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Education	Stanford University, USA PH.D., ELECTRICAL ENGINEERING <i>Advisor: Prof. Andrea J. Goldsmith</i> <i>Cumulative GPA: 4.0</i>	<i>2001-2005</i>
	McMaster University, Canada M.ENG. ELECTRICAL AND COMPUTER ENGINEERING <i>Cumulative GPA: 4.0</i> <i>Graduated with the highest distinction (winner of the NSERC fellowship).</i>	<i>1998-2000</i>
	Beijing University of Posts and Telecom. (BUPT), P. R. China B.ENG. RADIO ENGINEERING <i>Cumulative GPA: 3.9</i> <i>Graduated with the highest distinction (ranked 1st in the graduation class).</i>	<i>1993-1997</i>

Work Experience

Texas A&M University , College Station, TX <i>Assistant Professor (2007)+Associate Professor (2011): Department of Electrical and Computer Engineering</i>	<i>June 2007 - Present</i>
University of Arizona , Tucson, AZ <i>Assistant Professor: Department of Electrical and Computer Engineering</i>	<i>August 2005 - May 2007</i>
National Semiconductor , Sunnyvale, CA <i>Summer Intern: System Design for IEEE 802.15.4 (ZigBee) Chip</i> Mentor: Dr. Ahmad Bahai	<i>June - September 2003</i>
Wireless Systems Lab , Stanford Univ., CA <i>System Administrator: email, webmail, printing, computing, Samba, web hosting, and security filtering, for a hybrid network composed of SUN Enterprise servers, SUN workstations, and PCs.</i> Mentor: Dr. Kevin Yu	<i>September 2002 - June 2005</i>
Hewlett Packard Co. , Beijing, China <i>Technical Staff</i>	<i>October 1997 - August 1998</i>
Nortel Co. , Guangdong, China <i>Marketing Staff</i>	<i>July 1997 - September 1997</i>

Research Interests

- Wireless communication networks;
- Signal processing and communication for Smart Grid;
- Signal processing and optimization for sensor networks;
- Multi-user information theory;
- Signal processing and communication for cognitive radio
- Convex optimization;
- Design synergy of system protocols and hardware;

Research Funding (>2M personal shares in grants)

- Two NSF grants for cognitive radio networks
- One NSF grant for sensor networks
- One DoD AFOSR grant for complex network theory via stochastic geometry
- Two DoD DTRA grants for large scale network topology control and optimization
- Two DoD DTRA grants for network information theory
- One industry consortium (Connection-One) grant for cognitive radios
- One National Instrument grant for two-way relay systems

Publications (Accessible from <http://ece.tamu.edu/~cui/pulication.html>)

Journal Publications and Book Chapters

1. S. Cui, A. J. Goldsmith, and A. Bahai, "Energy-efficiency of MIMO and Cooperative MIMO in Sensor Networks," *Institute of Electrical & Electronics Engineers (IEEE) Journal on Selected Areas of Communications*, Vol. 22, No. 6, pp. 1089-1098, August, 2004. *The No.8 most cited paper among all published between 2004 and 2011 in JSAC (data from Web of Science on 9/29/2011).*
2. S. Cui, M. Kisiailiou, Z.-Q. Luo, and Z. Ding, "Robust Blind Multiuser Detection Against Signature Waveform Mismatch Based on Second Order Cone Programming," *IEEE Transactions on Wireless Communications*, Vol. 4, No. 4, pp. 1285-1291, July, 2005.
3. S. Cui, A. J. Goldsmith, and A. Bahai, "Energy-constrained Modulation Optimization," at *IEEE Transactions on Wireless Communications*, Vol. 4, No. 5, pp. 2349-2360, September, 2005. *The No.7 most cited paper among all published between 2005 and 2011 in TWireless (data from Web of Science on 8/29/2011).*
4. S. Cui and A. J. Goldsmith, "Cooperative Techniques in Cross-layer Design" chapter in *Cooperation in Wireless Communications: Principles and Applications*, Springer, 2006.
5. J. Xiao, S. Cui, Z.-Q. Luo, and A. J. Goldsmith, "Power Scheduling of Universal Decentralized Estimation in Sensor Networks," *IEEE Transactions on Signal Processing*, Vol. 54, No. 2, pp. 413-422, February, 2006. *The No.6 most cited paper among all published between 2006 and 2011 in TSP (data from Web of Science on 8/29/2011).*
6. S. Cui and A. J. Goldsmith, "Cross-layer Design of Energy-constrained Networks Using Cooperative MIMO Techniques," *Eropean Association for Signal Processing (EURASIP)/Elsevier Signal Processing Journal*, Special Issue on Advances in Signal Processing-assisted Cross-layer Designs, Vol. 86, No. 8, pp. 1804-1814, August, 2006. (Invited)
7. R. Madan, S. Cui, S. Lall, and A. J. Goldsmith, "Cross-layer Design for Lifetime Maximization in Interference-limited Sensor Networks," *IEEE Transactions on Wireless Communications*, Vol. 5, No. 11, pp. 3142-3152, November, 2006.
8. A. Lau and S. Cui, "Joint Power Minimization in Wireless Relay Channels," *IEEE Transactions on Wireless Communications*, Vol. 6, No. 8, pp. 2820-2824, August, 2007.
9. S. Cui, J. Xiao, A. J. Goldsmith, Z.-Q. Luo, and H. V. Poor, "Estimation Diversity and Energy Efficiency in Distributed Sensing" *IEEE Transactions on Signal Processing*, Vol. 55, No. 9, pp. 4683-4695, September, 2007.
10. S. Cui, R. Madan, A. J. Goldsmith, and S. Lall, "Cross-layer Energy and Delay Optimization in Small-scale Sensor Networks," *IEEE Transactions on Wireless Communications*, Vol. 6, No. 10, pp. 3688-3699, October, 2007.

11. R. Madan, S. Cui, S. Lall, and A. J. Goldsmith, "Modeling and Optimization of Transmission Schemes in Energy Constrained Sensor Networks," *IEEE/Association of Computing Machinery (ACM) Transactions on Networking*, Vol. 15, No. 6, pp. 1359-1372, December 2007.
12. F. Wang, M. Krunz, and S. Cui, "Price-Based Spectrum Management in Cognitive Radio Networks," *IEEE Journal of Selected Topics in Signal Processing*, Vol. 2, No. 1, pp. 74-87, February 2008.
13. Z. Quan, S. Cui, and A. Sayed, "Optimal Linear Cooperation for Spectrum Sensing in Cognitive Radio Networks," *IEEE Journal of Selected Topics in Signal Processing*, Vol. 2, No. 1, pp. 28-40, February 2008. *The No.1 most cited paper among all published between 2008 and 2011 in both journals of TSP and JSTSP (data from Web of Science on 8/29/2011).*
14. J. Xiao, S. Cui, Z.-Q. Luo, and A. J. Goldsmith, "Linear Coherent Decentralized Estimation," *IEEE Transactions on Signal Processing*, Vol. 56, No. 2, pp. 757-770, February 2008.
15. L. Gao and S. Cui, "Efficient Subcarrier, Power, and Rate Allocation with Fairness Consideration for OFDMA Uplink," *IEEE Transactions on Wireless Communications*, Vol. 7, No. 5, pp. 1507-1511, May 2008.
16. W. Guo and S. Cui, "A q-Parameterized Determined Annealing EM Algorithm based on Non-extensive Statistical Mechanics," *IEEE Transactions on Signal Processing*, Vol. 56, No. 7, pp. 3069-3080, July, 2008.
17. Z. Zhou, S. Zhou, J. Cui, and S. Cui, "Energy-Efficient Cooperative Communication Based on Power Control and Selective Relay in Wireless Sensor Networks," *IEEE Transactions on Wireless Communications*, Vol. 7, No. 8, pp. 3066-3078, August, 2008.
18. W. Guo, J. Xiao, and S. Cui, "An Efficient Water-Filling Solution for Linear Coherent Joint Estimation," *IEEE Transactions on Signal Processing*, Vol. 56, No. 10, pp. 5301-5305, October, 2008.
19. Z. Zhou, S. Zhou, S. Cui, and J. Cui, "Energy-Efficient Cooperative Communications in A Clustered Wireless Sensor Network," *IEEE Transactions on Vehicular Technology*, Vol. 57, No. 6, pp. 3618-3628, November, 2008.
20. Z. Quan, S. Cui, A. Sayed, and H. V. Poor, "Collaborative Wideband Sensing for Cognitive Radios," *IEEE Signal Processing Magazine special issue on cognitive radios*, Vol. 25, No. 6, pp. 60-73, January 2009.
21. Z. Quan, S. Cui, A. Sayed, and H. V. Poor, "Optimal Multiband Joint Detection for Spectrum Sensing in Dynamic Spectrum Access Networks," *IEEE Transactions on Signal Processing*, Vol. 57, No. 3, pp. 1128-1140, March 2009.
22. Z. Zhou, S. Zhou, J. Cui, and S. Cui, "Energy-Efficient Random Cooperative Communication," chapter in *Cooperative Communications for Improved Wireless Network Transmission: Frameworks for Virtual Antenna Array Applications* edited by M. Uysal, IGI-Global, 2009.
23. J. Xiao, S. Cui, and Z.-Q. Luo, "Distributed Estimation and Collaborative Sensing," chapter in *Handbook on Array Processing and Sensor Networks* edited by S. Haykin and K. J. R. Liu, Wiley-IEEE Press, 2009.
24. R. Zhang, Y.-C. Liang, C.-C. Chai, and S. Cui, "Optimal Beamforming for Two-Way Multi-Antenna Relay Channel with Analogue Network Coding," *IEEE Journal on Selected Areas of Communications*, Vol. 27, No. 5, pp. 699-712, June 2009. *The No.1 most cited paper among all published between 2009 and 2011 in JSAC (data from Web of Science on 8/29/2011).*
25. H. Kim, J. Wang, P. Cai, and S. Cui, "Detection Outage and Detection Diversity in Distributed Sensor Networks," *IEEE Transactions on Signal Processing*, Vol. 57, No. 7, pp. 2875-2882, July 2009.

26. L. Gao and S. Cui, "Power and Rate Control for Delay-Constrained Cognitive Radios Via Dynamic Programming," *IEEE Transactions on Vehicular Technology*, Vol. 58, No. 9, pp. 4819-4827, Nov. 2009.
27. R. Zhang, S. Cui, and Y.-C. Liang, "On Ergodic Sum Capacity of Fading Cognitive Multiple-Access and Broadcast Channels," *IEEE Transactions on Information Theory*, Vol. 55, No. 11, pp. 5161-5178, Nov. 2009.
28. M. Z. Siam, M. Krunz, S. Cui, and A. Muqattash, "Energy-Efficient Protocols for Wireless Networks with Adaptive MIMO Capabilities," *ACM/Kluwer Wireless Networks (WINET)*, Vol. 16, No. 1, pp. 199-212, Jan. 2010.
29. X. Li, T. Jiang, S. Cui, J. An, and Q. Zhang, "Cooperative Communications based on Rateless Network Coding in Distributed MIMO Systems," *IEEE Communications Magazine* special issue on Coordinated and Distributed MIMO, Vol. 17, No. 3, pp. 60-67, March 2010.
30. Z. Quan, W.-K. Ma, S. Cui, and A. Sayed, "Optimal Linear Fusion for Distributed Detection via Semidefinite Programming," *IEEE Transactions on Signal Processing*, Vol. 58, No. 4, pp. 2431-2436, April 2010.
31. R. Zhang, Y.-C. Liang, and S. Cui, "Dynamic Resource Allocation in Cognitive Radio Networks: A Convex Optimization Perspective," *IEEE Signal Processing Magazine* special issue on Convex Optimization on Signal Processing, Vol. 27, No. 3, pp. 102-114, May 2010.
32. C. Charalambous and S. Cui, "A Biologically Inspired Networking Model for Wireless Sensor Networks," *IEEE Network* special issue on Bio-inspired Communications, Vol. 24, No. 3, pp. 6-13, May-June, 2010.
33. L. Zhang, R. Zhang, Y.-C. Liang, Y. Xin, and S. Cui, "On the Relationship Between the Multi-antenna Secrecy Communications and Cognitive Radio Communications," *IEEE Transactions on Communications*, Vol. 58, No. 6, pp. 1877-1886, June 2010.
34. C. Yin, L. Gao, and S. Cui, "Scaling Laws of Overlaid Wireless Networks: A Cognitive Radio Network vs. A Primary Network," *IEEE/ACM Transactions on Networking*, Vol. 18, No. 4, pp. 1317-1329, Aug., 2010.
35. R. Zhang and S. Cui, "Cooperative Interference Management in Multi-Cell Downlink Beamforming," *IEEE Transactions on Signal Processing*, Vol. 58, No. 10, pp. 5450-5458, October 2010.
36. L. Zhang, J. Jiang, A. Goldsmith, and S. Cui, "Study of Gaussian Relay Channels with Correlated Noises," *IEEE Transactions on Communications*, Vol. 59, No. 3, pp. 863-876, March 2011.
37. M. Zeng, R. Zhang, and S. Cui, "On Design of Distributed Beamforming for Two-Way Relay Networks," *IEEE Transactions on Signal Processing*, Vol. 59, No. 5, pp. 2284-2295, May 2011.
38. S. Cui, A. So, and R. Zhang, "Unconstrained and Constrained Optimization Problems," chapter in *Mathematical Foundations for Signal Processing, Communications and Networking*, edited by T. Chen, D. Rajan, and E. Serpedin, CRC Press, 2011.
39. J. Qiu, R. Zhang, Z.-Q. Luo, and S. Cui, "Optimal Distributed Beamforming for MISO Interference Channels," *IEEE Transactions on Signal Processing*, Vol. 59, No. 11, pp. 5638-5643, Nov. 2011.
40. C. Huang, J. Jiang, and S. Cui, "Asymptotic Capacity of Large Fading Relay Networks with Random Node Failures," *IEEE Transactions on Communications*, Vol. 59, No. 8, pp. 2306-2315, August 2011.
41. L. Gao, R. Zhang, C. Yin, and S. Cui, "Throughput and Delay Scaling in Supportive Two-Tier Networks," *IEEE Journals on Selected Areas of Communications* special issue on Cooperative Networking Challenges and Applications, 2011. (To appear)
42. C. Huang, J. Jiang, and S. Cui, "Asymptotic Capacity of Large Relay Networks with Conferencing Links," *IEEE Transactions on Communications*, 2011. (To appear)

43. C. Huang, M. Zeng, and S. Cui, "Joint Source and Relay Optimization for Two-Hop Interference Networks with Relay Conferencing," *IEEE Transactions on Signal Processing*, 2011. (To appear)
44. M. Zeng, R. Calderbank, and S. Cui, "On Design of Rateless Codes Over Dying Binary Erasure Channel," *IEEE Transactions on Communications*, 2011. (To appear)
45. S. Cui, Z. Han, S. Kar, T. T. Kim, H. V. Poor, and A. Tajer, "Coordinated Data-Injection Attack and Detection in Smart Grid," *IEEE Signal Processing Magazine* special issue on Signal Processing for Smart Grid, 2011. (To appear)
46. M. Zeng, R. Zhang, and S. Cui, "Outage Capacity and Optimal Transmission for Dying Channels," under revision for *IEEE Transactions on Communications*, 2011.
47. A. Banaei, C. N. Georghiades, and S. Cui, "Study of Large Overlaid Cognitive Radio Networks: From Throughput Scaling to Asymptotic Multiplexing Gain," submitted to *IEEE/ACM Transactions on Networking*, 2010.
48. C. Huang, J. Jiang, and S. Cui, "On the Achievable Rates of the Diamond Relay Channel with Conferencing Links," submitted to *IEEE Transactions on Communications*, 2011.
49. Q. Zhou, L. Gao, R. Liu, and S. Cui, "Network Robustness under Area Attack," submitted to *IEEE/ACM Transactions on Networking*, 2011.
50. A. Banaei, C. N. Georghiades, and S. Cui, "On the Random 1/2-Disk Routing Scheme in Wireless Ad Hoc Networks," submitted to *IEEE/ACM Transactions on Networking*, 2011.
51. T. Agarwal and S. Cui, "Noncooperative Games for Autonomous Consumer Load Balancing over Smart Grid," submitted to *IEEE Transactions on Smart Grid*, 2011.
52. L. Zhang, J. Jiang, and S. Cui, "Interference Channel with State Information," submitted to *IEEE Transactions on Information Theory*, 2011.
53. C. Huang, R. Zhang, and S. Cui, "Throughput Maximization for the Gaussian Relay Channel with Energy Harvesting Constraints," submitted to *IEEE Journal on Selected Areas in Communications*, 2011.

Conference Publications

1. S. Cui, Z.-Q. Luo, and Z. Ding, "Blind CDMA Signal Detection in the Presence of User and Interference Signature Mismatch," *Proceedings: IEEE workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pp. 221-224, Taiwan, China, March, 2001.
2. S. Cui, Z.-Q. Luo, and Z. Ding, "Robust Multiuser Detection Based on Second-Order Cone Programming," *Proceedings: IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP)*, Vol. 4, pp. 2297-2300, Utah, May, 2001.
3. S. Cui, A. J. Goldsmith, and A. Bahai, "Modulation Optimization under Energy Constraints," *Proceedings: IEEE International Conference on Communications (ICC)*, Vol. 4, pp. 2805-2811, Alaska, May 2003.
4. S. Cui, A. J. Goldsmith, and A. Bahai, "Energy-constrained Modulation Optimization for Coded Systems," *Proceedings: IEEE Global Telecommunications Conference (GLOBECOM)*, Vol. 1, pp. 372-376, San Francisco, CA, December, 2003.
5. S. Cui, R. Madan, A. J. Goldsmith, and S. Lall, "Cross-layer Energy Minimization in TDMA-based Sensor Networks," *Proceedings: 42th Allerton Conference on Communication, Control, and Computing*, pp. 1891-1900, Allerton, IL, September, 2004.
6. J. Xiao, S. Cui, Z.-Q. Luo, and A. J. Goldsmith, "Joint Estimation in Sensor Networks under Energy Constraints," *Proceedings: IEEE Conference on Sensor and Ad Hoc Communications and Networks (SECON)*, pp. 264-271, Santa Clara, CA, October, 2004.

7. S. Cui, A. J. Goldsmith, and A. Bahai, "Joint Modulation and Multiple Access Optimization under Energy Constraints," *Proceedings: IEEE GLOBECOM*, Vol. 1, pp. 151-155, Dallas, December, 2004.
8. R. Madan, S. Cui, S. Lall, and A. J. Goldsmith, "Cross-layer Design for Lifetime Maximization in Interference-limited Wireless Sensor Networks," *Proceedings: IEEE Annual Joint Conference on the IEEE Computer and Communication Societies (INFOCOM)*, pp. 1964-1975, Florida, March, 2005.
9. S. Cui, J. Xiao, A. J. Goldsmith, Z.-Q. Luo, and H. V. Poor, "Energy-Efficient Joint Estimation in Sensor Networks: Analog vs. Digital," *Proceedings: IEEE ICASSP*, Vol. 5, pp. v/805 - v/808, Philadelphia, PA, March, 2005.
10. S. Cui and A. J. Goldsmith, "Energy Efficient Routing Using Cooperative MIMO Techniques," *Proceedings: IEEE ICASSP*, pp. 745-748, Philadelphia, PA, March, 2005.
11. R. Madan, S. Cui, S. Lall, and A. J. Goldsmith, "Mixed Integer-Linear Programming for Link Scheduling in Interference-Limited Networks," *Proceedings: 1st Workshop on Resource Allocation in Wireless Networks*, p. 18, Trento, Italy, April, 2005.
12. S. Cui, R. Madan, A. J. Goldsmith, and S. Lall, "Joint Routing, MAC, and Link Layer Optimization in Sensor Networks with Energy Constraints," *Proceedings: IEEE ICC*, pp. 725-729, South Korea, May, 2005.
13. S. Cui, R. Madan, A. J. Goldsmith, and S. Lall, "Energy-Delay Tradeoff in Wireless Networks with Energy Constraints," *Proceedings: IEEE ICC*, pp. 3278-3285, South Korea, May, 2005.
14. S. Cui and A. J. Goldsmith, "Cross-layer Optimization of Sensor Networks based on Cooperative MIMO Techniques with Rate Adaptation," *Proceedings: IEEE SPAWC*, pp. 960-964, New York, June, 2005.
15. J. Xiao, Z.-Q. Luo, S. Cui, and A. J. Goldsmith, "Power-Efficient Analog Forwarding Transmission in an Inhomogeneous Gaussian Sensor Network," *Proceedings: IEEE SPAWC*, pp. 121-125, New York, June, 2005.
16. S. Cui, J. Xiao, A. J. Goldsmith, Z.-Q. Luo, and H. V. Poor, "Estimation Diversity with Multiple Heterogeneous Sensors," *Proceedings: IEEE ICC*, Vol. 4, pp. 1549-1554, Istanbul, Turkey, June, 2006.
17. M. Siam, M. Krunz, A. Muqattash, and S. Cui, "Adaptive Multi-antenna Power Control in Wireless Networks," *Proceedings: ACM International Wireless Communications and Mobile Computing (IWCMC)*, pp. 875-880, Vancouver, Canada, July, 2006.
18. A. Lau and S. Cui, "Joint Power Minimization in Wireless Relay Channels," *Proceedings: ACM IWCMC*, pp. 1015-1020, Vancouver, Canada, July, 2006.
19. Z. Zhou, S. Zhou, S. Cui, and J. Cui, "Cooperative MIMO in Energy-Constrained Random Wireless Sensor Networks," *Proceedings: Military Communication Conference (MILCOM)*, pp. 1-7, Washington DC, October, 2006.
20. M. Ivkovic and S. Cui, "Hard Decision Error Correcting Schemes Based on LDPC Codes over Impulse Noise Channels," *Proceedings: Asilomar Conference on Signals, Systems, and Computers*, pp. 2204-2208, October, 2006.
21. W. Guo and S. Cui, "Fast Convergence with Q-expectation in EM-based Blind Iterative Detection," *Proceedings: Asilomar Conference on Signals, Systems, and Computers*, pp. 458-462, October, 2006.
22. J. Xiao, S. Cui, Z.-Q. Luo, and A. J. Goldsmith, "Linear Coherent Decentralized Estimation," *Proceedings: IEEE GLOBECOM*, pp. 1-5, San Francisco, December, 2006.
23. T. Shu, S. Cui, and M. Krunz, "Medium Access Control for Multi-Channel Parallel Transmission in Cognitive Radio Networks," *Proceedings: IEEE GLOBECOM*, pp. 1-5, San Francisco, December, 2006.

24. L. Gao, F. Li, and S. Cui, "A Low-complexity Adaptive Subcarrier, Bit, and Power Allocation Algorithm for OFDMA Systems," *Proceedings: IEEE GLOBECOM*, pp. 1-5, San Francisco, December, 2006.
25. W. Guo and S. Cui, "A q-EM Based Simulated Annealing Algorithm for Finite Mixture Estimation," *Proceedings: IEEE ICASSP*, Vol. 3, pp. 1113-1116, April, 2007.
26. H. Kim and S. Cui, "Detection Outage and Detection Diversity in Distributed Sensor Networks," *Proceedings: IEEE International Symposium on Information Theory (ISIT)*, 5 pages, June, 2007.
27. F. Wang, M. Krunz, and S. Cui, "Price-Based Spectrum Management in Cognitive Radio Networks," *Proceedings of the Second International Conference on Cognitive Radio Oriented Wireless Networks and Communications*, 9 pages, August, 2007. (The Best Paper Award)
28. Z. Zhou, S. Zhou, J. Cui, and S. Cui, "Energy-Efficient Cooperative Communications based on Power Control and Selective Relay in Wireless Sensor Networks," *Proceedings: MILCOM*, pp. 1-7, October, 2007.
29. L. Gao, P. Wu, and S. Cui, "Power and Rate Control with Dynamic Programming for Cognitive Radios," *Proceedings: IEEE GLOBECOM*, pp. 1699-1703, Washington, December, 2007.
30. Z. Quan, S. Cui, and A. Sayed, "An Optimal Strategy for Cooperative Spectrum Sensing in Cognitive Radio Networks," *Proceedings: IEEE GLOBECOM*, pp. 2967-2951, Washington, December, 2007.
31. Z. Quan, S. Cui, A. Sayed, and H. V. Poor, "Spatial-Spectral Joint Detection for Wideband Spectrum Sensing in Cognitive Radio Networks," *Proceedings: ICASSP*, pp. 2793-2796, Las Vegas, April, 2008.
32. F. Wang, M. Krunz, and S. Cui, "Spectrum Sharing in Cognitive Radio Networks," *Proceedings: INFOCOM*, pp. 1885-1893, Phoenix, April, 2008.
33. L. Gao and S. Cui, "Multi-band Power and Rate Control for Cognitive Radios with Energy Constraints: A Dynamic Programming Approach," *Proceedings: ICC*, pp. 3563-3567, Beijing, May, 2008.
34. Z. Quan, S. Cui, A. Sayed, and H. V. Poor, "Wideband Spectrum Sensing in Cognitive Radio Networks," *Proceedings: ICC*, pp. 901-906, Beijing, May, 2008.
35. L. Gao and S. Cui, "Multi-user Power and Rate Control for Cognitive Radios: A Dynamic Programming Approach," *Proceedings: CROWNCOM*, pp. 1-7, Singapore, May, 2008.
36. R. Zhang, S. Cui, and Y.-C. Chang, "On Ergodic Sum Capacity of Fading Cognitive Multiple-Access Channels," *Proceedings: The Forty-Sixth Annual Allerton Conference on Communication, Control, and Computing*, pp. 879-886, Monticello, Illinois, Sep., 2008.
37. C. Charalambous and S. Cui, "A Bio-Inspired Distributed Clustering Algorithm for Wireless Sensor Networks," *Proceedings: IEEE International Wireless Internet Conference (WiCon)*, pp. 1-7, Maui, Nov., 2008.
38. M. Zeng, R. Zhang, and S. Cui, "On the Outage Capacity of a Dying Channel," *Proceedings: GLOBECOM*, pp. 1-5, New Orleans, Dec., 2008.
39. C. Yin, L. Gao, and S. Cui, "Scaling Laws of Overlaid Wireless Networks: A Cognitive Radio Network vs. A Primary Network," *Proceedings: GLOBECOM*, pp. 1-5, New Orleans, Dec., 2008.
40. Z. Quan, W.-K. Ma, S. Cui, and A. Sayed, "Optimal Linear Fusion for Distributed Spectrum Sensing via Semidefinite Programming," *Proceedings: ICASSP*, pp. 3629-3632, Taiwan, April, 2009.
41. M. Zeng, R. Zhang, and S. Cui, "Optimal Transmission for Dying Channels," *Proceedings: ICC*, pp. 1-5, Dresden, Germany, June, 2009.

42. C. Yin, L. Gao, T. Liu, and S. Cui, "Transmission capacities for overlaid wireless ad hoc networks with outage constraints," *Proceedings: ICC*, pp. 1-5, Dresden, Germany, June, 2009.
43. R. Zhang, C.-C. Chai, Y.-C. Liang, S. Cui, "On Capacity Region of Two-Way Multi-Antenna Relay Channel with Analogue Network Coding," *Proceedings: ICC*, pp. 1-5, Dresden, Germany, June, 2009.
44. L. Gao, R. Zhang, C. Yin, and S. Cui, "Delay-Throughput Tradeoff for Supportive Two-Tier Networks," *Proceedings: ISIT*, pp. 2833-2837, Seoul, South Korea, July 2009.
45. C. Yin, T. Liu, and S. Cui, "Generalized Results of Transmission Capacities for Overlaid Wireless Networks," *Proceedings: ISIT*,), pp. 1174-1178, Seoul, South Korea, July 2009.
46. J. Jiang, A. J. Goldsmith, and S. Cui, "Achievable Rates and Capacity for Gaussian Relay Channels with Correlated Noises," *Proceedings: ISIT*, pp. 179-183, Seoul, South Korea, July 2009.
47. C. Yin, L. Gao, and S. Cui, "Delay-Throughput Tradeoff for Overlaid Wireless Networks of Different Priorities," *Proceedings: ISIT*, pp. 2843-2847, Seoul, South Korea, July 2009.
48. C. Huang, J. Jiang, and S. Cui, "Asymptotic Capacity of Randomly-Failing Relay Networks with DF Strategy," *Proceedings: The Forty-Seventh Annual Allerton Conference on Communication, Control, and Computing*, pp. 892-898, Monticello, Illinois, Sep., 2009.
49. L. Zhang, R. Zhang, Y.-C. Liang, Y. Xin, and S. Cui, "On the Relationship between the Multi-Antenna Secrecy Communications and Cognitive Radio Communications," *Proceedings: The Forty-Seventh Annual Allerton Conference on Communication, Control, and Computing*, pp. 1286-1292, Monticello, Illinois, Sep., 2009.
50. M. Zeng, R. Zhang, and S. Cui, "Asymptotic Outage Behavior of Parallel Dying Channels," *Proceedings: MILCOM*), pp. 1-6, Boston, Oct. 2009.
51. J. Jiang, I. Maric, A. J. Goldsmith, and S. Cui, "Achievable Rate Regions for Broadcast Channels With Cognitive Relays," *Proceedings: Information Theory Workshop*, pp. 500-504, Taormina, Italy, Oct. 2009.
52. C. Yin, C. Chen, and S. Cui, "Stable Distribution Based Analysis of Transmission Capacities for Overlaid Wireless Networks," *Proceedings: the International Conference on Wireless Communications and Signal Processing (WCSP)*, pp. 1-5, Nanjing, China, Nov. 2009. (The Best Paper Award)
53. L. Gao, R. Zhang, and S. Cui, "Delay-Throughput Tradeoff for Supportive Two-Tier Networks: A Static Primary Tier vs. a Mobile Secondary Tier," *Proceedings: GLOBECOM*, 5 pages, Hawaii, Dec. 2009.
54. C. Huang, J. Jiang, and S. Cui, "Asymptotic Capacity of Large Fading Relay Networks under Random Attacks," *Proceedings: GLOBECOM*, 5 pages, Hawaii, Dec. 2009.
55. L. Zhang, J. Jiang, and S. Cui, "Study of Half-Duplex Gaussian Relay Channels with Correlated Noises," *Proceedings: IEEE Wireless Communication and Networking Conference (WCNC)*, 5 pages, Sydney, Australia, April, 2010.
56. R. Zhang and S. Cui, "Interference Temperature Based Multi-Cell Coordinated Beamforming," *Proceedings: WCNC*, 5 pages, Sydney, Australia, April, 2010.
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67. S. Kar, R. Tandon, H. V. Poor, and S. Cui, "Distributed Detection in Noisy Sensor Networks," *Proceedings: IEEE ISIT*, St. Petersburg, Russia, August, 2011.
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73. C. Huang, R. Zhang, and S. Cui, Optimal Resource Allocation for Gaussian Relay Channel with Energy Harvesting Constraints, to appear at *IEEE ICASSP*, Kyoto, Japan, March 2012.
74. A. Aziz, M. Zeng, J. Zhou, C. Georghiades, and S. Cui, Robust Beamforming with Channel Uncertainty for Two-way Relay Networks, to appear at *IEEE ICC*, Ottawa, Canada, June 2012.
75. C. Huang, R. Zhang, and S. Cui, Delay-Constrained Gaussian Relay Channel with Energy Harvesting Nodes, to appear at *IEEE ICC*, Ottawa, Canada, June 2012.

Graduate Students and PostDocs

Current Students:

- Qing Zhou (Ph.D, expected in 2012);
- Chuan Huang (Ph.D, expected in 2012);
- Lili Zhang (Ph.D, expected in 2012);
- Amir Salimi (Ph.D, expected in 2014);
- Di Li (Ph.D, expected in 2015);
- Edwin Collado (Ph.D, expected in 2015);
- Hang Li (Ph.D, expected in 2015);
- Liang Ge (Ph.D, expected in 2015);
- Armin Banaei (Ph.D, expected in 2012, Co-supervised with Dr. Costas Georgiades);
- Ahsan Aziz (Ph.D, expected in 2011, Co-supervised with Dr. Costas Georgiades);
- Qiong Wu (MS, expected in 2012);
- Jianwei Zhou (MS, expected in 2012)

Current PostDocs:

- Dr. Beiyu Rong (2010~Present)

Former Students:

- Meng Zeng (Ph.D, 2011, now with Marvell Inc.)
- Long Gao (Ph.D, 2009, now with Hitachi Research Lab)
- Fan Wang (Ph.D, 2009, co-supervised with Prof. Krunz at Univ. of Arizona, now with Qualcomm Inc.)
- Mohammad Siam (Ph.D, 2009, co-supervised with Prof. Krunz at Univ. of Arizona, now with Al-Isra University faculty, Amman, Jordan)
- Jiaming Qiu (MS, 2011, now with Univ. of Maryland)
- Tarun Agarwal (MS, 2010, now with Amazon Inc.);
- Peili Cai (MS, 2009, now with Qualcomm Inc.);
- Charalambos Charalambous (MS, 2009, back to Cypress);
- Peng Wu (MS, 2007, now with Texas Instruments Inc.);

Former PostDocs:

- Dr. Jinhua Jiang (2008~2010, now with Qualcomm Inc.)
- Dr. Soumya Kar (2010~2011, now with Carnegie Mellon University faculty)

Honors and Awards

2005~Present: 3 NSF grant awards; 6 DoD grant awards.

2011: TEES Select Young Faculty Fellow.

11/2009: The best paper award at *the International Conference on Wireless Communications and Signal Processing*, Nanjing, China.

10/2007: The best paper award at *the Second International Conference on Cognitive Radio Oriented Wireless Networks and Communications*, Orlando, FL.

2001~2005: Ph.D Research Fellowship from National Semiconductor, USA.

2000~2002: NSERC Fellowship from the Natural Sciences and Engineering Research Council of Canada. (The highest honor for Canadian graduate students in science and engineering)

2000~2001: The Canadian Wireless Telecommunications Association (CWTA) Graduate Scholarship (National).

2000: Ontario Graduate Scholarship (Provincial).

1998: Ashbaugh Scholarship from McMaster University (Institutional).

1997: The prestigious title of "Excellent Graduate" in Beijing City.

1997: Graduated with the highest distinction (ranked 1st in the class) from BUPT.

Others: Scholarships from SONY (twice), SAMSUNG, and Minister of Ministry of Posts and Telecom. of China (three times); The second prize for the National Electronics Design Contest of College Students of China (Beijing); The prestigious title of "Excellent Student" in Beijing City (twice, 150 out of 500,000).

Professional Affiliations

- IEEE member (10/1998-Present)
- IEEE Communication Society/Signal Processing Society/Information Theory Society (2004-Present)

Professional Services

- *IEEE Signal Processing Society SPCOM Technical Committee:* Elected Member (1.2009-12.2013)
- *Technical Program Committee Chair:*
IEEE Communication Theory Workshop 2007;
IEEE ICC'08 Communication Theory Symposium;
IEEE GLOBECOM'10 Communication Theory Symposium;
IEEE Information Theory Summer School 2011;
IEEE SmartGridComm'12 Symposium on Smart Grid Cyber Security;
IEEE ICC'12 Symposium on Communication Theory and Security.
- *Technical Program Committee:* IEEE GLOBECOM'06; ACM IWCMC'06; IEEE WoWMoM'06; ACM IWCMC'08; IEEE RWS'07; IEEE ICC'07; IEEE GLOBECOM'07; IEEE VTC'07F; IEEE ICCCN'07; IEEE ICC'08; IEEE GLOBECOM'08; CROWNCOM'08; IEEE CHINACOM'08; IEEE CIP'08; IEEE ICC'09; IEEE CHINACOM'09; CROWNCOM'09; IEEE ICASSP'09; IEEE GLOBECOM'09; IEEE SPAWC'09; SpaSWiN'09; MobiCom CoRoNet'09; IEEE DySPAN'10; IEEE ICASSP'10; IEEE INFOCOM'10; IEEE SPAWC'10; IEEE GLOBECOM'10; IEEE ICC'11, DySPAN'11, IEEE GLOBECOM'11, IEEE ICASSP'11, IEEE SPAWC'11, IEEE INFOCOM'11, IEEE ICC'12, IEEE ICASSP'12, IEEE SmarGridCom'12, IEEE INFOCOM'12.
- *Other Conference Service:*
CROWNCOM'10 Publicity Chair;
Consultant Committee for the 7th Jordanian International Electrical & Electronics Engineering Conference.
- *Grant Panelist/Reviewer:* NSF, 2007; DoD-DTRA, 2008; DoD-DTRA, 2009; North Dakota EPSCoR program, 2009; DoD-AFOSR, 2009; DoD-DTRA, 2010; DoD-AFOSR, 2010; DoD-AFOSR 2011.
- *Associate Editor:* IEEE Transactions on Signal Processing (2011-present); IEEE Transactions on Wireless Communications (2010-present); IEEE Transactions on Vehicular Technology (2007-2009); IEEE Communication Letters (2006-2008); Journal of Communications and Networks (2006-2007).
- *Guest Editor:* EURASIP Journal on Wireless Communications and Networking, special issue on "Optimization Techniques in Wireless Communications", 2009.
- *Regular Reviewer for:* IEEE Transactions on Wireless Communications; IEEE Transactions on Information Theory; IEEE Transactions on Vehicular Technology; IEEE Journal of Selected Areas of Communications; IEEE Transactions on Communications; IEEE Transactions on Signal Processing; IEEE Transactions on Mobile Computing; IEEE/ACM Transactions on Networking; ACM/Kluwer MONET; EURASIP's Signal Processing. IEEE conferences: ICC, GLOBECOM, ISIT, WCNC, INFOCOM, MILCOM, VTC, CDC, etc.

- *Others:* Vice President of Chinese Students and Scholars Association at McMaster University (05/2000-08/2000). Committee Associate of the Association of Chinese Students and Scholars at Stanford (09/2002-09/2003).

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