

Wenchao Zhou

Georgetown University
Department of Computer Science
St. Mary's Hall, Room 357
3700 Reservoir Rd NW
Washington, DC 20057

Phone: (202) 687-4652 (US)
Email: wzhou@cs.georgetown.edu
Homepage: <http://www.cs.georgetown.edu/~wzhou/>

Employment

Georgetown University , Washington, DC Associate Professor in Computer Science	August 2018 - Current
Georgetown University , Washington, DC Assistant Professor in Computer Science	August 2012 - July 2018
Microsoft Research Redmond , Redmond, WA Research Summer Intern	May 2011 - August 2011
Yahoo Labs, Research , Santa Clara, CA Research Summer Intern	May 2010 - August 2010
Microsoft Research Asia , Beijing, China Visiting Student	September 2005 - January 2007

Education

University of Pennsylvania , Philadelphia, PA Ph.D. in Computer and Information Science Thesis: Secure Time-aware Provenance towards Forensics in Distributed Systems Honorable Mention, ACM SIGMOD Jim Gray Doctoral Dissertation Award Advisor: <i>Boon Thau Loo</i> Committee Members: <i>Zachary G. Ives, Val Tannen, Andreas Haeberlen, Micah Sherr, and Margo Seltzer</i>	September 2007 - July 2012
University of Pennsylvania , Philadelphia, PA M.S.E. in Computer and Information Science Advisor: <i>Boon Thau Loo</i>	September 2007 - May 2009
Tsinghua University , Beijing, China B.S.E. (Highest Honors) in Computer Science and Technology Advisor: <i>Xia Yin</i>	September 2002 - June 2006

Selected Awards and Honors

- National Science Foundation Faculty Early Career Development (CAREER) Award, 2015.
- Honorable Mention, ACM SIGMOD Jim Gray Doctoral Dissertation Award, 2013.
- Runner-Up, ACM Student Research Competition at SIGCOMM, 2011.

Publications

Notes

For experimental computer scientists, conference publications are often preferred over journals. Conferences are often considered more prestigious and competitive than journals, with conference submissions undergoing peer-review by 3-6 members of a program committee and typically ranging from 10-16 pages in length. ¹ ²

When possible, the acceptance rates listed below are obtained directly from the publication venue. Journal impact factors (JIFs) are obtained from the Thomson Reuters/ISI Web of Knowledge Journal Citation Report and the SCImago Journal & Country Rank Report, the latter of which is based off of Elseviers Scopus database. Acceptance rates and JIFs that are listed with a star (*) could not be obtained from official sources and are based on web searches.

Conference Papers

1. **DeDoS: Defusing DoS with Dispersion Oriented Software** [acceptance rate unavailable]
Henri Maxime Demoulin, Tavish Vaidya, Isaac Pedisich, Bob DiMaiolo, Jingyu Qian, Chirag Shah, Yuankai Zhang, Ang Chen, Andreas Haeberlen, Boon Thau Loo, Linh Thi Xuan Phan, Micah Sherr, Clay Shields, and Wenchao Zhou
In *the 2018 Annual Computer Security Applications Conference (ACSAC)*, San Juan, Puerto Rico, USA, December 2018.
2. **Privacy-Preserving Network Provenance** [17.7% acceptance]
Yuankai Zhang, Adam O'Neill, Micah Sherr, and Wenchao Zhou
In *the 43rd International Conference on Very Large Databases (VLDB)*, Munich, Germany, August 2017.
3. **Distributed Provenance Compression** [18.6% acceptance]
Chen Chen, Harshal Tushar Lehri, Lay Kuan Loh, Anupam Alur, Limin Jia, Boon Thau Loo, and Wenchao Zhou
In *the 36th ACM SIGMOD International Conference on Management of Data (SIGMOD)*, Chicago, IL, May 2017.
4. **One Primitive to Diagnose Them All: Architectural Support for Internet Diagnostics** [20.5% acceptance]
Ang Chen, Andreas Haeberlen, Wenchao Zhou, and Boon Thau Loo
In *the 12th European Conference on Computer Systems (EuroSys)*, Belgrade, Serbia, April 2017.
5. **Automated Bug Removal for Software-Defined Networks** [18.2% acceptance]
Yang Wu, Ang Chen, Andreas Haeberlen, Wenchao Zhou, and Boon Thau Loo
In *the 14th USENIX Symposium on Networked Systems (NSDI)*, Boston, MA, March 2017.
6. **Data Provenance at Internet Scale: Architecture, Experiences, and the Road Ahead** [acceptance rate unavailable]
Ang Chen, Yang Wu, Andreas Haeberlen, Boon Thau Loo, and Wenchao Zhou
In *the 8th Biennial Conference on Innovative Data Systems Research (CIDR)*, Chaminade, CA, January 2017.
7. **The Good, the Bad, and the Differences: Better Network Diagnostics with Differential Provenance** [17.3% acceptance]
Ang Chen, Yang Wu, Andreas Haeberlen, Wenchao Zhou, and Boon Thau Loo
In *the 2016 ACM Conference on Special Interest Group on Data Communication (SIGCOMM)*, Florianopolis, Brazil, August 2016.

¹See: David Patterson, Lawrence Snyder, and Jeffrey Ullman, Evaluating Computer Scientists and Engineers For Promotion and Tenure, Computing Research Association Best Practices Memo, August 1999. Available at http://cra.org/resources/bp-view/evaluating_computer_scientists_and_engineers_for_promotion_and_tenure/.

²See: Committee on Academic Careers for Experimental Computer Scientists, National Research Council, Academic Careers for Experimental Computer Scientists and Engineers, 1994. Available at http://www.nap.edu/catalog.php?record_id=2236.

8. **Hidden Voice Commands** [15.6% acceptance]
Nicholas Carlini, Pratyush Mishra, Tavish Vaidya, Yuankai Zhang, Micah Sherr, Clay Shields, David Wagner, and Wenchao Zhou
In the *24th USENIX Security Symposium (Security)*, Austin, TX, August 2016.
9. **Automated Verification of Safety Properties of Declarative Networking Programs** [42% acceptance*]
Chen Chen, Lay Kuan Loh, Limin Jia, Wenchao Zhou, and Boon Thau Loo
In the *17th International Symposium on Principles and Practice of Declarative Programming (PPDP)*, Siena, Italy, July 2015.
10. **The (Surprising) Computational Power of the SDN Data Plane** [19.3% acceptance]
Calvin Newport, and Wenchao Zhou
In the *2015 IEEE Conference on Computer Communications (INFOCOM)*, Hong Kong, China, April 2015.
11. **Detecting Covert Timing Channels with Time-Deterministic Replay** [18.4% acceptance]
Ang Chen, W. Brad Moore, Hanjun Xiao, Andreas Haeberlen, Linh Thi Xuan Phan, Micah Sherr, and Wenchao Zhou
In the *11th USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, Broomfield, CO, October 2014.
12. **A Program Logic for Verifying Secure Routing Protocols** [acceptance rate unavailable]
Chen Chen, Limin Jia, Hao Xu, Cheng Luo, Wenchao Zhou, Boon Thau Loo
In the *34th International Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE)*, Berlin, Germany, June 2014.
13. **Supporting Distributed Feed-Following Apps over Edge Devices** [20% acceptance*]
Badrish Chandramouli, Suman Nath, and Wenchao Zhou
In the *40th International Conference on Very Large Databases (VLDB)*, Hangzhou, China, August 2014.
14. **Diagnosing Missing Events in Distributed Systems with Negative Provenance** [18.6% acceptance]
Yang Wu, Mingchen Zhao, Andreas Haeberlen, Wenchao Zhou, and Boon Thau Loo
In the *2014 ACM Conference on Special Interest Group on Data Communication (SIGCOMM)*, Chicago, IL, August 2014.
15. **Validating Web Content with Senser** [19.8% acceptance]
Jordan Wilberding, Andrew Yates, Micah Sherr, and Wenchao Zhou
In the *29th Annual Computer Security Applications Conference (ACSAC)*, New Orleans, LA, December 2013.
16. **Distributed Time-Aware Provenance for Distributed Systems** [22.7% acceptance]
Wenchao Zhou, Suyog Mapara, Yang Li, Andreas Haeberlen, Zachary Ives, Boon Thau Loo, and Micah Sherr
In the *39th International Conference on Very Large Databases (VLDB)*, Riva del Garda, Trento, August 2013.
17. **Private and Verifiable Interdomain Routing Decisions** [13.6% acceptance]
Mingchen Zhao, Wenchao Zhou, Alexander J.T. Gurney, Andreas Haeberlen, Micah Sherr, and Boon Thau Loo
In the *2012 ACM Conference on Special Interest Group on Data Communication (SIGCOMM)*, Helsinki, Finland, August 2012.
18. **Recent Advances in Declarative Networking (invited paper)** [acceptance rate unavailable]
Boon Thau Loo, Harjot Gill, Changbin Liu, Yun Mao, William R. Marczak, Micah Sherr, Anduo Wang, and Wenchao Zhou
In the *14th International Symposium on Practical Aspects of Declarative Languages (PADL)*, Philadelphia, PA, January 2012.

19. **Secure Network Provenance** [18.4% acceptance]
Wenchao Zhou, Qiong Fei, Arjun Narayan, Andreas Haeberlen, Boon Thau Loo, and Micah Sherr
In *the 23rd ACM Symposium on Operating Systems Principles (SOSP)*, Cascais, Portugal, October 2011.
20. **A Batch of PNUTS: Experiences Connecting Cloud Batch and Serving Systems** [23.2% acceptance*]
Adam Silberstein, Russell Sears, Wenchao Zhou, and Brian F. Cooper
In *the 30th ACM SIGMOD International Conference on Management of Data (SIGMOD)*, Athens, Greece, June 2011.
21. **Efficient Querying and Maintenance of Network Provenance at Internet-Scale** [20.8% acceptance]
Wenchao Zhou, Micah Sherr, Tao Tao, Xiaozhou Li, Boon Thau Loo, and Yun Mao
In *the 29th ACM SIGMOD International Conference on Management of Data (SIGMOD)*, Indianapolis, IN, June 2010.
22. **A3: An Extensible Platform for Application-Aware Anonymity** [15.4% acceptance]
Micah Sherr, Andrew Mao, William R. Marczak, Wenchao Zhou, and Boon Thau Loo
In *the 17th Annual Network & Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2010.
23. **Unified Declarative Platform for Secure Networked Information Systems** [16.8% acceptance]
Wenchao Zhou, Yun Mao, Boon Thau Loo, and Martin Abadi
In *the 25th International Conference on Data Engineering (ICDE)*, Shanghai, China, April 2009.
24. **Recursive Computation of Regions and Connectivity in Networks** [16.8% acceptance]
Mengmeng Liu, Nicholas E. Taylor, Wenchao Zhou, Zachary G. Ives, and Boon Thau Loo
In *the 25th International Conference on Data Engineering (ICDE)*, Shanghai, China, April 2009.
25. **Declarative Reconfigurable Trust Management** [27.1% acceptance]
William R. Marczak, David Zook, Wenchao Zhou, Molham Aref, and Boon Thau Loo
In *the 4th Biennial Conference on Innovative Data Systems Research (CIDR)*, Pacific Grove, CA, January 2009.

Journal Articles

1. **Data Center Diagnostics with Network Provenance** [0.81 JIF]
Ang Chen, Chen Chen, Yang Wu, Andreas Haeberlen, Limin Jia, Boon Thau Loo, and Wenchao Zhou
In *IEEE Data Engineering Bulletin* 41(1), 2018.
2. **Data-Plane Defenses against Routing Attacks on Tor** [23.8% acceptance, JIF unavailable]
Henry Tan, Micah Sherr, and Wenchao Zhou
In *Proceedings on Privacy Enhancing Technologies (PoPETs) 2016(4)*, 2016.
3. **Private and Verifiable Interdomain Routing Decisions** [2.19 JIF]
Mingchen Zhao, Wenchao Zhou, Alexander J. T. Gurney, Andreas Haeberlen, Micah Sherr, and Boon Thau Loo
In *IEEE/ACM Transactions on Networks (ToN)* 24(2), 2016.
4. **A Program Logic for Verifying Secure Routing Protocols** [0.49 JIF]
Chen Chen, Limin Jia, Hao Xu, Cheng Luo, Wenchao Zhou, and Boon Thau Loo
In *Logical Methods in Computer Science* 11(4), 2015.
5. **The Design and Implementation of the A3 Application-Aware Anonymity Platform** [2.52 JIF]
Micah Sherr, Harjot Gill, Taher Aquil Saeed, Andrew Mao, William R. Marczak, Saravana Soundararajan, Wenchao Zhou, Boon Thau Loo, and Matt Blaze
In *Computer Networks (COMNET)* 58, 2014.

6. **Declarative Secure Distributed Information Systems** [1.62 JIF]
Wenchao Zhou, Tao Tao, Boon Thau Loo, and Yun Mao
In *Computer Languages, Systems & Structures (COMLAN) 39(1)*, 2013.
7. **FSR: Formal Analysis and Implementation Toolkit for Safe Inter-Domain Routing** [2.19 JIF]
Anduo Wang, Limin Jia, Wenchao Zhou, Yiqing Ren, Boon Thau Loo, Jennifer Rexford, Vivek Nigam, Andre Scedrov, and Carolyn Talcott
In *the IEEE/ACM Transactions on Networking (ToN) 20(6)*, 2012.
8. **Maintaining Recursive Views of Regions and Connectivity in Networks** [3.44 JIF]
Mengmeng Liu, Nicholas E. Taylor, Wenchao Zhou, Zachary G. Ives, and Boon Thau Loo
In *IEEE Transactions of Knowledge and Data Engineering (TKDE) 22(8)*, 2009.

Prototype Demonstrations (Peer-Reviewed)

1. **A Demonstration of the DeDoS Platform for Defusing Asymmetric DDoS Attacks in Data Centers**
Henri Maxime Demoulin, Tavish Vaidya, Isaac Pedisich, Nik Sultana, Bowen Wang, Jingyu Qian, Yuankai Zhang, Ang Chen, Andreas Haeberlen, Boon Thau Loo, Linh Thi Xuan Phan, Micah Sherr, Clay Shields, and Wenchao Zhou
In *the ACM Conference on Special Interest Group on Data Communication (SIGCOMM)*, Los Angeles, CA, August 2017.
2. **RACE: Real-Time Applications over Cloud-Edge**
Badrish Chandramouli, Joris Claessens, Suman Nath, Ivo Santos, and Wenchao Zhou
In *the 31st ACM SIGMOD International Conference on Management of Data (SIGMOD)*, Scottsdale, AZ, May 2012.
3. **FSR: Formal Analysis and Implementation Toolkit for Safe Inter-Domain Routing**
Wenchao Zhou, Yiqing Ren, Anduo Wang, Limin Jia, Alexander J.T. Gurney, Boon Thau Loo, and Jennifer Rexford
In *the ACM Conference on Special Interest Group on Data Communication (SIGCOMM)*, Toronto, Canada, August 2011.
(Runner-Up for the ACM Student Research Competition at SIGCOMM'11)
4. **NetTrails: A Declarative Platform for Provenance Maintenance and Querying in Distributed Systems**
Wenchao Zhou, Qiong Fei, Shengzhi Sun, Tao Tao, Andreas Haeberlen, Zachary Ives, Boon Thau Loo, and Micah Sherr
In *the 30th ACM SIGMOD International Conference on Management of Data (SIGMOD)*, Athens, Greece, June 2011.

Workshop Papers

1. **Dispersing Asymmetric DDoS Attacks with SplitStack**
Ang Chen, Akshay Sriraman, Tavish Vaidya, Yuankai Zhang, Andreas Haeberlen, Boon Thau Loo, Linh Thi Xuan Phan, Micah Sherr, Clay Shields, and Wenchao Zhou
In *the 15th ACM Workshop on Hot Topics in Networks (HotNets)*, Atlanta, GA, October 2016.
2. **Differential Provenance: Better Network Diagnostics with Reference Events**
Ang Chen, Yang Wu, Andreas Haeberlen, Wenchao Zhou, and Boon Thau Loo
In *the 14th ACM Workshop on Hot Topics in Networks (HotNets)*, Philadelphia, PA, November 2015.
3. **Automated Network Repair with Meta Provenance**
Yang Wu, Ang Chen, Andreas Haeberlen, Wenchao Zhou, and Boon Thau Loo
In *the 14th ACM Workshop on Hot Topics in Networks (HotNets)*, Philadelphia, PA, November 2015.

4. **Answering Why-Not Queries in Software-Defined Networks with Negative Provenance**
Yang Wu, Andreas Haeberlen, Wenchao Zhou, and Boon Thau Loo
In the 12th ACM Workshop on Hot Topics in Networks (HotNets), College Park, MD, November 2013.
5. **A Formal Framework for Secure Routing Protocols**
Chen Chen, Limin Jia, Hao Xu, Cheng Luo, Wenchao Zhou, and Boon Thau Loo
In the International Workshop on Foundations of Computer Security (FCS). New Orleans, LA, June 2013.
6. **Using Substructure Mining to Identify Misbehavior in Network Provenance Graphs**
David DeBoer, Wenchao Zhou, and Lisa Singh
In the 1st International Workshop on Graph Data Management Experience and Systems (GRADES), New York, NY, June 2013.
7. **Reduction-Based Security Analysis of Internet Routing Protocols**
Chen Chen, Limin Jia, Boon Thau Loo, and Wenchao Zhou
In the International Workshop on Rigorous Protocol Engineering (WRiPE), Austin, Texas, October 2012.
8. **Privacy-Preserving Collaborative Verification Protocols**
Andreas Haeberlen, Mingchen Zhao, Wenchao Zhou, Alexander Gurney, Micah Sherr and Boon Thau Loo
In the International Workshop on Large-Scale Distributed Systems and Middleware (LADIS), Madeira, Portugal, July 2012.
9. **Having your Cake and Eating it too: Routing Security with Privacy Protections**
Alexander J. T. Gurney, Andreas Haeberlen, Wenchao Zhou, Micah Sherr, and Boon Thau Loo
In the 10th ACM Workshop on Hot Topics in Networks (HotNets), Cambridge, MA, November 2011.
10. **TAP: Time-Aware Provenance for Distributed Systems**
Wenchao Zhou, Ling Ding, Andreas Haeberlen, Zachary Ives, and Boon Thau Loo
In the 3rd USENIX Workshop on the Theory and Practice of Provenance (TaPP), Heraklion, Greece, June 2011.
11. **Towards a Data-Centric View of Cloud Security**
Wenchao Zhou, Micah Sherr, William R. Marczak, Zhuoyao Zhang, Tao Tao, Boon Thau Loo, and Insup Lee
In the 2nd International Workshop on Cloud Data Management (CloudDB), in conjunction with CIKM, Toronto, Canada, October 2010.
12. **Declarative Secure Distributed Systems**
Wenchao Zhou
In the Ph.D workshop of the 36th International Conference on Very Large Data Bases (VLDB), Singapore, September 2010.
13. **DMaC: Distributed Monitoring and Checking**
Wenchao Zhou, Oleg Sokolsky, Boon Thau Loo, and Insup Lee
In the 9th International Workshop on Runtime Verification (RV), Grenoble, France, June 2009.
14. **Provenance-Aware Secure Networks**
Wenchao Zhou, Eric Cronin, and Boon Thau Loo
In the 4th International Workshop on Networking meets Databases (NetDB), in conjunction with ICDE, Cancun, Mexico, April 2008.

Books

1. **Declarative Networking** (Synthesis Lectures on Data Management)
Boon Thau Loo, Wenchao Zhou, and M. Tamer Özsu
Morgan & Claypool Publishers (Invited).

2. **Datalog and Recursive Query Processing** (Foundations and Trends in Databases)
Todd J. Green, Shan Shan Huang, Boon Thau Loo, and Wenchao Zhou
Now Publishers (Invited).

Grants

1. NSF CNS-1453392: *CAREER: Diagnosing Distributed Systems with Provenance*. Wenchao Zhou (PI). \$498,396. June 2015 - May 2020.
2. NSF CNS-1513734: *NeTS: Medium: Collaborative Research: DEFIND: DEclarative Formal Interactive Network Design*. Wenchao Zhou (Georgetown PI). \$399,999 (Georgetown), \$1,200,000 (total award; collaborative work with Carnegie Mellon University and the University of Pennsylvania). October 2015 - September 2019.
3. NSF CNS-1704189: *NeTS: Medium: Collaborative Research: Diagnosing Datacenter Networks with Quantitative Provenance*. Wenchao Zhou (Georgetown PI). \$343,520 (Georgetown), \$1,200,000 (total award; collaborative work with the University of Pennsylvania). September 2017 - Aug 2021.
4. NSF CNS-1718498: *SaTC: Core: Small: Practical and Robust Hidden Voice Commands*. Micah Sherr (PI), Wenchao Zhou (co-PI), Thomas Clay Shields (co-PI). \$499,993. September 2017 - Aug 2020.
5. DARPA HR0011-16-C-0056: *DeDOS: Declarative Dispersion-Oriented Software*. Wenchao Zhou (Georgetown PI), Micah Sherr (co-PI), Thomas Clay Shields (co-PI). \$1,678,061 (Georgetown), \$3,500,000 (total award; collaborative work with the University of Pennsylvania). May 2016 - May 2019.
6. NSF CNS-1713278: *NSF CISE CAREER Proposal Writing Workshop*. Wenchao Zhou (PI). \$92,806. January 2017 - December 2017.
7. NSF IIS-1561908: *Big Data PI Workshop*. Lisa Singh (PI), Wenchao Zhou (co-PI), Amol Deshpande (co-PI). \$336,272. February 2016 - January 2017.

Totals: \$3,749,047 in funding awarded to Georgetown University (\$2,912,782 as PI).

Patents and Patent Applications

1. Badrish Chandramouli, Suman K. Nath, and Wenchao Zhou. Cloud-Edge Topologies. US Patent 9876851, issued on January 23, 2018. JP Patent JP6172721B2, issued on Aug 2, 2017. CN Patent CN103108031B, issued on Aug 17, 2016.
2. Ang Chen, W. Brad Moore, Hanjun Xiao, Andreas Haeberlen, Linh Thi Xuan Phan, Micah Sherr, and Wenchao Zhou. *Methods, Systems, and Computer Readable Media for Detecting Covert Timing Channels*. Patent Application Number PCT/US2015/054088. U.S. Patent Office, filed on October 3, 2014.

Teaching Experience

- COSC 150 - Advanced Programming, Georgetown University, Spring 2016, Spring 2017.
- COSC 225 - Data Communication, Georgetown University, Spring 2014, Spring 2018.
- COSC 525 - Advanced Networking, Georgetown University, Fall 2012, Fall 2013, Fall 2016.
- COSC 580 - Advanced Databases, Georgetown University, Spring 2013, Spring 2015, Spring 2018.
- COSC 822 - Seminar on Distributed Systems in the Big Data Era, Georgetown University, Fall 2016.
- Teaching Assistant, CIS 505 - Software Systems, University of Pennsylvania, Spring 2009.
- Teaching Assistant, CIS 553/TCOM 512 - Networked System, University of Pennsylvania, Fall 2008.
- Student Coach, Team China for International Olympiad for Informatics (IOI), 2003.
- Teaching Assistant, the C++ Programming Language, Tsinghua University, Fall 2002.

Service

Departmental Service

- Faculty Search Committee, Georgetown University Computer Science Dept. Fall 2012, Spring 2013.
- Graduate Committee, Georgetown Univ. Computer Science Dept. Fall 2012, Spring 2013, Fall 2013, Spring 2014, Spring 2015, Spring 2016.
- Policy Committee, Georgetown University Computer Science Dept. Fall 2014, Spring 2015.
- Undergraduate Committee, Georgetown University Computer Science Dept. Fall 2016, Spring 2017, Fall 2017, Spring 2018.

Technical Program Committees

- Program Committee, *International Conference on Very Large Data Bases (VLDB)*, 2014/2017/2018.
- Program Committee, *ACM SIGMOD International Conference on Management of Data (SIGMOD)*, 2015/2018/2019.
- Program Committee, *ACM Symposium on Cloud Computing (SoCC)*, 2016.
- Program Committee, *IEEE International Conference on Data Engineering (ICDE)*, 2016/2017/2018.
- Program Committee, *International Conference on Distributed Computing and Networking (ICDCN)*, 2016.
- Program Committee, *International Conference on Network Protocols (ICNP)*, 2014.
- Program Committee, *ACM Conference of Information and Knowledge Management (CIKM)*, 2013/2017.

- Program Committee, *International Conference on Database Systems for Advanced Applications (DASFAA)*, 2014/2015.
- Program Committee, *Annual Computer Security Applications Conference (ACSAC)*, 2014/2015/2016.

- Program Committee, *International Workshop on Rigorous Protocol Engineering (WRiPE)*, 2012/2013.
- Program Committee, *International Conference on Data Management Technology and Applications (DATA)*, 2013/2014.

Grant Proposal Review Committees

- Panel, *NSF Information and Intelligence Systems (IIS)*, 2017.
- Panel, *NSF Information and Intelligence Systems (IIS)*, 2014.

Conference Organization

- Organizer, *NSF BigData PI Meeting*, 2016/2017.
- Organizer, *NSF CISE CAREER Proposal Writing Workshop*, 2017.
- Proceedings Chair, *ACM SIGMOD International Conference on Management of Data (SIGMOD)*, 2017.

Journal Reviews

- Reviewer, *ACM Transactions on Computer Systems (TOCS)*.
- Reviewer, *ACM Transactions on Database Systems (TODS)*.
- Reviewer, *ACM Transactions on Information Systems (TOIS)*.
- Reviewer, *IEEE Transactions on Network Science and Engineering (TNSE)*.
- Reviewer, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*.
- Reviewer, *International Journal on Very Large Data Bases (VLDB Journal)*.

External Reviews

- External Reviewer, *ACM SIGMOD International Conference on Management of Data (SIGMOD)*, 2011.
- External Reviewer, *International Conference on Very Large Data Bases (VLDB)*, 2007/2008/2009.
- External Reviewer, *IEEE International Conference on Data Engineering (ICDE)*, 2009/2010.
- External Reviewer, *Biennial Conference on Innovative Data Systems Research (CIDR)*, 2009/2011.
- External Reviewer, *International Conference on emerging Networking EXperiments and Technologies (CoNEXT)*, 2009.
- External Reviewer, *IEEE Conference on Computer Communications (INFOCOM)*, 2009.