

Curriculum Vitae

Tao Xie

Phone: (619)594-2014; Office: GMCS 535
Computer Architecture and System Laboratory (<https://casl.sdsu.edu/>)

URL: <http://taoxie.sdsu.edu/>
Email: txie@sdsu.edu

Research Interests

Storage Systems, High Performance Computing, Cluster and Grid Computing, Parallel Processing, Distributed Systems, Real-time/Embedded Systems, Dynamic Resource Management, and Performance Evaluation.

Education

Ph.D. in Computer Science, New Mexico Institute of Mining and Technology, USA, May 2006
Dissertation: Security-Aware Scheduling for Real-Time Systems

M.E. in Computer Engineering, Hefei University of Technology, China, May 2000
Thesis: A Control Information System on Intranet

Working Experience

08/2015 – present, San Diego State University, San Diego, USA.
Professor, Department of Computer Science.

08/2010 – 07/2015, San Diego State University, San Diego, USA.
Associate Professor, Department of Computer Science.

08/2006 – 07/2010, San Diego State University, San Diego, USA.
Tenure-Track Assistant Professor, Department of Computer Science.

Teaching Experience

08/2006 – Present, San Diego State University, San Diego, USA.
Instructor, Department of Computer Science.

- CS 370 Computer Architecture (junior undergraduate course, each Spring and Fall semester)
- CS 666 Advanced Distributed Systems (graduate course, each Spring semester)
- CS 572 Micro Architecture (senior undergraduate course, each Fall semester)

Publications (a co-author with an asterisk is my student)

• Refereed Journal Papers

1. Wen Pan* and **Tao Xie**, “A Mirroring-Assisted Channel-RAID5 SSD for Mobile Applications,” *ACM Transactions on Embedded Computing Systems*, Vol. 17, No. 4, Article 75, July 2018.
2. Deng Zhou*, Vania Fang, **Tao Xie**, Wen Pan*, Ram Kesavan, Tony Lin, and Naresh Patel, “Empirical Evaluation and Enhancement of Enterprise Storage System Request Scheduling,” *ACM Transactions on Storage*, Vol. 14, No. 2, Article 14, May 2018.
3. Wei Wang*, **Tao Xie**, and Abhinav Sharma*, “SWANS: An Inter-Disk Wear-Leveling Strategy for RAID-0 Structured SSD Arrays,” *ACM Transactions on Storage*, Vol. 12, No. 3, Article 10, April 2016.
4. Wei Wang* and **Tao Xie**, “PCFTL: A Plane-Centric Flash Translation Layer Utilizing Copy-Back Operations”, *IEEE Transactions on Parallel and Distributed Systems*, Vol. 26, No. 12, pp. 3420-3432, December 2015.
5. **Tao Xie** and Yao Sun*, “Understanding the Relationship between Energy Conservation and Reliability in Parallel Disk Arrays,” Special Issue on Data-Intensive Computing, *Journal of Parallel and Distributed Computing*, Vol. 71, Issue 2, pp. 198-210, February 2011.

6. **Tao Xie** and Yao Sun*, “Dynamic Data Reallocation in Hybrid Disk Arrays”, *IEEE Transactions on Parallel and Distributed Systems*, Vol. 21, No. 9, pp. 1330-1341, September 2010.
 7. **Tao Xie** and Yao Sun*, “A File Assignment Strategy Independent of Workload Characteristic Assumptions”, *ACM Transactions on Storage*, Vol. 5, Issue 3, Article 10, November 2009.
 8. **Tao Xie** and Hui Wang*, “MICRO: A Multi-level Caching-based Reconstruction Optimization for Mobile Storage Systems”, *IEEE Transactions on Computers*, Vol. 57, No. 10, pp. 1386-1398, October 2008.
 9. **Tao Xie**, “SEA: A Striping-based Energy-aware Strategy for Data Placement in RAID-Structured Storage Systems,” *IEEE Transactions on Computers*, Vol. 57, No. 6, pp. 748-761, June 2008.
 10. **Tao Xie** and Xiao Qin, “Security-Aware Resource Allocation for Real-Time Parallel Jobs on Homogeneous and Heterogeneous Clusters,” *IEEE Transactions on Parallel and Distributed Systems*, Vol. 19, No. 5, pp. 682-697, May 2008.
 11. **Tao Xie** and Xiao Qin, “An Energy-Delay Tunable Task Allocation Strategy for Collaborative Applications in Networked Embedded Systems,” *IEEE Transactions on Computers*, Vol. 57, No. 3, pp. 329-343, March 2008.
 12. Xiao Qin and **Tao Xie**, “An Availability-Aware Task Scheduling Strategy for Heterogeneous Systems,” *IEEE Transactions on Computers*, Vol. 57, No. 2, pp. 188-199, February 2008.
 13. **Tao Xie** and Xiao Qin, “Performance Evaluation of a New Scheduling Algorithm for Distributed Systems with Security Heterogeneity,” *Journal of Parallel and Distributed Computing*, Vol. 67, No. 10, pp. 1067-1081, October 2007.
 14. **Tao Xie** and Xiao Qin, “Improving Security for Periodic Tasks in Embedded Systems through Scheduling,” *ACM Transactions on Embedded Computing Systems*, Vol. 6, No. 3, Article 20, July 2007.
 15. **Tao Xie** and Xiao Qin, “Scheduling Security-Critical Real-Time Applications on Clusters,” *IEEE Transactions on Computers*, Vol.55, No.7, pp. 864-879, July 2006.
 16. Mais Nijim, Xiao Qin, and **Tao Xie**, “Modeling and Improving Security of a Local Disk System for Write-Intensive Workloads,” *ACM Transactions on Storage*, Vol. 2, No. 4, pp. 400-423, November 2006.
 17. **Tao Xie** and Xiao Qin, “Stochastic Scheduling for Multiclass Applications with Availability Requirements in Heterogeneous Clusters,” *Journal of Cluster Computing*, Publisher: Springer, ISSN: 1386-7857, Vol. 11, Issue 1, pp. 33-43, March 2008.
 18. **Tao Xie** and Xiao Qin, “Security-Driven Scheduling for Data-Intensive Applications on Grids,” *Journal of Cluster Computing*, Special Issue: Evaluation and Optimization of High-Performance Computing and Networking Systems, Guest Editors: Geyong Min and Mohamed Ould-Khaoua, Publisher: Springer, ISSN: 1386-7857, Volume 10, Number 2/June, pp. 145-153, 2007.
 19. **Tao Xie** and Xiao Qin, “A Security Middleware Model for Real-time Applications on Grids,” *IEICE Transactions on Information and Systems*, Special Issue on Parallel/Distributed Computing and Networking, Vol.E89-D, No.2, pp.631-638, February 2006 (Acceptance rate 28.5%, 40/140).
 20. **Tao Xie**, Xiao Qin, Andrew Sung, Man Lin, and Laurence Yang, “Real-Time Scheduling with Quality of Security Constraints,” *International Journal of High Performance Computing and Networking (IJHPCN)*, Vol. 4, Nos.3/4, pp.188-197, 2006.
 21. **Tao Xie**, Xiao Qin, and Man Lin, “Open Issues and Challenges in Security-aware Real-Time Scheduling for Distributed Systems,” *Journal on Information*, Special Issue on High Performance Computational Science and Engineering, Vol. 9, No. 2, pp.309-322, 2006.
 22. **Tao Xie** and Xiao Qin, “Enhancing Security of Real-Time Applications on Grids through Dynamic Scheduling,” *Lecture Notes in Computer Science (LNCS 3834)*, ISSN: 0302-9743, ISBN: 3-540-31024-X, Springer, August 2005, pp. 219-237, Editors: Dror Feitelson, Eitan Frachtenberg, Larry Rudolph and Uwe Schwiegelshohn. (Proceedings of the 11th Workshop on Job Scheduling Strategies for Parallel Processing (JSSPP 2005), Cambridge, MA, USA, June 19, 2005, impact rate of JSSPP: top 1.55%, source: CiteSeer).
- **Refereed Conference Papers**
23. Xiaojia Song*, **Tao Xie**, and Stephen Fischer, “A Near-Data Processing Server Architecture and Its impact on Data Center applications,” *The ISC (International Supercomputing Conference) High Performance 2019 (Research Paper)*, Frankfurt, Germany, June 16-20, 2019 (acceptance rate 23.6%).
 24. Wen Pan*, **Tao Xie**, and Xiaojia Song*, “HART: A Concurrent Hash-Assisted Radix Tree for DRAM-PM Hybrid Memory Systems,” *The 33rd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2019)*, Rio de Janeiro, Brazil, May 20-24, 2019.
 25. Deng Zhou*, Wen Pan*, **Tao Xie**, and Wei Wang*, “A File System Bypassing Volatile Main Memory: Towards A Single-Level Persistent Store,” *The 15th ACM International Conference on Computing Frontiers (CF 2018, Full Paper)*, Ischia, Italy, May 8-10, 2018.

26. Xiaojia Song*, **Tao Xie**, and Wen Pan*, “RISP: A Reconfigurable In-Storage Processing Framework with Energy-Awareness,” *The 18th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2018, Full Paper)*, Washington DC, USA, May 1-4, 2018 (acceptance rate 20.8%).
27. Wei Wang*, **Tao Xie**, Deng Zhou*, and Wen Pan*, “How Many MLCs Should Impersonate SLCs to Optimize SSD Performance?” *The 2nd International Symposium on Memory Systems (MEMSYS 2016)*, Washington D.C., USA, October 3-6, 2016.
28. Deng Zhou*, Wen Pan*, Wei Wang*, and **Tao Xie**, “I/O Characteristics of Smartphone Applications and Their Implications for eMMC Design,” *The 11th IEEE International Symposium on Workload Characterization (IISWC 2015)*, Atlanta, USA, October 4-6, 2015.
29. Cailiang Xu*, Wei Wang*, Deng Zhou*, and **Tao Xie**, “An SSD-HDD Integrated Storage Architecture for Write-Once-Read-Once Applications on Clusters,” *The 17th IEEE International Conference on Cluster Computing (Cluster 2015, Short Paper)*, Chicago, USA, September 8-11, 2015.
30. Wei Wang*, **Tao Xie**, Antoine Khoueir, and Youngpil Kim, “Reducing MLC Flash Memory Retention Errors through Programming Initial Step Only,” *The 31st International Conference on Massive Storage Systems and Technologies (MSST 2015, Research Track)*, Santa Clara, USA, May 30-June 5, 2015.
31. Wei Wang*, Deng Zhou*, and **Tao Xie**, “An Embedded Storage Framework Abstracting Each Raw Flash Device as An MTD,” *The 8th ACM International Systems and Storage Conference (SYSTOR 2015, Full Paper)*, Haifa, Israel, May 26-28, 2015.
32. Michael MacFadden*, Richard Shelby*, and **Tao Xie**, “SIRF-1: Enhancing Reliability of Single Flash SSD through Internal Mirroring for Mission-Critical Mobile Applications,” *The 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2015)*, Shenzhen, China, May 4-7, 2015 (acceptance rate 25.7%).
33. Wei Wang*, **Tao Xie**, and Deng Zhou*, “Understanding the Impact of Threshold Voltage on MLC Flash Memory Performance and Reliability,” *The 28th ACM International Conference on Supercomputing (ICS 2014)*, Munich, Germany, June 10-13, 2014 (acceptance rate 20.9%).
34. Yu Wang*, Wei Wang*, **Tao Xie**, Wen Pan*, Yanyan Gao, and Yiming Ouyang, “CR5M: A Mirroring-Powered Channel-RAID5 Architecture for An SSD,” *The 30th International Conference on Massive Storage Systems and Technology (MSST 2014, Research Track, Full Paper)*, Santa Clara, USA, June 2-6, 2014 (acceptance rate 18.5%).
35. Feng Liu*, Wen Pan*, **Tao Xie**, Yanyan Gao, and Yiming Ouyang, “PDB: A Reliability-Driven Data Reconstruction Strategy Based on Popular Data Backup for RAID4 SSD Arrays,” *The 13th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP 2013)*, Vietri sul Mare, Italy, December 18-21, 2013 (accepted as a **Distinguished Paper**).
36. Wen Pan*, Feng Liu*, **Tao Xie**, Yanyan Gao, Yiming Ouyang, and Tian Chen, “SPD-RAID4: Splitting Parity Disk for RAID4 Structured Parallel SSD Arrays,” *The 15th IEEE International Conference on High Performance Computing and Communications (HPCC 2013)*, Zhangjiajie, China, November 13-15, 2013 (acceptance rate 29.3%).
37. Abdul R. Abdurrab*, **Tao Xie**, and Wei Wang*, “DLOOP: A Flash Translation Layer Exploiting Plane-Level Parallelism,” *The 27th IEEE International Parallel and Distributed Processing Symposium (IPDPS 2013)*, Boston, USA, May 20-24, 2013 (acceptance rate 21.8%, **Best Paper**).
38. Jonathan Tjioe*, Andres Blanco*, **Tao Xie**, and Yiming Ouyang, “Making Garbage Collection Wear Conscious for Flash SSD,” *The 7th IEEE International Conference on Networking, Architecture, and Storage (NAS'12)*, Xiamen, China, June 28 – 30, 2012.
39. Ramya Manjunath* and **Tao Xie**, “Dynamic Data Replication on Flash SSD Assisted Video-on-Demand Servers,” *The IEEE International Conference on Computing, Networking and Communications (ICNC'12)*, Maui, Hawaii, USA, Jan. 30 – Feb. 2, 2012.
40. **Tao Xie** and Janak Koshia*, “Boosting Random Write Performance for Enterprise Flash Storage Systems,” *The 27th IEEE Symposium on Massive Storage Systems and Technologies (MSST2011, research track, long paper)*, Denver, Colorado, USA, May 26-27, 2011.
41. Abdul R. Abdurrab* and **Tao Xie**, “FIRE: A File Reunion Based Data Replication Strategy for Data Grids,” *The 10th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2010)*, Melbourne, Victoria, Australia, May 17-20, 2010 (acceptance rate 23.3%).
42. Jonathan Tjioe*, Renata Widjaja*, Abraham Lee*, and **Tao Xie**, “DORA: A Dynamic File Assignment Strategy with Replication,” *The 38th International Conference on Parallel Processing (ICPP 2009)*, Vienna, Austria, September 22-25, 2009 (acceptance rate 32.3%).

43. **Tao Xie** and Abhinav Sharma*, “Collaboration-Oriented Data Recovery for Mobile Disk Arrays,” *The 29th International Conference on Distributed Computing Systems (ICDCS 2009)*, Montreal, Quebec, Canada, June 22-26, 2009 (acceptance rate 16.3%).
44. **Tao Xie** and Deepthi K. Madathil*, “SAIL: Self-Adaptive File Reallocation on Hybrid Disk Arrays,” *The 15th Annual IEEE International Conference on High Performance Computing (HiPC 2008)*, Bangalore, India, December 17-20, 2008 (acceptance rate 14.4%).
45. **Tao Xie** and Yao Sun*, “PEARL: Performance, Energy, and Reliability Balanced Dynamic Data Redistribution for Next Generation Disk Arrays,” *16th Annual Meeting of the IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS)*, Baltimore, Maryland, USA, September 8-10, 2008 (acceptance rate 38.3%).
46. **Tao Xie** and Yao Sun*, “Sacrificing Reliability for Energy Saving: Is It Worthwhile for Disk Arrays?” *The 22nd IEEE International Parallel and Distributed Processing Symposium (IPDPS 2008)*, Miami, Florida, USA, April 14-18, 2008 (acceptance rate 25.6%).
47. Deepthi K. Madathil*, Rajani B. Thota*, Paulina Paul*, and **Tao Xie**, “A Static Data Placement Strategy towards Perfect Load-Balancing for Distributed Storage Clusters,” *The 7th International Workshop on Performance Modeling, Evaluation, and Optimization of Ubiquitous Computing and Networked Systems (PMEO UCNS 2008)*, in conjunction with (IPDPS’08), Miami, Florida, April 14-18, 2008.
48. **Tao Xie** and Yao Sun*, “No More Energy-Performance Trade-Off: A New Data Placement Strategy for RAID-Structured Storage Systems,” *The 14th Annual IEEE International Conference on High Performance Computing (HiPC), Lecture Notes in Computer Science (LNCS 3834)*, pp.35-46, Goa, India, December 18-21, 2007 (acceptance rate 20.6%).
49. **Tao Xie**, “SOR: A Static File Assignment Strategy Immune to Workload Characteristic Assumptions in Parallel I/O Systems,” *The 36th International Conference on Parallel Processing (ICPP 2007)*, XiAn, China, September 10-14, 2007.
50. **Tao Xie** and Xiao Qin, “A Security-Oriented Task Scheduler for Heterogeneous Distributed Systems,” *Lecture Notes in Computer Science (LNCS 4297), ISSN 0302-9743, Springer, pp.35-46, The 13th Annual IEEE International Conference on High Performance Computing (HiPC 2006)*, Bangalore, India, December 18-21, 2006, (acceptance rate 15.5%).
51. Mais Nijim, Xiao Qin, and **Tao Xie**, “Adaptive Quality of Security Control in Networked Parallel Disk Systems,” *The 15th International Conference on Computer Communications and Networks (ICCCN 2006)*, Arlington, Virginia, USA, October 9 - 11, 2006 (acceptance rate 32%).
52. **Tao Xie** and Xiao Qin, “Stochastic Scheduling with Availability Constraints in Heterogeneous Clusters,” *The 8th IEEE International Conference on Cluster Computing (Cluster 2006)*, Barcelona, Spain, September 25th-28th, 2006.
53. **Tao Xie**, Xiao Qin, and Mais Nijim, “Solving Energy-Latency Dilemma: Task Allocation for Parallel Applications in Heterogeneous Embedded Systems,” *Proc. 35th International Conference on Parallel Processing (ICPP 2006)*, pp.12-19, Columbus, Ohio, August, 2006 (acceptance rate 32%).
54. **Tao Xie** and Xiao Qin, “SAHA: A Scheduling Algorithm for Security-Sensitive Jobs on Data Grids,” *Proc. the 6th IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid’06), 2nd Int’l Workshop on Cluster Security*, Singapore, May 16-19, 2006.
55. **Tao Xie**, Xiao Qin, and Mais Nijim, “SHARP: A New Real-Time Scheduling Algorithm to Improve Security of Parallel Applications on Heterogeneous Clusters,” *The 25th IEEE International Performance Computing and Communications Conference (IPCCC 2006)*, April 10–12, 2006, Phoenix, Arizona, USA
56. Mais Nijim, Xiao Qin, **Tao Xie**, and Mohammed Alghamdi, “Awards: An Adaptive Write Scheme for Secure Local Disk Systems,” *The 25th IEEE International Performance Computing and Communications Conference (IPCCC 2006)*, April 10–12, 2006, Phoenix, Arizona, USA
57. **Tao Xie** and Xiao Qin, “A New Allocation Scheme for Parallel Applications with Deadline and Security Constraints on Clusters,” *The 2005 IEEE International Conference on Cluster Computing (Cluster 2005)*, September 27-30, Boston, Massachusetts, USA. (acceptance rate 32.6%)
58. Mohammed Alghamdi, **Tao Xie**, and Xiao Qin, “PARM: A Power-Aware Message Scheduling Algorithm for Real-Time Wireless Networks,” *1st ACM Workshop on Wireless Multimedia Networking and Performance Modeling (WMuNeP ’05)*, October 13th, 2005, Montreal, Quebec, Canada.
59. **Tao Xie** and Xiao Qin, “Towards a Security Service Integration Framework for Distributed Real-Time Systems,” *the 18th International Conference on Parallel and Distributed Computing Systems (PDCS 2005, ISCA)*, Las Vegas, NV, USA, September 12-14, 2005.

60. Mais Nijim, **Tao Xie**, and Xiao Qin, "Integrating a Performance Model in Self-Managing Computer Systems under Mixed Workload Conditions," *Proceedings of the IEEE International Conference on Information Reuse and Integration*, Las Vegas, NV, USA, August 15-17, 2005.
61. **Tao Xie**, Xiao Qin, and Andrew Sung, "SAREC: A Security-Aware Scheduling Strategy for Real-Time Applications on Clusters," *Proceedings of the 34th International Conference on Parallel Processing (ICPP-2005)*, PP.5-12, Oslo, Norway, June 14-17, 2005. (acceptance rate 28.6%)
62. **Tao Xie**, Xiao Qin, and Andrew Sung, "Integrating Security Requirements into Scheduling for Real-Time Applications in Grid Computing," *Proceedings of the International Conference on Grid Computing and Applications*, PP.24-30, Las Vegas, NV, USA, June 20-23, 2005.
63. Xiao Qin, **Tao Xie**, A. Nathan, and V. K. Tadepalli, "Benchmarking the CLI for I/O Intensive Computing," *Proceedings of the 19th International Parallel and Distributed Processing Symposium (IPDPS'05), the 6th Int'l Workshop on Parallel and Distributed Scientific and Engineering Computing*, IEEE/ACM, Denver, CO, USA, April 4-8, 2005.
64. **Tao Xie**, Andrew Sung, and Xiao Qin, "Dynamic Task Scheduling with Security Awareness in Real-Time Systems", *Proceedings of the 19th International Parallel and Distributed Processing Symposium (IPDPS'05), the 4th Int'l Workshop on Performance Modeling, Evaluation, and Optimization of Parallel and Distributed Systems*, Denver, CO, IEEE/ACM, April 4-8, 2005.
65. **Tao Xie**, Andrew Sung, Srinivas Mukkamala, and QingZhong Liu, "Reactive Tamper Detection for Image Authentication," *Proceedings of IEEE Intelligent Systems Design and Applications*, Budapest, Hungary, August 26-28, 2004.

Funded Research Grants

1. CSR: Small: Decoupling File System from Volatile Main Memory: A First Step towards a Single-Level Persistent Store (\$336,873, 09/01/2018-08/31/2021)
(Single PI) Funded by the National Science Foundation under Grant CNS-1813485.
2. CSR: Small: A Device-Array Based Flash Storage System for Emerging Data-Intensive and Mission-Critical Mobile Applications: from Architecture Redesign to New File System (\$440,727, 10/01/2013-09/30/2018)
(Single PI) Funded by the National Science Foundation under Grant CNS-1320738.
3. CAREER: Architectural Support for Integrating NAND Flash Solid State Disks into Enterprise-Class Storage Systems (\$436,000, 09/15/2009-08/31/2014)
(Single PI) Funded by the National Science Foundation under Grant CNS-0845105.
4. CSR-DMSS, SM: Energy-Efficient and Reliability-Aware Data Management in Mobile Storage Systems (\$160,000, 09/2008 ~ 08/2010)
(Single PI) Funded by the National Science Foundation under Grant CNS-0834466.
5. BUD: A Buffer-Disk Architecture for Energy Conservation in Parallel Disk Systems (07/2007 ~ 06/2010)
(Co-PI) Funded by the National Science Foundation under Grant CCF-0742187. The total amount of this award is \$311,999, among which \$90,244 were awarded to me.

Invited Talks

- "A File System Bypassing Volatile Main Memory: Towards A Single-Level Persistent Store", *CF 2018, Ischia, Italy*, 9 May 2018.
- "An Embedded Storage Framework Abstracting Each Raw Flash Device as An MTD", *SYSTOR 2015, Haifa, Israel*, 27 May 2015.
- "Understanding the Impact of Threshold Voltage on MLC Flash Memory Performance and Reliability", *ICS 2014, Munich, Germany*, 12 June 2014.
- "CR5M: A Mirroring-Powered Channel-RAID5 Architecture for An SSD", *MSST 2014, Santa Clara, USA*, 5 June 2014.
- "PDB: A Reliability-Driven Data Reconstruction Strategy Based on Popular Data Backup for RAID4 SSD Arrays", *ICA3PP 2013, Vietri sul Mare, Italy*, December 18, 2013.
- "Making Garbage Collection Wear Conscious for Flash SSD", *NAS 2012, Xiamen, China*, June 29, 2012.
- "FIRE: A File Reunion Based Data Replication Strategy for Data Grids," *CCGrid 2010, Melbourne, Australia*, May 18, 2010.
- "PEARL: Performance, Energy, and Reliability Balanced Dynamic Data Redistribution for Next Generation Disk Arrays," *MASCOTS 2008, Baltimore, Maryland, USA*, September 9, 2008.

- "Understanding the Relationship Between Energy-Saving and Disk Reliability," a talk invited by the Computer Science & Engineering Department at the University of California, Riverside on May 30, 2008.
- "Sacrificing Reliability for Energy Saving: Is It Worthwhile for Disk Arrays?" *IPDPS 2008*, Miami, Florida, USA, April 15, 2008.
- "A Static Data Placement Strategy towards Perfect Load-Balancing for Distributed Storage Clusters," *IPDPS 2008 PME0-UCNS Workshop*, Miami, Florida, USA, April 18, 2008.
- "A Novel Disk Layout Optimization for Networked Storage Systems," *ICCCN 2007 Workshop on Advanced Networking and Communications*, Honolulu, Hawaii, USA, August 15, 2007.
- "Solving Energy-Latency Dilemma: Task Allocation for Parallel Applications in Heterogeneous Embedded Systems," *ICPP 2006*, Columbus, Ohio, USA, August 15, 2006.
- "SHARP: A New Real-Time Scheduling Algorithm to Improve Security of Parallel Applications on Heterogeneous Clusters," *IPCCC 2006*, Phoenix, Arizona, USA, April 10, 2006.
- "A New Allocation Scheme for Parallel Applications with Deadline and Security Constraints on Clusters," *Cluster 2005*, Boston, MA, USA, September 28, 2005.
- "Enhancing Security of Real-Time Applications on Grids through Dynamic Scheduling," *JSSPP'05*, Cambridge, MA, USA, June 19, 2005.
- "Dynamic Task Scheduling with Security Awareness in Real-Time Systems," *IPDPS'05*, Denver, CO, USA, April 8, 2005
- "Benchmarking the CLI for I/O Intensive Computing," *IPDPS'05*, Denver, CO, USA, April 8, 2005.

Ph.D. Students

- Xiaojia Song (2015 – present): 2017&2018 summer intern at Samsung.
- Wen Pan (2014 – 2019): member of technical staff at Western Digital (Employment after Graduation)
- Deng Zhou (2012 – 2016): member of technical staff at NetApp Inc. (Employment after Graduation)
- Wei Wang (2011 – 2015): member of technical staff at SanDisk (Employment after Graduation)

Awards

- The 27th IEEE International Parallel and Distributed Processing Symposium (IPDPS) Best Paper Award, May 2013.
- SDSU College of Sciences Outstanding Faculty Award (twice, 2010 and 2015).
- National Science Foundation CAREER Award, September 2009.

Professional Activities

- Referee: IEEE Transactions on Computers; IEEE Transactions on Parallel and Distributed Systems; IEEE Transactions on Knowledge and Data Engineering; Proceedings of the IEEE, Journal of Parallel and Distributed Computing; Journal of Supercomputing; Journal of Cluster Computing; Journal of Computer Science and Technology, Journal of Systems and Software; The Computer Journal; HPCA09, IPDPS09, IPCCC05; IPCCC06; ICPP06, IPDPS05
- Member of IEEE and IEEE Computer Society, Member of ACM
- Publication Chair: The Third Int'l Conference on Networking, Architecture, and Storage (NAS'2008)
- Program Committee member: ICPP 2018, MASCOTS 2014, IPCCC 2014, MSST13, NAS13, WISE09, PME009, NAS09, ICDCS08, IEEE Cluster07, IEEE IRI07, IEEE AINA07, PME007, SNAPI07, PME008, IEEE AINA08, IEEE IRI08, HPCC09, ICDCN10
- Co-chair: The PDSEC07, in conjunction with the IPDPS 2007, March 26-30, 2007, Long Beach, California.
- Session chair: ICCCN07 (Session WP2), ICPP06 (Session 2A: Algorithms), IPCCC06 (Session 1.2: Multicast and Scheduling and Session 3.1: Ad-hoc Networks)
- NSF panelist on CSR (Computer System Research) program (Medium) Energy, Data Centers, Storage in December 2012
- SDSU Senate (2014-2018)
- Committee member, SDSU College of Sciences RTP Committee (2018-2020)
- Committee member, SDSU College of Sciences Research Committee (2014-2016)
- Committee chair, SDSU Department of Computer Science 2015 Faculty Search Committee (2014-2015)