu, and Lei Wang. Cii: A light-weight mechanism for zigbee performance assurance under wifi interference. In *2016 25th International Conference on Computer Communication and Networks (ICCCN)*, pages 1–9. IEEE, 2016.

[32] Wanjiun Liao, Jaime Lloret, and Lei Wang. Lei shu. *Int. J. Sensor Networks*, 21(4):205, 2016.

[33] Bingxian Lu, Zhicheng Zeng, Lei Wang, Brian Peck, Daji Qiao, and Michael Segal. Confining wi-fi coverage: A crowdsourced method using physical layer information. In *2016 13th Annual IEEE International Conference on Sensing, Communication, and Networking (SECON)*, pages 1–9. IEEE, 2016.

[34] Zhenquan Qin, Yingxiao Sun, Liang Sun, Lei Shu, Lei Wang, Wenzhe Zhang, and Bingxian Lu. A joint duty cycle and network coding mac protocol for underwater wireless sensor networks. In *2016 25th International Conference on Computer Communication and Networks (ICCCN)*, pages 1–9. IEEE, 2016.

[35] Zhaoshu Tang, Ming Zhu, Lei Wang, and Honglian Ma. A novel link scheduling algorithm for wireless networks using directional antenna. In *2016 IEEE Wireless Communications and Networking Conference*, pages 1–6. IEEE, 2016.

[36] Xueshu Zheng, Shuailing Yang, Naigao Jin, Lei Wang, Mathew L. Wymore, and Daji Qiao. Diva: Distributed voronoi-based acoustic source localization with wireless sensor networks. In *INFOCOM*, pages 1–9. IEEE, 2016.

[37] Ming Zhu, Wenzhe Zhang, Naigao Jin, Zhenquan Qin, Jiajun Xin, and Lei Wang. Upmac: A localized load-adaptive mac protocol for underwater acoustic networks. *IEEE Sensors Journal*, 16(11):4110–4118, 2016.

[38] Sanfeng Zhu, Naigao Jin, Lei Wang, Shuailing Yang, Xueshu Zheng, Ming Zhu, and Liang Sun. Error tolerant dual-hydrophone localization in underwater sensor networks. In *OCEANS 2016-Shanghai*, pages 1–4. IEEE, 2016.

[39] Sanfeng Zhu, Naigao Jin, Lei Wang, Xueshu Zheng, Shuailing Yang, and Ming Zhu. A novel dual-hydrophone localization method in underwater sensor networks. In *2016 IEEE/OES China Ocean Acoustics (COA)*, pages 1–4. IEEE, 2016.

[40] Xuan Dong, Chunsheng Zhu, Shaohe Lv, Lei Wang, Xiaodong Wang, and Victor Leung. Pillow talks: Bits over communications in wlan. In *Proceedings of the Second Workshop on Mobile Sensing, Computing and Communication*, pages 19–24. ACM, 2015.

[41] Jinghong Huang, Naigao Jin, Lei Wang, Xue Chen, Xia Sheng, Shuailing Yang, Xiangyu Zhao, Liang Sun, and Ming Zhu. Acoustic source localization with distributed smartphone arrays. In *2015 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6. IEEE, 2015.

[42] Chengming Li, Wenjing Liu, Lei Wang, Mingchu Li, and Koji Okamura. Energy-efficient quality of service aware forwarding scheme for content-centric networking. *Journal of Network and Computer Applications*, 58:241–254, 2015.

[43] Di Li, Feng Tian, Ming Zhu, Lei Wang, and Liang Sun. A novel framework for analysis of global network neutrality based on packet loss rate. In *2015 International Conference on Cloud Computing and Big Data (CCBD)*, pages 297–304. IEEE, 2015.

[44] Bingxian Lu, Zhicheng Zeng, Lei Wang, Brian Peck, and Daji Qiao. Poster: Crowdsourced location aware wi-fi access control. In *Proceedings of the 21st Annual International Conference on Mobile Computing and Networking*, pages 284–286. ACM, 2015.

[45] Haibo Ni, Lei Wang, Zhenjie Yang, Ming Zhu, Feng Ding, and Zhenquan Qin. A sociality-aware online ap association algorithm based on spectral clustering. In *2015 IEEE 28th Canadian Conference on Electrical and Computer Engineering (CCECE)*, pages 830–835. IEEE, 2015.

[46] Zhenquan Qin, Bingxian Lu, Chunting Zhou, Lei Wang, Ming Zhu, Lei Shu, and Xiaojing Zhu. Optimized periodical charging in large-scale deployed wsns. In *2015 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6. IEEE, 2015.

[47] Feng Tian, Di Li, Shuyu Li, Lei Wang, Naigao Jin, and Liang Sun. Rtda: A novel reusable truthful double auction mechanism for wireless spectrum management. In *International Conference on Big Data Computing and Communications*, pages 14–27. Springer, 2015.

[48] Peng-Jun Wan, Fahad Al-Dhelaan, Sai Ji, Lei Wang, and Ophir Frieder. Flow-based feasibility test of linear interference alignment with arbitrary interference topology. In *2015 IEEE Conference on Computer Communications (INFOCOM)*, pages 1526–1534. IEEE, 2015.

[49] Peng-Jun Wan, Boliu Xu, Lei Wang, Sai Ji, and Ophir Frieder. A new paradigm for multiflow in wireless networks: Theory and applications. In *2015 IEEE Conference on Computer Communications (INFOCOM)*, pages 1706–1714. IEEE, 2015.

[50] Huaying Wang, Lei Wang, Fanfu Kong, Liang Sun, and Jiawei Yong. A novel optimization approach for revenue maximization in mobile data pricing. In *2015 IEEE International Conference on Communications (ICC)*, pages 6918–6923. IEEE, 2015.

[51] Zhicheng Zeng, Ming Zhu, Lei Wang, Zhenquan Qin, Zhaoshu Tang, and Honglian Ma. Impact of directional antenna on physical layer authentication. In *Frontier of Computer Science and Technology (FCST), 2015 Ninth International Conference on*, pages 65–70. IEEE, 2015.

[52] Xueshu Zheng, Naigao Jin, Lei Wang, Mathew L Wymore, and Daji Qiao. Poster: Distributed voronoi-based acoustic source localization with wireless sensor networks. In *Proceedings of the 21st Annual International Conference on Mobile Computing and Networking*, pages 269–271. ACM, 2015.

[53] Ming Zhu, Zhicheng Zeng, Lei Wang, Zhenquan Qin, An Pan, Yuanyuan Zhang, and Lei Shu. A measurement study of a campus wi-fi network with mixed handheld and non-handheld traffic. In *Electrical and Computer Engineering (CCECE), 2015 IEEE 28th Canadian Conference on*, pages 848–853. IEEE, 2015.

[54] Sanfeng Zhu, Naigao Jin, Xueshu Zheng, Han Yao, Shuailing Yang, and Lei Wang. A probability-based acoustic source localization scheme using dual-microphone smartphones. In *2015 IEEE International Conference on Communications (ICC)*, pages 6621–6626. IEEE, 2015.

[55] Jenhui Chen, Zhuxiu Yuan, and Lei Wang. An apropos signal report and adaptive period (asap) scheme for fast handover in the fourth-generation wireless networks. *Journal of Network and Computer Applications*, 45:15–26, 2014.

[56] Bingxian Lu, Zhenquan Qin, Lei Wang, Liang Sun, Ming Zhu, and Lei Shu. Priority-based differentiated service in spectrum mobility game. *KSII Transactions on Internet and Information Systems (TIIS)*, 8(4):1324–1343, 2014.

[57] Zhenquan Qin, Bingxian Lu, Lei Wang, Jianing Zhang, Ming Zhu, Liang Sun, and Lei Shu. A novel approach for spectrum mobility games with priority in cognitive radio networks. In *2014 IEEE International Conference on Communications (ICC)*, pages 1416–1421. IEEE, 2014.

[58] Peng-Jun Wan, Zhu Wang, Lei Wang, Zhiguo Wan, and Sai Ji. From least interference-cost paths to maximum (concurrent) multiflow in mc-mr wireless networks. In *INFOCOM, 2014 Proceedings IEEE*, pages 334–342. IEEE, 2014.

[59] Wenzhe Zhang, Zhenquan Qin, Jiajun Xin, Lei Wang, Ming Zhu, Liang Sun, and Lei Shu. Upmac: A localized load-adaptive mac protocol for underwater acoustic networks. In *2014 23rd International Conference on Computer Communication and Networks (ICCCN)*, pages 1–8. IEEE, 2014.

[60] Wenzhe Zhang, Lei Wang, Zhenquan Qin, Xueshu Zheng, Liang Sun, Naigao Jin, and Lei Shu. Inbs: An improved naive bayes simple learning approach for accurate indoor localization. In *2014 IEEE International Conference on Communications (ICC)*, pages 148–153. IEEE, 2014.

[61] Chunsheng Zhu, Lei Shu, Takahiro Hara, Lei Wang, Shojiro Nishio, and Laurence T Yang. A survey on communication and data management issues in mobile sensor networks. *Wireless Communications and Mobile Computing*, 14(1):19–36, 2014.

[62] Chunsheng Zhu, Laurence T Yang, Lei Shu, Victor CM Leung, Joel JPC Rodrigues, and Lei Wang. Sleep scheduling for geographic routing in duty-cycled mobile sensor networks. *IEEE Transactions on Industrial Electronics*, 61(11):6346–6355, 2014.

[63] Delong Cui, Lei Shu, Jianwei Niu, and Lei Wang. Wireless sensor networks based research issues in large-scale petrochemical industries. *Sensor Letters*, 11(9):1675–1680, 2013.

[64] Can Ma, Lei Wang, Jiaqi Xu, Zhenquan Qin, Lei Shu, and Di Wu. An overlapping clustering approach for routing in wireless sensor networks. In *Wireless Communications and Networking Conference (WCNC), 2013 IEEE*, pages 4375–4380. IEEE, 2013.

[65] Can Ma, Lei Wang, Qin Zhenquan, Ming Zhu, Lei Shu, Weifeng Ying, Jiaqi Xu, and Canfeng Chen. Improving the throughput of smart phone audio-jack based gateway for sensor networks. In *INFOCOM*. IEEE, 2013.

[66] Zhenquan Qin, Can Ma, Lei Wang, Jiaqi Xu, and Bingxian Lu. An overlapping clustering approach for routing in wireless sensor networks. *International Journal of Distributed Sensor Networks*, 9(3):867385, 2013.

[67] Zhenquan Qin, Chunting Zhou, Yue Yu, Lei Wang, Liang Sun, and Yuanyuan Zhang. A practical solution to wireless energy transfer in wsns. In *ICT Convergence (ICTC), 2013 International Conference on*, pages 660–665. IEEE, 2013.

[68] Lei Shu, Jianbin Xiong, Lei Wang, Jianwei Niu, and Qinruo Wang. Studied wind sensor nodes deployment towards accurate data fusion for ship movement controlling. In *2013 ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN)*, pages 339–340. IEEE, 2013.

[69] Yuhan Su, Jinxiu Li, Zhenquan Qin, Lei Wang, and Wenzhe Zhang. Maximizing the network lifetime by using paco routing algorithm in wireless sensor networks. In *China Conference Wireless Sensor Networks*, pages 155–165. Springer Berlin Heidelberg, 2013.

[70] Peng-Jun Wan, Lei Wang, Chao Ma, Zhu Wang, Boliu Xu, and Minming Li. Maximizing wireless network capacity with linear power: Breaking the logarithmic barrier. In *2013 Proceedings IEEE INFOCOM*, pages 135–139. IEEE, 2013.

[71] Lei Wang, Zhuxiu Yuan, Zhenquan Qin, Yuanfang Chen, Lei Shu, and Xiang-Yang Li. A backoff differentiation scheme for contention resolution in wireless converge-cast networks. *Concurrency and Computation: Practice and Experience*, 25(1):112–128, 2013.

[72] Wenlong Yue, Yuanyuan Zhang, Zhenquan Qin, Ming Zhu, Cheng Jin, Lei Wang, Lei Shu, and Canfeng Chen. Gatewaying the wireless sensor networks. In *2013 IEEE 9th International Conference on Mobile Ad-hoc and Sensor Networks*, pages 61–66. IEEE, 2013.

[73] Yuanfang Chen, Mingchu Li, Lei Shu, Lei Wang, and Takahiro Hara. A proportional fairness backoff scheme for funnelling effect in wireless sensor networks. *Transactions on Emerging Telecommunications Technologies*, 23(6):585–597, 2012.

[74] Cheng Jin, Lei Wang, Lei Shu, Yuyao Feng, and Xueqing Xu. A fairness-aware smart parking scheme aided by parking lots. In *2012 IEEE International Conference on Communications (ICC)*, pages 2119–2123. IEEE, 2012.

[75] Kai Lin, Lei Wang, Lei Shu, and Al-Sakib Khan Pathan. Data gathering with multi-attribute fusion in wireless sensor networks. In *Advancements in Distributed Computing and Internet Technologies: Trends and Issues*, pages 159–181. IGI Global, 2012.

[76] Longhui Ma, Lei Wang, Lei Shu, Jing Zhao, and Suran Li. Visualising wireless sensor networks with netviewer. *International Journal of Ad Hoc and Ubiquitous Computing*, 10(1):1–11, 2012.

[77] Zhenquan Qin, Jianing Zhang, Liang Shi, Lei Wang, Lei Shu, and Yuquan Guo. Agile networking in smart grids. *IEEK Transactions on Smart Processing & Computing*, 1(1):34–49, 2012.

[78] Lei Wang, Zhuxiu Yuan, Liang Shi, Cheng Jin, and Chunlei Liu. An analysis of capacity and delay for the redundant multipath source routing in ad hoc networks. *Adhoc & Sensor Wireless Networks*, 14, 2012.

[79] Lei Wang, Zhuxiu Yuan, Lei Shu, Liang Shi, and Zhenquan Qin. An energy-efficient ckn algorithm for duty-cycled wireless sensor networks. *International Journal of Distributed Sensor Networks*, 2012, 2012.

[80] Jia-qi XU, Lei WANG, Can MA, and Lei SHU. Study of impacts of duty-cycle on overlapping multi-hop clustering in wireless sensor networks. *The Journal of China Universities of Posts and Telecommunications*, 19:19–91, 2012.

[81] Wenlong Yue, Lei Wang, Cheng Jin, Xiaokang Liu, Ming Zhu, Zhenquan Qin, and Canfeng Chen. A green solution for intelligent metropolitan heating system with usdcards. In *2012 IEEE International Conference on Communications (ICC)*, pages 213–217. IEEE, 2012.

[82] Yuanfang Chen, Lei Shu, Mingchu Li, Ziqi Fan, Lei Wang, and Takahiro Hara. The insights of dv-based localization algorithms in the wireless sensor networks with duty-cycled and radio irregular sensors. In *Communications (ICC), 2011 IEEE International Conference on*, pages 1–6. IEEE, 2011.

[83] Ziqi Fan, Yuanfang Chen, Lei Wang, Lei Shu, and Takahiro Hara. Removing heavily curved path: Improved dv-hop localization in anisotropic sensor networks. In *2011 Seventh International Conference on Mobile Ad-hoc and Sensor Networks*, pages 75–82. IEEE, 2011.

[84] Ziqi Fan, Lei Wang, and Xiaohui Wang. Predictive-tdma: A markov chain based mac protocol for mesh networks. In *2011 IEEE 73rd Vehicular Technology Conference (VTC Spring)*, pages 1–5. IEEE, 2011.

[85] Suran Li, Lei Wang, Zhenquan Qin, Zhu Ming, and Lei Shu. A study on relationship migration among social networking providers. In *Mobile Ad-hoc and Sensor Networks (MSN), 2011 Seventh International Conference on*, pages 303–309. IEEE, 2011.

[86] Xiaokang Liu, Lei Wang, Zhuxiu Yuan, Yuanfang Chen, Lei Shu, and Chunsheng Zhu. Mitigating radio irregularity impact: An rssi calibration method for range-free localization in sensor networks. In *2011 Seventh International Conference on Mobile Ad-hoc and Sensor Networks*, pages 160–166. IEEE, 2011.

[87] Can Ma, Lei Wang, Jiaqi Xu, Zhenquan Qin, Ming Zhu, and Lei Shu. A geographic routing algorithm in duty-cycled sensor networks with mobile sinks. In *2011 Seventh International Conference on Mobile Ad-hoc and Sensor Networks*, pages 343–344. IEEE, 2011.

[88] Chao Pang, Lei Wang, Jiaqi Xu, Zhenquan Qin, and Ming Zhu. A fast handoff mechanism with pre-scanning for wireless mesh networks. In *2011 Seventh International Conference on Mobile Ad-hoc and Sensor Networks*, pages 345–346. IEEE, 2011.

[89] Wei Wang, Tie Qiu, Lei Wang, Feng Xia, and Guowei Wu. A balanced energy consumption solution for wireless sensor networks with failure clusters. In *2011 IEEE International Conference on Computer Science and Automation Engineering*, volume 4, pages 415–419. IEEE, 2011.

[90] Jiaqi Xu, Lei Wang, Yongnan Li, Zhenquan Qin, and Ming Zhu. An experimental study of batman performance in a campus deployment of wireless mesh networks. In *2011 Seventh International Conference on Mobile Ad-hoc and Sensor Networks*, pages 341–342. IEEE, 2011.

[91] Zhuxiu Yuan, Lei Wang, Lei Shu, Takahiro Hara, and Zhenquan Qin. A balanced energy consumption sleep scheduling algorithm in wireless sensor networks. In *Wireless Communications and Mobile Computing Conference (IWCMC), 2011 7th International*, pages 831–835. IEEE, 2011.

[92] Wenlong Yue, Lei Wang, Ming Zhu, Zhenquan Qin, Lei Shu, and Canfeng Chen. Poster: a green solution for intelligent metropolitan heating system with usdcard. In *Proceedings of the 9th international conference on Mobile systems, applications, and services*, pages 401–402. ACM, 2011.

[93] Jing Zhao, Lei Wang, Wenlong Yue, Zhengquan Qin, and Ming Zhu. Load migrating for the hot spots in wireless sensor networks using ctp. In *2011 Seventh International Conference on Mobile Ad-hoc and Sensor Networks*, pages 167–173. IEEE, 2011.

[94] Chunsheng Zhu, Laurence T Yang, Lei Shu, Lei Wang, and Takahiro Hara. Sleep scheduling towards geographic routing in duty-cycled sensor networks with a mobile sink. In *2011 8th Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks*, pages 158–160. IEEE, 2011.

[95] Yuanfang Chen, Mingchu Li, Lei Shu, Lei Wang, and Trung Q Duong. The scheme of mitigating the asymmetric links problem in wireless sensor networks. In *GLOBECOM Workshops (GC Wkshps), 2010 IEEE*, pages 272–276. IEEE, 2010.

[96] Yuanfang Chen, Xiaokang Liu, Lei Wang, Lei Shu, and Han-Chieh Chao. A calibration scheme based on pool adjacent violators for localization in wireless sensor networks. In *Proceedings of the 6th International Wireless Communications and Mobile Computing Conference*, pages 726–730. ACM, 2010.

[97] Yuanfang Chen, Shaojie Tang, Xiang-Yang Li, Min Gyung Kwak, Cheng Wang, and Lei Wang. Sfl: Energy-aware spline function localization scheme for wireless sensor networks. In *2010 Sixth International Conference on Mobile Ad-hoc and Sensor Networks*, pages 116–121. IEEE, 2010.

[98] Ziqi Fan, Yuanfang Chen, Lei Shu, Lei Wang, Takahiro Hara, and Shojiro Nishio. Impacts of duty-cycle and radio irregularity on hcrl localization in wireless sensor networks. In *Proc. ICNP*, pages 5–8, 2010.

[99] Mianbo Huang, Guoru Zhao, Lei Wang, and Feng Yang. A pervasive simplified method for human movement pattern assessing. In *2010 IEEE 16th International Conference on Parallel and Distributed Systems*, pages 625–628. IEEE, 2010.

[100] Kai Lin, Lei Wang, Keqiu Li, and Lei Shu. Multi-attribute data fusion for energy equilibrium routing in wireless sensor networks. *KSII Transactions on Internet and Information Systems (TIIS)*, 4(1):5–24, 2010.

[101] Longhui Ma, Lei Wang, Lei Shu, Jing Zhao, Suran Li, Zhuxiu Yuan, and Ning Ding. Netviewer: A universal visualization tool for wireless sensor networks. In *2010 IEEE Global Telecommunications Conference GLOBECOM 2010*, pages 1–5. IEEE, 2010.

[102] Zhenquan Qin, Lei Wang, Mingchu Li, and Weifeng Sun. An efficient trust mechanism in p2p network. In *2010 Sixth International Conference on Intelligent Information Hiding and Multimedia Signal Processing*, pages 731–734. IEEE, 2010.

[103] Tie Qiu, Lei Wang, He Guo, Xiaoyan Liu, Lin Feng, and Lei Shu. A new modeling method for vector processor pipeline using queueing network. In *2010 5th International ICST Conference on Communications and Networking in China*, pages 1–6. IEEE, 2010.

[104] Lei Shu, Zhuxiu Yuan, Takahiro Hara, Lei Wang, and Yan Zhang. Impacts of duty-cycle on tpgf geographical multipath routing in wireless sensor networks. In *2010 IEEE 18th International Workshop on Quality of Service (IWQoS)*, pages 1–2. IEEE, 2010.

[105] Kun Wang, Lei Wang, Can Ma, Lei Shu, and Joel Rodrigues. Geographic routing in random duty-cycled wireless multimedia sensor networks. In *2010 IEEE Globecom Workshops*, pages 230–234. IEEE, 2010.

[106] Zhuxiu Yuan, Lei Wang, Cheng Meng, Chunlei Liu, Trung Q Duong, and Lei Shu. Analysis on capacity and delay for redundant multiple source routing in mobile ad hoc networks. In *GLOBECOM Workshops (GC Wkshps), 2010 IEEE*, pages 158–163. IEEE, 2010.

[107] Jing Zhao, Lei Wang, Suran Li, Xiaokang Liu, Zhuxiu Yuan, and Zhengjiu Gao. A survey of congestion control mechanisms in wireless sensor networks. In *2010 Sixth International Conference on Intelligent Information Hiding and Multimedia Signal Processing*, pages 719–722. IEEE, 2010.

[108] Qin Zhenquan, Sun Weifeng, Wang Lei, et al. A window-based optimization of energy detection in time-varying channels. In *International Congress on Ultra Modern Telecommunications and Control Systems*, pages 952–956. IEEE, 2010.

[109] Chunsheng Zhu, Yuanfang Chen, Lei Wang, Lei Shu, and Yan Zhang. Smac-based proportional fairness backoff scheme in wireless sensor networks. In *Proceedings of the 6th international wireless communications and mobile computing conference*, pages 138–142. ACM, 2010.

[110] Chunsheng Zhu, Lei Shu, Takahiro Hara, Lei Wang, and Shojiro Nishio. Research issues on mobile sensor networks. In *2010 5th International ICST Conference on Communications and Networking in China*, pages 1–6. IEEE, 2010.

[111] Yuanfang Chen, Mingchu Li, Lei Wang, Zhuxiu Yuan, Weiping Sun, Chunsheng Zhu, Ming Zhu, and Lei Shu. A proportional fair backoff scheme for wireless sensor networks. In *Mobile Adhoc and Sensor Systems, 2009. MASS'09. IEEE 6th International Conference on*, pages 971–976. IEEE, 2009.

[112] Yuanfang Chen, Lei Wang, Zhuxiu Yuan, Chunsheng Zhu, Xiang-Yang Li, and Lei SHU. Simulation and testbed experiments of a backoff differentiation scheme for sensor networks. In *MobiCom'09*, number Poster. ACM, 2009.

[113] Shuchao Ma, Ming Zhu, Lei Wang, Lei Shu, Suran Li, and Shumin Huang. A remote monitoring system of idc room based on zigbee wireless sensor networks. In *Dependable, Autonomic and Secure Computing, 2009. DASC'09. Eighth IEEE International Conference on*, pages 782–787. IEEE, 2009.

[114] Lei Shu, Manfred Hauswirth, Lei Wang, Zhuxiu Yuan, and Yuanfang Chen. Visualizing simulation and testbed of wireless sensor networks with nettopo. In *Proceedings of the 4th ACM international workshop on Experimental evaluation and characterization*, pages 99–100. ACM, 2009.

[115] Lei Shu, Manfred Hauswirth, Lei Wang, Yan Zhang, and Jong Hyuk Park. Cross-layer optimized data gathering in wireless multimedia sensor networks. In *2009 International Conference on Computational Science and Engineering*, volume 2, pages 961–966. IEEE, 2009.

[116] Lin Shu, Jian-Wei Shen, Lei Wang, and Wei-Guo Du. Influence of fluctuating temperature on incubation duration and hatchling phenotypes in the chinese three-keeled pond turtle, chinemys reevesii. *Journal of Zhejiang University(Science Edition)*, 36(5), 2009.

[117] Zhuxiu Yuan, Cuiyao Xue, Lei Wang, Yuanfang Chen, Weiping Sun, and Lei Shu. A backoff copying scheme for contention resolution in wireless sensor networks. In *Proceedings of the 4th ACM international workshop on Experimental evaluation and characterization*, pages 81–82. ACM, 2009.

[118] Yi-Ying Zhang, Lei Shu, Myong-Soon Park, Lei Wang, and Eun-Mook Lee. An intelligent and reliable data transmission protocol for highly destructible wireless sensor networks. *Journal of Internet Technology*, 10(5):539–548, 2009.

[119] Lei Shu, Chun Wu, Yan Zhang, Jiming Chen, Lei Wang, and Manfred Hauswirth. Nettopo: beyond simulator and visualizer for wireless sensor networks. *ACM SIGBED Review*, 5(3):2, 2008.

[120] Lei Wang, Seungho Jang, and Tae-young Lee. Redundant source routing for real-time services in ad hoc networks. In *IEEE International Conference on Mobile Adhoc and Sensor Systems Conference, 2005.*, pages 7–pp. IEEE, 2005.

[121] Canfeng Chen, Lei Wang, Liang Liu, and Weiling Wu. Simulation study of tcp behavior over redundant source routing in ad hoc networks. In *2004 IEEE Wireless Communications and Networking Conference (IEEE Cat. No. 04TH8733)*, volume 2, pages 1258–1263. IEEE, 2004.

[122] Yan-Tai Shu, Guang-Hong Wang, Lei Wang, Oliver WW Yang, and Yong-Jie Fan. Provisioning qos guarantee by multipath routing and reservation in ad hoc networks. *Journal of Computer Science and Technology*, 19(2):128–137, 2004.

[123] Yantai Shu, Oliver Yang, and Lei Wang. Adaptive routing in ad hoc networks. *Mohammand llyas. The Handbook of Ad Hoc Wireless Networks*, 2003.

[124] Guanghong Wang, Yantai Shu, Yongjie Fan, Lei Wang, and Oliver WW Yang. Multipath bandwidth splitting reservation in ad hoc networks. In *14th IEEE Proceedings on Personal, Indoor and Mobile Radio Communications, 2003. PIMRC 2003.*, volume 3, pages 2621–2625. IEEE, 2003.

[125] Lei Wang and Canfeng Chen. Redundant source routing in ad hoc networks. *Internal Technical Document, ITD-03-44902G, Lucent Technologies*, 2003.

[126] Y-t Shu, D-y Gao, and Lei Wang. Multipath source routing in wireless ad hoc networks. *ACTA Electronica Sinica*, 30(2):279–282, 2002.

[127] Linifang Zhang, Zenghua Zhao, Yantai Shu, Lei Wang, and Oliver WW Yang. Load balancing of multipath source routing in ad hoc networks. In *2002 IEEE International Conference on Communications. Conference Proceedings. ICC 2002 (Cat. No. 02CH37333)*, volume 5, pages 3197–3201. IEEE, 2002.

[128] 舒炎泰, 高德云, and 王雷. 无线 *ad hoc* 网络中的多径源路由. PhD thesis, 2002.

[129] Yan Tai Shu, Lei Wang, Lian Fang Zhang, Fei Xue, Zhi Gang Jin, and O Yang. Internet traffic modeling and prediction using farima models. *CHINESE JOURNAL OF COMPUTERS-CHINESE EDITION-*, 24(1):46–54, 2001.

[130] Lei Wang, Yantai Shu, Miao Dong, Lianfang Zhang, and Oliver WW Yang. Adaptive multipath source routing in ad hoc networks. In *ICC 2001. IEEE International Conference on Communications. Conference Record (Cat. No. 01CH37240)*, volume 3, pages 867–871. IEEE, 2001.

[131] Lei Wang, Lianfang Zhang, Yantai Shu, and Miao Dong. Multipath source routing in wireless ad hoc networks. In *2000 Canadian Conference on Electrical and Computer Engineering. Conference Proceedings. Navigating to a New Era (Cat. No. 00TH8492)*, volume 1, pages 479–483. IEEE, 2000.

[132] Lei Wang, Lianfang Zhang, Yantai Shu, Miao Dong, and Oliver WW Yang. A study of measurement-based web prefetch control. In *2000 Canadian Conference on Electrical and Computer Engineering. Conference Proceedings. Navigating to a New Era (Cat. No. 00TH8492)*, volume 1, pages 204–208. IEEE, 2000.

[133] Yantai Shu, Zhigang Jin, Lianfang Zhang, Lei Wang, and Oliver WW Yang. Traffic prediction using farima models. In *1999 IEEE International Conference on Communications (Cat. No. 99CH36311)*, volume 2, pages 891–895. IEEE, 1999.