

Wenbo He

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RESEARCH INTERESTS

Big Data Systems, Network & Data Security, Cloud Computing, and Pervasive Computing, etc.

PROFESSIONAL EXPERIENCE

Associate Professor, 2016 -
Department of Computing and Software, McMaster University

Assistant Professor, 2011 - 2016
School of Computer Science, McGill University

Assistant Professor, 2010 - 2011
Department of Electrical Engineering, University of Nebraska-Lincoln

Assistant Professor, 2008 - 2010
Department of Computer Science, University of New Mexico

Intern Researcher, 2007
Microsoft Research, Redmond, WA (Networked Embedded Computing Group)

Software Engineer, 2000 - 2005
Cisco Systems, Inc., Champaign, IL (Network Security Management Group)

EDUCATION

University of Illinois at Urbana-Champaign, Urbana, IL 2005 — 2008
Ph.D., Computer Science
Advisor: Klara Nahrstedt

University of Illinois at Urbana-Champaign, Urbana, IL 1998 — 2000
Master of Electrical Engineering
Advisor: Muriel Médard

Tsinghua University, Beijing, China 1995 — 1998
Master of Control Theory and Applications, Department of Automation

Harbin Engineering University, Heilongjiang, China 1991 — 1995
B.E. with honors, Department of Automatic Control

SELECTED AWARDS

Best Paper Award 2011
ACM Conference on Wireless Network Security (WiSec'11)

Best Paper Award 2008
IEEE Transactions on Industrial Informatics

NSF TRUST Fellowship 2007, 2009
for summer program on ubiquitous secure technology, Cyber-security and privacy

Vodafone-U.S. Foundation Fellowship 2005 - 2008
by School of Engineering, University of Illinois at Urbana-Champaign

C. W. Gear Outstanding Graduate Student Award 2007
by Department of Computer Science, University of Illinois at Urbana-Champaign

Best Poster Presentation Award in Vodafone Symposium	2007
Mavis Memorial Fund Scholarship Award by School of Engineering, University of Illinois at Urbana-Champaign	2006
Meritorious Award in the Mathematical Contest in Modeling, Consortium for Mathematics and Its Applications (COMAP)	1993

PUBLICATIONS

Journal Papers

Publication Venues:

IEEE is the world's largest professional association for the advancement of technology, and ACM is the world's largest educational and scientific computing society. Majority of Wenbo's publications are on the 1st tier IEEE and ACM journal and conference venues. Wenbo's work has been published and accepted by the leading IEEE and ACM journals and Transactions, including IEEE Transactions on Wireless Communications, IEEE Transactions on Parallel and Distributed Systems, ACM Transactions on Sensor Networks, IEEE Transactions on Information Forensics and Security, IEEE Transactions on Industrial Informatics, ACM Transactions on Multimedia Computing, Communications and Applications, IEEE/ACM Transactions on Networking, and IEEE Transactions on Knowledge and Data Engineering.

- [J18] Fast and Adaptive Continuous Scanning in Large-Scale RFID Systems.
Wei Gong, Haoxiang Liu, Xin Miao, Kebin Liu, Wenbo He, Lan Zhang, and Yunhao Liu.
IEEE/ACM Transactions on Networking (ToN), 2016 1(1).
- [J17] A Novel Information Cascade Model in Online Social Networks.
Chao Tong, Wenbo He, Jianwei Niu, and Zhongyu Xie.
Physica A: Statistical Mechanics and its Applications, Volume 444, 15 February 2016.
- [J16] Rumor Identification in Microblogging Systems Based on Users' Behavior.
Gang Liang, Wenbo He, Chun Xu, Liangyin Chen and Jinquan Zeng.
IEEE Transactions on Computational Social Systems (TCSS), 2015 2(3).
- [J15] Efficiently Estimating Statistics of Points of Interests on Maps.
Pinghui Wang, Wenbo He, and Xue Liu.
IEEE Transactions on Knowledge and Data Engineering (TKDE), Volume PP, Issue 99, September 2015.
- [J14] Delay analysis in practical wireless network coding.
Huanzhong Li, Xue Liu, Wenbo He, Wei Yang, Wenhua Dou.
Wireless Communications and Mobile Computing Volume 14, Issue 5, 2014.
- [J13] A Tale of Three Social Networks: User Activity Comparisons across Facebook, Twitter, and Foursquare.
Pinghui Wang, Wenbo He, and Junzhou Zhao.
IEEE Internet Computing, vol. 18, no. 2, pp. 10-15, March-April 2014. (*This has been selected to be the featured article by the Special Technical Community on Social Networks in May 2014.*)
- [J12] Thwarting Wi-Fi Side-Channel Analysis through Traffic Demultiplexing.
Fan Zhang, Wenbo He, Yangyi Chen, Zhou Li, XiaoFeng Wang, Shuo Chen, and Xue Liu.
IEEE Transactions on Wireless Communications (TWireless), VOL. 13, NO. 1, January 2014.
- [J11] Design and Implementation of Holistic Scheduling and Efficient Storage for FlexRay.
Yu Hua, Xue Liu, Wenbo He, and Dan Feng.
IEEE Transactions on Parallel and Distributed Systems (TPDS), VOL. 25, NO. 10, October 2014.
- [J10] Application and Analysis of Multidimensional Negative Surveys in Participatory Sensing Applications.
Michael M. Groat, Benjamin Edwards, James Horey, Wenbo He, and Stephanie Forrest.
Pervasive and Mobile Computing, Volume 9, Issue 3, June 2013, Pages 372-391.
- [J9] PDA: Privacy-preserving Data Aggregation for Information Collection.
Wenbo He, Xue Liu, Hoang Ngyuen, Klara Nahrstedt, and Tarek Abdelzaher.
ACM Transactions on Sensor Networks (TOSN), Volume 8 Issue 1, August 2011.

- [J8] SMOCK: A Scalable Method of Cryptographic Key Management for Mission-critical Wireless Ad Hoc Networks.
Wenbo He, Ying Huang, Ravishankar Sathyam, Klara Nahrstedt and Whay C. Lee.
IEEE Transactions on Information Forensics and Security, Volume 4, Issue 1, pp 140-150, March 2009.
- [J7] ORTEGA: An Efficient and Flexible Online Fault Tolerance Architecture for Real-Time Control Systems.
Xue Liu, Qixin Wang, Sathish Gopalakrishnan, Wenbo He, Lui Sha, Hui Ding, Kihwal Lee.
IEEE Transactions on Industrial Informatics (TII), Vol 4, No. 4, pp 213-224, 2008 (**Best Paper Award** of IEEE TII in 2008).
- [J6] End-to-End Delay Control of Multimedia Applications over Multi-hop Wireless Links.
Wenbo He, Klara Nahrstedt, and Xue Liu.
ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP) Volume 5, Issue 2, November 2008.
- [J5] McCLS: Certificateless Signature Scheme for Emergency Mobile Wireless Cyber-Physical Systems
Zhong Xu, Guoqing Zhang, Wenbo He.
International Journal of Computers, Communications & Control (IJCCC), Vol. III, No. 4, pp.395-411, 2008.
- [J4] A Scalable Public Key Management Scheme in Wireless Ad Hoc Networks (MobiCom'06 Poster Abstract).
Wenbo He, Ying Huang, Klara Nahrstedt, and Whay C. Lee.
ACM SIGMOBILE Mobile Computing and Communications Review, Volume 11, Issue 2, April 2007.
- [J3] MobiHerald: Alert Propagation in Mobile Ad Hoc Networks (MobiCom'07 Poster Abstract).
Wenbo He, Ying Huang, Klara Nahrstedt, and Whay C. Lee.
ACM SIGMOBILE Mobile Computing and Communications Review, Volume 12, Issue 1, January 2008.
- [J2] Optimal Real-Time Sampling Frequency Assignment for Wireless Sensor Networks.
Xue Liu, Qixin Wang, Wenbo He, Marco Caccamo, and Lui Sha.
ACM Transactions on Sensor Networks (ToSN), Vol. 2(2), 2006.
- [J1] Generalized Loop-back Recovery in Optical Mesh Networks.
Muriel Médard, Richard A. Barry, Steven G. Finn, Wenbo He, and Steven Lumetta.
IEEE/ACM Transactions on Networking (ToN), Vol. 10(1), 2002.

Conference Papers

Publication Venues:

In computer science community, computing technologies and devices in terms of processing speed, memory capacity are improving at (roughly) exponential rates. Therefore, researchers would like to see timely, novel and high-quality recent results. The top IEEE or ACM conferences are the venues to publish timely and high-quality results. Many researchers in computer science only publish their work on conferences. Wenbo's conference papers are published on the following 1st tier IEEE or ACM conferences:

PerCom: The IEEE Pervasive Computing and Communication conference is the best scholarly venue in the areas of pervasive computing and communications. According to Wikipedia on List of computer science conferences, PerCom is recognized as a top tier conference on wireless networks and mobile computing, pervasive computing, wireless ad hoc networks and wireless sensor networks.

INFOCOM: IEEE International Conference on Computer Communications is a top conference in networks and communications. According to Microsoft Academic Search, INFOCOM ranks 1st among the top conferences in networks & communications. According to Computer Science Conference Rankings, INFOCOM is listed as a top tier conferences in networks, communications and performance.

ICDCS: International Conference on Distributed Computing Systems is a worldwide 1st tier premier venue in Distributed Systems and Computing. According to ERA 2010 ranked conference list, ICDCS is a A class of conference. According to Microsoft Academic Search, ICDCS ranks 1st among top conferences in distributed & parallel computing.

NSDI: USENIX Symposium on Networked Systems Design and Implementation is a 1st tier premier venue in operating systems and networks. According to Arnetminer 2008 conference/journal ranking list, NSDI ranks 3 out of 177 conferences in networks and ranks 4 out of 75 in Operating Systems.

WiSec: ACM Conference on Security and Privacy in Wireless and Mobile Network is with a narrow focus on wireless security but recognized as a top tier conference on security and privacy of wireless communications and mobile networks.

RTSS: IEEE Real-Time Systems Symposium is a 1st tier academic conference on real-time computing and systems. RTSS ranks 1st in real-time & embedded systems according to Microsoft Academic Search.

RTAS: IEEE Real-Time and Embedded Technology and Applications Symposium is a top tier venue. According to ERA 2010 ranked conference list, RTAS is listed as an A class conference.

ICDE: IEEE International Conference on Data Engineering is a top tier conference on databases and data mining, according to Microsoft Academic Search and Conference-Ranking.org.

ICPP: International Conference on Parallel Processing has over 40 years history, and it is one of the top conferences in distributed & parallel computing, according to Microsoft Academic Search and Conference-Ranking.org.

- [57] Redactor: Reconcile Network Control With Declarative Applications In SDN.
Wen Wang, Wenbo He, and Jinshu Su.
In Proceedings of the 24th IEEE International Conference on Network Protocols (ICNP 2016), Singapore, November, 2016.
- [C56] CompoundEyes: Large-scale Near-duplicate Video Detection.
Yixin Chen, Wenbo He, Yu Hua, and Wen Wang.
In Proceedings of the 35th IEEE Conference on Computer Communications (INFOCOM'16), the acceptance rate is 18%, April 2016, San Francisco, CA, U.S.A.
- [C55] Cupid: Congestion-free Consistent Data Plane Update In Software Defined Networks.
Wen Wang, Wenbo He, Jinshu Su, and Yixin Chen.
In Proceedings of the 35th IEEE Conference on Computer Communications (INFOCOM'16), the acceptance rate is 18%, April 2016 San Francisco, CA, U.S.A.
- [54] An Empirical Study of the Textual Content of Online Videos.
Yixin Chen, and Wenbo He.
In Proceedings of the second IEEE International Conference on Multimedia Big Data (BigMM) 2016.
- [C53] SafeCam: Analyzing Intersection-Related Driver Behaviors using Multi-Sensor Smartphones.
Landu Jiang, Xi Chen, and Wenbo He.
In Proceedings of the IEEE International Conference on Pervasive Computing and Communications (PerCom'16), acceptance rate of full papers is 12%, March 2016, Sydney, Australia.
- [C52] Marlin: Taming the Big Streaming Data in Large Scale Video Sharing and Hosting Systems.
Nan Zhu, Yixin Chen, Wenbo He, and Yu Hua.
IEEE BigData 2015, the Scalable Cloud Data Management Workshop, October 2015, Santa Clara, CA, USA.
- [C51] Network Intrusion Detection And Prevention Middlebox Management With SDN
Wen Wang, Wenbo He, and Jinshu Su.
In Proceedings of the 34th IEEE International Performance Computing and Communications Conference, (IPCCC'15), acceptance rate is 29%, December 2015, Nanjing, China.
- [C50] SCALASEM: An Experiment Environment for SDN Using Integrated Simulation And Emulation.
Nan Zhu, and Wenbo He.
In Proceedings of the 34th IEEE International Performance Computing and Communications Conference, (IPCCC'15), acceptance rate is 29%, December 2015, Nanjing, China.
- [C49] I Know What You Did on Your Smartphone: Inferring App Usage over encrypted Data Traffic.
Qinglong Wang, Amir Yahyavi, Bettina Kemme, and Wenbo He.
IEEE Conference on Communications and Network Security (CNS 2015) with acceptance rate 28%, 2015.
- [C48] M²SDN: Achieving Multipath and Multihoming in Data Centers with Software Defined Networking.
Wen Wang, Wenbo He, and Jinshu Su.
In the Proceedings of the IEEE/ACM International Symposium on Quality of Service (IWQoS 2015) with acceptance rate 22.5%, Portland, USA, June 15-16, 2015, in conjunction with ACM FCRC 2015.

- [C47] False Data Detection and Correction Framework for Participatory Sensing (Short Paper).
Long Cheng; Linghe Kong, Chengwen Luo; Jianwei Niu, Yu Gu, Wenbo He, and Sajal K. Das.
In the Proceedings of the IEEE/ACM International Symposium on Quality of Service (IWQoS 2015), Portland, USA, June 15-16, 2015, in conjunction with ACM FCRC 2015.
- [C46] PLP: Protecting Location Privacy against Correlation-Analysis Attack in Crowdsensing.
Shanfeng Zhang, Qiang Ma, Tong Zhu, Kebin Liu, Lan Zhang, Wenbo He and Yunhao Liu.
In the Proceedings of the 44th International Conference on Parallel Processing (ICPP'2015), the acceptance rate is 32%, Beijing, China, September 2015.
- [C45] SmartEye: Real-time and Efficient Cloud Image Sharing for Disaster Environments.
Yu Hua, Wenbo He, Xue Liu and Dan Feng.
In the Proceedings of the 34th Annual IEEE International Conference on Computer Communications (INFOCOM'2015), the acceptance rate is 19%, Hong Kong, April 2015.
- [C44] NetMaster: Taming Energy Devourers on Smartphones.
Yi Zhang, Yuan He, Xiaopei Wu, Yunhao Liu, and Wenbo He.
In the Proceedings of the 43rd International Conference on Parallel Processing (ICPP'2014), Minneapolis, MN, USA, September 2014.
- [C43] WiLoVe: A WiFi-Coverage Based Location Verification System in LBS.
Xinye Lin and Wenbo He.
In the Proceedings of the 11th International Conference on Mobile Systems and Pervasive Computing (MobiSPC'14), Niagara Falls, Canada, August 2014.
- [C42] Necklace: An Efficient Cuckoo Hashing Scheme for Cloud Storage Services.
Qiuyu Li, Yu Hua, Wenbo He, Dan Feng, Zhenhua Nie, and Yuanyuan Sun.
In Proceedings of the IEEE/ACM International Symposium on Quality of Services (IWQoS), May 2014, Hong Kong, China. (Acceptance rate =23.8%).
- [C41] Generic Composite Counting in RFID Systems.
Haoliang Liu, Wei Gong, Lei Chen, Wenbo He, Kebin Liu and Yunhao Liu.
In Proceedings of the 34th International Conference on Distributed Computing Systems (ICDCS'14), Madrid, Spain, June 2014 (Acceptance rate =13%).
- [C40] An Efficient Sampling Method for Characterizing Points of Interests on Maps.
Pinghui Wang, Wenbo He, and Xue Liu.
In the proceedings of the 30th IEEE International Conference on Data Engineering (ICDE'14), Chicago, Illinois, USA. (Acceptance rate =20%).
- [C39] Adaptive Continuous Scanning in Large-Scale RFID Systems.
Haoliang Liu, Wei Gong, Xin Miao, Kebin Liu, and Wenbo He.
In the proceedings of the 33rd Annual IEEE International Conference on Computer Communications (INFOCOM'14), Toronto, Canada. (Acceptance rate =19.5%)
- [C38] Detecting Collusive Cheating in Online Shopping Systems through Characteristics of Social Networks.
Lei Wang, Yixin Chen, Jianwei Niu, and Wenbo He.
In the proceedings of the Workshop on Dynamic Social Networks, in conjunction with 33rd Annual IEEE International Conference on Computer Communications (INFOCOM'14), Toronto, Canada.
- [C37] Why Application Errors Drain Battery Easily? A Study of Memory Leaks in Smartphone Apps.
Mingyuan Xia, Wenbo He, Xue Liu, and Jie Liu.
In the proceedings of 5th Workshop on Power-Aware Computing and Systems (HotPower'13), in conjunction with The 24th ACM Symposium on Operating Systems Principles (SOSP'13), Farmington, Pennsylvania, USA.
- [C36] Enhancing Privacy in Participatory Sensing Applications with Multidimensional Data.
Michael M. Groat, Benjamin Edwards, James Horey, Wenbo He, and Stephanie Forrest.
In Proceedings of the Tenth Annual IEEE International Conference on Pervasive Computing and Communications (PerCom '12), March 2012, In Press, Lugano, Switzerland (Acceptance ratio: 10.7% = 16/150).

- [C35] Dynamic Control of Electricity Cost with Power Demand Smoothing and Peak Shaving for Distributed Internet Data Centers.
Jianguo Yao, Xue Liu, Wenbo He, and Ashikur Rahman.
In Proceedings of the 32nd International Conference on Distributed Computing Systems (ICDCS'12), Macau, China, June 2012 (Acceptance rate =13%).
- [C34] Data Perturbation with State-Dependent Noise for Participatory Sensing.
Fan Zhang, Li He, Wenbo He, and Xue Liu.
In Proceedings of the 31st IEEE Conference on Computer Communications 2012 (INFOCOM'12), Orlando, FL, 2012 (Acceptance rate =18%, 278 out of 1547).
- [C33] HOSA: Holistic Scheduling and Analysis for Scalable Fault-tolerant FlexRay Design.
Yu Hua, Xue Liu, and Wenbo He.
In Proceedings of the 31st IEEE Conference on Computer Communications 2012 (INFOCOM'12), Orlando, FL, 2012 (Acceptance rate =18%, 278 out of 1547).
- [C32] Phoenix: Peer-to-Peer Location based Notification in Mobile Networks.
Yongping Xiong, Wenbo He, Canfeng Chen, Jian Ma, and Limin Sun.
In Proceedings of the 8th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS'11), Valencia, Spain, October 2011.
- [C31] End-to-End Delay Analysis in Wireless Network Coding: A Network Calculus-Based Approach.
Huanzhong Li, Xue Liu, Wenbo He, Jian Li, and Wenhua Dou.
In Proceedings of the 31st International Conference on Distributed Computing Systems (ICDCS'11), Minneapolis, Minnesota, 2011, (Acceptance rate = 15.4%).
- [C30] Defending Against Traffic Analysis in Wireless Networks through Traffic Reshaping.
Fan Zhang, Wenbo He, and Xue Liu
In Proceedings of the 31st International Conference on Distributed Computing Systems (ICDCS'11), Minneapolis, Minnesota, 2011, (Acceptance rate = 15.4%).
- [C29] Location Cheating: A Security Challenge to Location-based Social Network Services.
Wenbo He, Xue Liu, and Mai Ren.
In Proceedings of the 31st International Conference on Distributed Computing Systems (ICDCS'11), Minneapolis, Minnesota, 2011 (Acceptance rate = 15.4%).
- [C28] Inferring Users' Online Activities through Traffic Analysis.
Fan Zhang, Wenbo He, Xue Liu, and Patrick Bridges.
In Proceedings of the Fourth ACM Conference on Wireless Network Security (WiSec'11) (Full Paper, acceptance rate = 11.5%, 10 full papers accepted out of 87), Hamburg, Germany , June 15-17, 2011 (**Best Paper Award**).
- [C27] KIPDA: k-Indistinguishable Privacy-preserving Data Aggregation in Wireless Sensor Networks.
Michael Groat, Wenbo He, and Stephanie Forrest.
In Proceedings of IEEE Conference on Computer Communications 2011 (INFOCOM'11), Shanghai, China. (Acceptance ratio =15.96%, 291 out of 1823).
- [C26] A Reservation-based Smart Parking System.
Hongwei Wang and Wenbo He.
In Proceedings of the international workshop on Cyber-Physical Systems (CPS) in conjunction with INFOCOM'11, Shanghai, China.
- [C25] Reliability Calculus: A Theoretical Framework To Analyze Communication Reliability.
Wenbo He, Xue Liu, Long Zheng, and Hao Yang.
The 30th International Conference on Distributed Computing Systems (ICDCS'10), (acceptance Rate: 14%), Genoa Italy, June 21–25, 2010.
- [C24] Anycast Routing in Mobile Opportunistic Networks.
Yongping Xiong, Limin Sun, Wenbo He, and Jian Ma.
The 15th IEEE Symposium on Computers and Communications (ISCC'10), Riccione, Italy, June 22-25, 2010.

- [C23] Message Propagation in Ad-Hoc-Based Proximity Mobile Social Networks.
Wenbo He, Ying Huang, Klara Nahrstedt, Bo Wu.
The 6th IEEE PerCom Workshop on Mobile Peer-to-Peer Computing (MP2P'10), Mannheim, Germany, April, 2010.
- [C22] GreenCloud: A New Architecture for Green Data Center.
Liang Liu, Xue Liu, and Wenbo He.
The 6th International Conference on Autonomic Computing and Communications, Barcelona, Spain, June 2009.
- [C21] Optimizing File Retrieval in Delay-Tolerant Content Distribution Community.
Ying Huang, Yan Gao, Wenbo He, and Klara Nahrstedt
in Proceedings of the 29th International Conference on Distributed Computing Systems (ICDCS'09), Montreal, Quebec, Canada, June 2009.
- [C20] A Cluster-based Protocol To Enforce Integrity and Preserve Privacy in Data Aggregation.
Wenbo He, Xue Liu, Hoang Nguyen, and Klara Nahrstedt.
The 2nd International Workshop on Cyber-Physical Systems (WCPS 2009), in conjunction with ICDCS 2009.
- [C19] Challenges Towards Elastic Power Management in Internet Data Centers (invited).
Jie Liu, Feng Zhao, Xue Liu, and Wenbo He.
The 2nd International Workshop on Cyber-Physical Systems (WCPS 2009), in conjunction with ICDCS 2009.
- [C18] Energy-Aware Server Provisioning and Load Dispatching for Connection-Intensive Internet Services.
Gong Chen, Wenbo He, Jie Liu, Suman Nath, Leonidas Rigas, Lin Xiao, and Feng Zhao.
In the proceeding of the 5th USENIX Symposium on Networked Systems Design and Implementation (NSDI'08) (acceptance rate = 17%), San Francisco, CA, April, 2008. (This work has been reported on newscientist.com)
- [C17] iPDA: An Integrity-Protecting Private Data Aggregation Scheme for Wireless Sensor Networks.
Wenbo He, Hoang Nguyen, Xue Liu, Klara Nahrstedt and Tarek Abdelzaher, in MILCOM 2008, in San Diego.
- [C16] CORPS: Event-driven Mobility Model For First Responders In Incident Scene.
Ying Huang, Wenbo He, Klara Nahrstedt, and Whay C. Lee, in MILCOM 2008 in San Diego.
- [C15] DoS-Resistant Broadcast Authentication Protocol with Low End-to-end Delay.
Ying Huang, Wenbo He, Klara Nahrstedt, and Whay C. Lee.
In the 2nd IEEE Workshop on Mission-Critical Networking, in conjunction with IEEE INFOCOM 2008, (acceptance rate = 28%), Phoenix, Arizona.
- [C14] A Certificateless Signature Scheme for Mobile Wireless Cyber-Physical Systems.
Zhong Xu, Xue Liu, Guoqing Zhang, Wenbo He, Guanzhong Dai, and Weihuan Shu.
The First International Workshop on Cyber-Physical Systems, in conjunction with ICDCS 2008, (acceptance rate 27%), Beijing, China.
- [C13] PDA: Privacy-preserving Data Aggregation in Wireless Sensor Networks.
Wenbo He, Xue Liu, Hoang Nguyen, Klara Nahrstedt, and Tarek Abdelzaher.
In the Proceedings of the 26th Annual IEEE Conference on Computer Communications (INFOCOM'07), (acceptance rate = 18%), Anchorage, Alaska, May 2007.
- [C12] SMOCK: A Self-contained Public Key Management Scheme for Mission-critical Wireless Ad Hoc Networks
Wenbo He, Ying Huang, Klara Nahrstedt, and Whay C. Lee.
In the Proceedings of the fifth Annual IEEE International Conference on Pervasive Computing and Communications (PerCom'07), (acceptance rate = 9.6%), White Plains, New York, March 2007.
- [C11] Active Queue Management Design Using Discrete-Event Control.
Xue Liu, and Wenbo He.
In the Proceedings of the 46th IEEE Conference on Decision and Control (CDC'07), New Orleans, LA, 2007.
- [C10] MobileAds: Advertisement on Mobile Devices.
Wenbo He, and Klara Nahrstedt.
In the Ph.D. Forum on Deeply Embedded Real-Time Computing, in The 28th IEEE Real-Time Systems Symposium (RTSS'07), Tucson, Arizona, December 2007.

- [C9] Control Computing Systems as Queueing Systems: The Case of Optimal Dropping Strategy for Internet Routers.
Xue Liu, and Wenbo He.
In the second IEEE International Workshop on Feedback Control Implementation and Design in Computing Systems and Networks (*FeBID*), Co-located with IM 2007, Munich, Germany, May 2007.
- [C8] Requirements and System Architecture Design Consideration for First Responder Systems
Ying Huang, Wenbo He, Klara Nahrstedt, and Whay C. Lee.
In the *IEEE Conference on Technologies for Homeland Security Conference*, Waltham, MA, May 2007.
- [C7] Experimental Validation of Middleware-based QoS Control in 802.11 Wireless Networks (Invited paper).
Wenbo He, Hoang Nguyen, and Klara Nahrstedt.
In the third International Conference on Broadband Communications, Networks, and Systems (*BROADNETS '06*), San Jose, CA, October 2006.
- [C6] Impact of Upper Layer Adaptation on End-to-end Delay Management in Wireless Ad Hoc Networks.
Wenbo He and Klara Nahrstedt.
In the Twelfth IEEE Real-Time and Embedded Technology and Applications Symposium (*RTAS'06*), San Jose, CA, May 2006.
- [C5] An Integrated Solution to Delay and Security Support in Wireless Networks.
Wenbo He and Klara Nahrstedt.
In the IEEE Wireless Communications and Networking Conference (*WCNC'06*), Las Vegas, NV, April 2006.
- [C4] A Feedback Control Scheme for Resource Allocation in Wireless Multi-hop Ad Hoc Networks.
Wenbo He, Xue Liu, and Klara Nahrstedt.
In the International Conference on Mobile and Ubiquitous Systems: Networks and Services (*Mobiquitous'05*), San Diego, CA, July 2005.
- [C3] Building Robust Wireless LAN for Industrial Control with DSSS-CDMA Cellphone Network Paradigm.
Qixin Wang, Xue Liu, Weiqun Chen, Wenbo He, and Marco Caccamo.
In the Proceedings of the IEEE Real-Time Systems Symposium (*RTSS '05*), Miami, Florida, December 2005.
- [C2] Autonomous Motion Planning on Mars.
Wenbo He, Chengdu Huang, Xue Liu, Liqian Luo, and Min Wu (in alphabetical order).
In the Embedded Real-Time Systems Implementation Workshop (*ERTSI'05*), in conjunction with the 26th IEEE International Real-Time Systems Symposium (*RTSS'05*), December, 2005.
- [C1] Optimal QoS Sampling Frequency Assignment for Real-Time Wireless Sensor Networks.
Xue Liu, Qixin Wang, Lui Sha, and Wenbo He.
In the Proceedings of IEEE Real-Time Systems Symposium (*RTSS '03*), Cancun, Mexico, December 2003.

PROFESSIONAL ACTIVITIES

Editorial Work

Editor, Journal of Communications and Networks, published by Korea Information and Communications Society (KICS), and cosponsored by the IEEE Communications Society (ComSoc), 2012 — 2015.

Lead Guest Editor, Special Issues for International Journal of Distributed Sensor Networks on Crowd and Mobile Sensing, 2014.

Guest Editor, IEEE Wireless Communications Special Issue on Quality-of-Experience (QoE) and Quality-of-Protection (QoP) Provisions in Emerging Mobile Networks, 2014.

Guest Editor, Special Issue on Cyber-Physical Systems and Services for IEEE Transactions on Services Computing, 2014.

Guest Editor, Special Section of Tsinghua Science and Technology on Mobile and Pervasive Computing, 2013.

Conference Organization

Industrial Program Co-Chair of the Third IEEE International Conference on Multimedia Big Data (BigMM), 2017

Program Chair of Security and Privacy Track for the 7th IEEE International Conference on Cloud Computing and Technology and Science, 2016.

Program Chair of Security and Privacy Track for the 7th IEEE International Conference on Cloud Computing and Technology and Science, 2015.

Program Chair the International Workshop of Software-Defined Data Communications and Storage (SD-DCS) 2015.

Program Co-Chair for International Workshop on Technologies and Applications for Cyber-Physical Systems (TACPS 2012).

Conference Local Arrangement Chair

ACM/IFIP/USENIX International Middleware Conference 2012 and ACM/IEEE International Symposium on Quality of Service (IWQoS) 2013.

Technical Program Committee for conferences and workshops including INFOCOM'17, INFOCOM'16, CNCC'16, INFOCOM'15, MobiSPC'15, INFOCOM'14, ICDCS'14, IWQoS'14, FOMC'14, INFOCOM'13, ICDCS'13, IWQoS'13, MASS'13, ICCPS'12, INFOCOM'12, PerCom'12, ICDCS'11, INFOCOM'11, PerCom'10, INFOCOM'10, IWQoS'09, WCPS'09, ICCCN'09, WiMD'09, ICES'09, AdHocNets'09, and RTCSA'09.

Reviewer for journals including IEEE Transactions on Networking (ToN), IEEE Transactions on Wireless Communications (TWC), IEEE Transactions on Information Forensics and Security, IEEE Transactions on Computers (TC), ACM Transactions on Sensor Networks (ToSN), IEEE Transactions on Mobile Computing (TMC), ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP), IEEE Transactions on Parallel and Distributed Systems (TPDS), Transactions on Information Forensics & Security (TIFS), IEEE Communication Letters, IEEE Wireless Communication Magazine, Journal of Communications and Networks, and IEEE Transactions on Services Computing (TSC).

Membership IEEE member and member of IEEE Women in Engineering; ACM member.

GRANTS

Huawei Innovation Research Program

Grants for research on *Building Indexing Structure and Storage System for Large-scale Unstructured Data in Online Big Data Applications*

Quebec Fund for Research on Nature and Technology (FQRNT)

Grants for new researcher on *Taming Networks with Software Defined Networking (SDN)*.

Natural Sciences and Engineering Research Council of Canada (NSERC)

Discovery grant for *Thwarting Wi-Fi Side-Channel Analysis through Traffic Demultiplexing*.

US Department of Energy (DOE)

Grant DE-FG52-06NA27494 for *A Framework for Dynamic Retasking and Redeployment in Sensor s Network*.