

CURRICULUM VITAE

Full Name: Zhi-Quan (Tom) Luo

Home Address: 15255 62nd Ave N
Maple Grove, MN 55311, USA

Work Address: Department of Electrical and Computer Engineering
University of Minnesota
200 Union Street SE
Minneapolis, MN 55455, USA
Tel: (612)-625-0242, Fax: (612)-625-4583
E-mail address: luozq@ece.umn.edu

Citizenship: Canada

EDUCATION

Sept. 1985–
Aug. 1989 **Dept. of Electrical Engineering and Computer Science**
and **Operations Research Center,**
Massachusetts Institute of Technology, Cambridge, Mass., USA
- Candidate for Ph.D; completed August 1989
- Minor in Computer Science;
- Thesis topic: *Communication Complexity of Some Problems in Distributed Computation*; (Supervisor: J.N. Tsitsiklis)

Sept. 1984–
May 1985 **Nankai Institute of Mathematics, Nankai University,** Tianjin, China
- One year intensive training program in Mathematics and English, sponsored by the Ministry of Education of China.

Sept. 1980–
May 1984 **Dept. of Mathematics, Peking University,** Beijing, China
- B.Sc. in Applied Mathematics, 1984; GPA 4.9/5
- Awarded several scholarships for outstanding academic performances, 1980-84.
- Selected as one of the 15 students nationally by the Government of China and by a joint SIAM-AMS (*Society of Industrial and Applied Mathematics* and *American Mathematical Society*) committee for Ph.D study in the U.S. with full scholarship, 1984. (Also known as S.S. Chern Program)

EMPLOYMENT HISTORY

- April 2003–
present **Dept. of Electrical and Computer Engineering, University of Minnesota**
Professor and ADC Chair in Digital Technology
- April 2003–
present **Dept. of Electrical and Computer Engineering, McMaster University**
Adjunct Professor
- July 2001–
July 2004 **Dept. of Electrical and Computer Engineering, McMaster University**
Canada Research Chair (Tier I) in Information Processing
- July 2000–
April 2003 **Dept. of Electrical and Computer Engineering, McMaster University**
Department Head
- July 1998–
June 2005 **Dept. of Electrical and Computer Engineering, McMaster University**
Full Professor
- July 1992–
June 2003 **Dept. of Computing and Software, McMaster University**
Associate member
- July 1993–
June 1998 **Dept. of Electrical and Computer Engineering, McMaster University**
Tenured Associate Professor
- Sept. 1989–
June 1993 **Dept. of Electrical and Computer Engineering, McMaster University**
Tenure Track Assistant Professor
- Jan. 1986–
Aug. 1989 **Laboratory for Information and Decision Systems, MIT**
Research Assistant
Research to determine the minimum amount of information that has to be
exchanged in order for a set of processors to solve a problem cooperatively.
- Sept. 1985–
Dec. 1985 **Center for Technology, Policy and Industrial Development, MIT**
Research Assistant

AWARDS

1. 2011 IEEE Signal Processing Society Best Paper Award for the paper: Sidiropoulos, N.D., Davidson, T.N., and Luo, Z.-Q., “Transmit Beamforming for Physical Layer Multicasting,” *IEEE Transactions on Signal Processing*, Vol. 54, No. 6, pp. 2239–2251, 2006.
2. Best Paper Award, *2011 IEEE International Conference on Communications*, for the paper: Y.-F. Liu, Y.-H. Dai, and Z.-Q. Luo, “Max-Min Fairness Linear Transceiver Design for a Multi-User MIMO Interference Channel”.
3. SIAM Fellow, 2011, for the development of novel applied mathematics ideas and methods for signal processing and digital communication.
4. 2011 EURASIP Best Paper Award, for the paper: Luo, Z.-Q. and Pang, J.-S., “Analysis of Iterative Waterfilling Algorithm for Multiuser Power Control in Digital Subscriber Lines”, published in 2006 in the *EURASIP Journal on Applied Signal Processing*.
5. 2010 Farkas Prize from the Institute for Operations Research and the Management Sciences, for outstanding contributions to the field of optimization.
6. 2009 IEEE Signal Processing Society Best Paper Award for the paper: Luo, Z.-Q. and Zhang, S., “Dynamic Spectrum Management: Complexity and Duality,” *IEEE Journal of Selected Topics in Signal Processing*, Special Issue on Signal Processing and Networking for Dynamic Spectrum Access, Vol. 2, No. 1, pp. 57–73, February 2008.
7. Fellow of IEEE, 2007.
8. 2004 ICASSP Best Student Paper Award (with Ph.D student M. Kisialiou).
9. 2004 IEEE Signal Processing Society Best Paper Award for the paper “Robust Adaptive Beamforming Using Worst-Case Performance Optimization: A Solution to the Signal Mismatch Problem” which appeared in *IEEE Transactions on Signal Processing*, (co-authors: Vorobyov and Gershman), February 2003.
10. ADC Chair in Digital Technology, University of Minnesota, since April 2003.
11. Canada Research Chair (Tier I) in Information Processing, McMaster University, July 2001-July 2004.
12. Best Paper Award in the *International Conference on Optimization Techniques and Applications*, for the paper “Optimal Transceiver Design Via Convex Optimization”, December 2001, Hong Kong.
13. International Research Fellowship from K.C. Wong Education Foundation (Hong Kong) through Chinese Academy of Science, 1996.

PROFESSIONAL ACTIVITIES

1. Editor in Chief, *IEEE Transactions on Signal Processing*, 2012-2014.
2. Semi-plenary speaker, *2011 IEEE CDC conference*.
3. Visiting Professor, EECS Department, MIT, Spring 2011.
4. Chair (2011-2012)/Vice chair (2009-2010), IEEE Signal Processing Society Technical Committee on Signal Processing for Communications (SPCOM).
5. Member of IEEE Signal Processing Society Technical Committees on Signal Processing for Communications (SPCOM), 2006-2012, and on Signal Processing Theory and Methods (SPTM), 2006-2009.
6. Distinguished Lecturer for the *IEEE Sensor Array and Multichannel Signal Processing Workshop*, Waltham, MA, June 2006.
7. Semi-plenary speaker, *International Symposium on Mathematical Programming*, Copenhagen, Denmark, August, 2003.
8. Invited tutorial on “Convex Optimization Techniques for Signal Processing”, *IEEE International Conference on Acoustics Speech and Signal Processing*, Orlando, Florida, 2002.
9. Visiting Professor (September 2000 – December 2000), Department of Applied Mathematics and Physics, School of Informatics, Kyoto University, Kyoto, Japan.
10. Visiting Professor (September 2003 – December 2003), Information Systems Laboratory, Department of Electrical Engineering, Stanford University, USA.
11. Visiting Examiner (2003 – 2006), Department of Systems Engineering and Engineering Management, Chinese University of Hong Kong, Hong Kong.
12. International Research Fellowship from K.C. Wong Education Foundation (Hong Kong) through Chinese Academy of Science, 1996.
13. Guest co-editor, special issue of *IEEE Journal of Selected Areas of Communications* on ‘Nonlinear Optimization of Communication Systems’, 2006.
14. Guest co-editor for a special issue of *IEEE Signal Processing Magazine* on Distributed Signal Processing for Sensor Networks, 2006.
15. Guest co-editor, special issue of *Eurasip Journal on Applied Signal Processing*, on ‘Multisensor Processing for Signal Extraction and Applications’, 2006.
16. Associate editor for
 - *Management Science*, since 2009
 - *Journal of Optimization Theory and Applications*, 1991–2003

- *SIAM Journal on Optimization*
 - *Mathematics of Computation*, 1999-2004
 - *Mathematical Programming*, series B
 - *Mathematics of Operations Research*
 - *IEEE Transactions on Signal Processing*, 2000–2004
 - *Optimization and Engineering*
 - *IEEE Signal Processing Magazine*, since 2010
17. Guest Professor, School of Mathematical Sciences, Peking University, P.R. China, 2009–2011.
 18. Adjunct Professor, Department of Information Science and Engineering, Nanchang University, Jiangxi, P.R. China.
 19. Adjunct Professor, Department of Applied Mathematics, Shanghai University, Shanghai, P.R. China.
 20. Referee of numerous NSF (U.S.), NSERC (Canada), and RGC (Hong Kong) grant applications on Applied Mathematics, Signal Processing, Circuits and Systems
 21. Served on CITO (*Communication and Information Technology Ontario*, a provincial research center of excellence) research program review panel and NSF proposal review panel in the area of computational sciences and information technology.
 22. Organizer of 1998 international workshop on Optimization Methods and Applications, held in City University of Hong Kong.
 23. Organizer and session chairperson of many international conferences on high performance computing and optimization methods.
 24. Nominated twice for the McMaster University teaching award by the McMaster Student Union.

RESEARCH FUNDING (1997 – present)

1. National Science Foundation, \$314,125, August 1 , 2012 – July 31, 2015.
 - Project title: A Cross-Tier Approach to Interference Management in Wireless Heterogeneous Networks
 - Principal investigator: Luo, Z.-Q.
2. US AFOSR, \$303,950, July 5, 2012– June 14, 2015.
 - Project title: Mixed Integer Quadratic Optimization
 - Principal investigator: Luo, Z.-Q.
3. Huawei, \$300,000, 01/01/2010-12/31/2012
 - Project title: Interference Management Techniques for Wireless Communication
 - Principal investigator: Z.-Q. Luo
4. NIH, \$275,000, 01/01/2011-12/30/2012
 - Project title: Novel, Fast B1 Mapping with Low SAR for Multiple RF Coils at Ultra High Field
 - Principal investigator: P.F. Van de Moortele, Co-PI: Z.-Q. Luo
5. US NSF, \$120,000, 2010–2013.
 - Project title: Semidefinite Programming Relaxation: Approximation Algorithms, Performance Analysis and Applications
 - Principal investigator: Luo, Z.-Q.
6. US AFOSR, \$280,949, 2009–2012.
 - Project title: Optimization Algorithms and Equilibrium Analysis for Dynamic Resource Allocation
 - Principal investigator: Luo, Z.-Q.
7. US DOD Army, \$255,000, 2009–2012.
 - Project title: Dynamic Spectrum Management: Complexity, Duality and Approximation
 - Principal investigator: Luo, Z.-Q.
8. ADC Endowed Chair operating fund, \$45,000 per annum, 2009-2014, University of Minnesota Foundation
 - Principal investigator: Luo, Z.-Q.
9. Digital Technology Center, University of Minnesota, \$28,500, 2007-2008
 - Project title: Optimal B1 Shimming for Ultra High Field Human Scanners

- Principal investigator: Luo, Z.-Q., Co-PI: Van de Moortele, P.F.
10. Institute of Technology, University of Minnesota, \$10,000, 2007-2008
 - Project title: Mathematical Algorithms for Image Processing
 - Principal investigator: Luo, Z.-Q., Co-PI: Ming, Jiang (Peking University)
 11. National Science Foundation (CMMI), \$314,604, 2007–2010.
 - Project title: Optimal Resource Management: Complexity, Duality and Approximation
 - Principal investigator: Luo, Z.-Q.
 12. National Science Foundation (DMS), \$150,000, 2006–2009.
 - Project title: High Performance Approximation Algorithms for Nonconvex Quadratic Optimization with Applications in Signal Processing and Communication
 - Principal investigator: Luo, Z.-Q.
 13. US DOD ARMY, \$300,000, 2005–2008.
 - Project title: Mathematical Analysis of the Signal Processing Capabilities of Sensor Networks
 - Principal investigator: Luo, Z.-Q.
 14. National Science Foundation (DMS), \$188,000, 2003–2007.
 - Project title: Convex Optimization Techniques in Signal Processing and Communication
 - Principal investigator: Luo, Z.-Q.
 15. ADC Chair operating fund, \$50,000 per annum, 2003-2008, University of Minnesota Foundation
 - Principal investigator: Luo, Z.-Q.
 16. Operating grant from Canada Research Chairs program, \$200,000 per annum, 2001–2008.
 - Principal investigator: Luo, Z.-Q.
 17. Research grant from Ontario Innovation Trust, \$49,660 per annum, 2001-2005.
 - Principal investigator: Luo, Z.-Q.
 18. Research Grant from Canada Foundation for Innovation, \$49,660 per annum, 2001-2005.
 - Project title: Testing and Analysis Equipment for Information Processing Lab.
 - Principal investigator: Luo, Z.-Q.
 19. Research grant from NSERC, \$42,000 per annum, 1999–2003.
 - Project title: Advanced Optimization Algorithms for Digital Communication and Signal Processing.
 - Principal investigator: Luo, Z.-Q.

20. Research contract from CITO, \$90,000 per annum 2000-2002.
 - Project title: Data Fusion with Applications to Multi-target Tracking
 - Principal investigator: Luo, Z.-Q., Co-investigators: Bosse, E. and Wong, M.
21. Research contract from CITO, \$75,000 per annum 2001-2003.
 - Project title: Algorithmic Issues in Practical Communication
 - Principal investigator: Luo, Z.-Q., Co-investigators: Davidson, T.N.
22. International Cooperative Research Project sponsored by the Ministry of Education, Science, Sports and Culture of Japan, \$9,900,000 (Yen), 1999-2001.
 - Project title: Synthesis, Analysis, and Algorithms for Equilibrium Problems
 - Principal investigator: Fukushima, M. (Kyoto University, Japan), Co-investigators: Kanzow, C. (Germany), Luo, Z.-Q. (Canada), Qi, L. (Australia), Pang, J.S., Tseng, P. (U.S.A.), Chen, X., Yamashita (Japan).
23. Research contract from CITO, \$50,000 per annum, 1998-2000.
 - Project title: Data Fusion with Applications to Multi-target Tracking
 - Principal investigator: Luo, Z.-Q., Co-investigators: Bosse, E. and Wong, M.
24. Research contract from Groupe Informission, \$30,000 per annum, 1998-2000.
 - Project title: Data Fusion with Applications to Multi-target Tracking
 - Principal investigator: Luo, Z.-Q., Co-investigators: Bosse, E. and Wong, M.
25. Research contract from Nortel Networks, \$22,000, 1998-1999.
 - Project title: High Order Statistics Methods for Blind Signal Separation
 - Principal Investigator: Luo, Z.-Q.
26. Research contract from Ontario Hydro Technology, \$17,000, 1998-1999.
 - Project title: Feasibility Study of Digital Communication over Power Lines.
 - Principal investigator: Luo, Z.-Q., Co-investigators: Davidson, T., Reilly, J.P.
27. Research contract from DREV, \$120,000, 1997-1999.
 - Project title: Multi-target Tracking and Data Fusion
 - Principal investigator: Luo, Z.-Q., Co-investigator: Wong, K.M.
28. Research grant from NSERC, \$33,300 per annum, 1995–1999.
 - Project title: Mathematical Programs with Equilibrium Constraints
 - Principal investigator: Luo, Z.-Q.
29. Research contract from DREO, \$74,405, 1997-1998.

- Project title: DSP implementation of On-line Classification Algorithms for Intra-Pulse Analysis.
- Principal investigator: Luo, Z.-Q., Co-investigator: Wong, K.M.

30. Research contract from DREO, \$55,000, 1996-1997.

- Project title: Intra-Pulse Analysis of Passive Emitters
- Principal investigator: Wong, K.M., Co-investigator: Luo, Z.-Q.

PUBLICATIONS

A. Refereed Journal Publications

- **Journal Papers (published or accepted)**

1. Razavi, A., Zhang, W. and Luo, Z.-Q., “Distributed Optimization in an Energy-constrained Network: Analog Versus Digital Communication Schemes,” Accepted for publication in *IEEE Transactions on Information Theory*, 2012.
2. Razaviyayn, M., Lyubeznik, G. and Luo, Z.-Q., “On the Degrees of Freedom Achievable Through Interference Alignment in a MIMO Interference Channel,” *IEEE Transactions on Signal Processing*, Vol. 60, pp. 812–821, February 2012.
3. Nekui, M., Kisialliou, M., Davidson, T. and Luo, Z.-Q., “Efficient Soft-Output Demodulation of MIMO QPSK via Semidefinite Relaxation,” *IEEE Journal of Selected Topics in Signal Processing*, Vol. 5, pp. 1426–1437, December 2011.
4. Shi, Q.J., Razaviyayn, M., He, C. and Luo, Z.-Q., “An Iteratively Weighted MMSE Approach to Distributed Sum-Utility Maximization for a MIMO Interfering Broadcast Channel,” *IEEE Transactions on Signal Processing*, Vol. 59, pp. 4331–4340, March 2011.
5. Qiu, J., Zhang, R., Luo, Z.-Q. and Cui, S., “Optimal Distributed Beamforming for MISO Interference Channels,” *IEEE Transactions on Signal Processing*, Vol. 59, pp. 5638–5643, July 2011.
6. Razaviyayn, M., Sanjabi, M. and Luo, Z.-Q., “Linear Transceiver Design for Interference Alignment: Complexity and Computation,” Accepted for publication in *IEEE Transactions on Information Theory*, 2011.
7. Jiang, X., Georgiou, T. and Luo, Z.-Q., “Geometric Methods for Spectral Analysis,” Accepted for publication in *IEEE Transactions on Signal Processing*, September 2011.
8. Liu, Y.-F., Dai, Y.-H. and Luo, Z.-Q., “Coordinated Beamforming for MISO Interference Channel: Complexity Analysis and Efficient Algorithms,” *IEEE Transactions on Signal Processing*, Vol. 59, No. 3, pp. 1142–1157, 2011.
9. Razaviyayn, M., Luo, Z.-Q., Tseng, P. and Pang, J.-S., “A Stackelberg Game Approach to Distributed Spectrum Management,” *Mathematical Programming, Series B*, Vol. 129, pp. 197–224, 2011.
10. Luo, Z.-Q., Ma, W.-K. So, A.M.-C., Ye, Y. and Zhang, S., “Semidefinite Relaxation of Quadratic Optimization Problems,” *IEEE Signal Processing Magazine*, Vol. 27, No. 3, pp. 20–34, 2010.
11. He, S., Li, M., Luo, Z.-Q. and Zhang, S., “A Nonconvergent Example for the Iterative Water-filling Algorithm,” Accepted for publication in *Numerical Algebra, Control and Optimization*, October 2010.
12. Luo, Z.-Q. and Zhang, S., “A Semidefinite Relaxation Scheme for Multivariate Quartic Polynomial Optimization With Quadratic Constraints,” *SIAM Journal on Optimization*, Vol. 20, pp. 1716–1736, 2010.

13. Matskani, E., Sidiropoulos, N.D., Luo, Z.-Q. and Tassiulas, L., "Efficient Batch and Adaptive Approximation Algorithms for Joint Multicast Beamforming and Admission Control," *IEEE Transactions on Signal Processing*, Vol. 57, pp. 4882–4894, 2009.
14. Kisialiou, M., Luo, X.-D., and Luo, Z.-Q., "Quasi-Maximum-Likelihood Detection Based on Semidefinite Relaxation: Analysis and Implementation," *IEEE Transactions on Signal Processing*, Vol. 57, No. 12, pp. 4811–4822, 2009.
15. Kisialiou, M. and Luo, Z.-Q., "Probabilistic Analysis of Semidefinite Relaxation for Binary Quadratic Minimization," *SIAM Journal on Optimization*, Vol. 20, No. 4, pp. 1906–1922, 2010.
16. Yang, K.-H., Wang, G. and Luo, Z.-Q., "Efficient Convex Relaxation Methods for Robust Target Localization by a Sensor Network Using Time Differences of Arrivals," *IEEE Transactions on Signal Processing*, Vol. 57, No. 7, pp. 2775–2784, July 2009.
17. Gohary, R., Huang, Y., Luo, Z.-Q. and Pang, J.-S., "A Generalized Iterative Water-filling Algorithm for Distributed Power Control in the Presence of a Jammer," *IEEE Transactions on Signal Processing*, Vol. 57, No. 7, pp. 2660–2674 July, 2009.
18. Luo, Z.-Q. and Zhang, S., "Duality Gap Estimation and Polynomial Time Approximation for Optimal Spectrum Management," *IEEE Transactions on Signal Processing*, Vol. 57, No. 7, pp. 2675–2689, July 2009.
19. De Maio, A., De Nicola, S., Huang, Y., Luo, Z.-Q. and Zhang, S., "Design of Phase Codes for Radar Performance Optimization With a Similarity Constraint," *IEEE Transactions on Signal Processing*, Vol. 57, No. 2, pp. 610–621, Feb. 2009.
20. Hayashi, S. and Luo, Z.-Q., "Spectrum Management for Interference-limited Multiuser Communication Systems," *IEEE Transactions on Information Theory*, Vol. 55, No. 3, pp. 1153–1175, March 2009.
21. Srirangarajan, S., Tewfik, A. and Luo, Z.-Q., "Distributed Sensor Network Localization Using SOCP Relaxation," *IEEE Transactions on Wireless Communications*, Vol. 7, No. 12, Part 1, pp. 4886–4895, December 2008.
22. Nassab, V.M., Shahbazpanahi, S., Grami, A. and Luo, Z.-Q., "Distributed Beamforming for Relay Networks based on Second Order Statistics of the Channel State Information," *IEEE Transactions on Signal Processing*, Vol. 56, No 9, pp. 4306–4316, September 2008.
23. He, S., Luo, Z.-Q., Nie, J.W. and Zhang, S., "Semidefinite Relaxation Bounds for Indefinite Homogeneous Quadratic Optimization," *SIAM Journal on Optimization*, Vol. 19, pp. 503–523, 2008.
24. Chang, T.-H., Luo, Z.-Q. and Chi, C.-Y., "Approximation Bounds for Semidefinite Relaxation of Max-min-fair Multicast Transmit Beamforming Problem," *IEEE Trans. Signal Process.*, vol. 56, no. 8, pp. 3932–3943, August 2008.
25. Luo, Z.-Q. and Zhang, S., "Dynamic Spectrum Management: Complexity and Duality," *IEEE Journal of Selected Topics in Signal Processing*, Special Issue on Signal Processing and Networking for Dynamic Spectrum Access, Vol. 2, No. 1, pp. 57–73, February 2008.

26. Singh, J., Luo, Z.-Q. and Sapatnekar, S., "A Geometric Programming-based Worst-Case Gate Sizing Method Incorporating Spatial Correlation," *IEEE Transactions on Computer-Aided Design*, Vol. 27, No. 2, pp. 295–308, February 2008.
27. Matakani, E., Sidiropoulos, N.D., Luo, Z.-Q. and Tassiulas, L., "Convex Approximation Techniques for Joint Multiuser Downlink Beamforming and Admission Control," *IEEE Transactions on Wireless Communication*, Vol. 7, No. 7, pp. 2682–2693, July, 2008.
28. S.-J. Kim, Magnani, A., Mutapcic, A., Boyd, S.P., and Luo, Z.-Q., "Robust Beamforming via Worst-Case SINR Maximization," *IEEE Transactions on Signal Processing*, Vol. 56, No. 4, pp. 1539–1547, April 2008.
29. Xiao, J.-J. and Luo, Z.-Q., "Multiterminal Source-Channel Communication Under Orthogonal Multiple Access," *IEEE Transactions on Information Theory*, Vol. 53, No. 9, pp. 3255–3264, September 2007.
30. Xiao, J.-J., Cui, S., Luo, Z.-Q., and Goldsmith, A.J., "Linear Coherent Decentralized Estimation," *IEEE Transactions on Signal Processing*, Vol. 56, No. 2, pp. 757–770, February 2008.
31. Karipidis, E., Sidiropoulos, N.D. and Luo, Z.-Q., "Far-Field Multicast Beamforming for Uniform Linear Antenna Arrays," *IEEE Transactions on Signal Processing* Vol. 55, No. 10, pp. 4916–4927, October 2007.
32. Cui, S., Xiao, J.-J., Goldsmith, A.J., Luo, Z.-Q. and Poor, H.V., "Estimation Diversity and Energy Efficiency in Distributed Sensing," *IEEE Transactions on Signal Processing*, Vol. 55, No. 9, pp. 4683–4695, 2007.
33. Schizas, I.D., Giannakis, G.B. and Luo, Z.-Q., "Distributed Estimation Using Reduced Dimensionality Sensor Observations," *IEEE Transactions on Signal Processing*, Vol. 55, No. 8, pp. 4284–4299, August 2007.
34. Luo, Z.-Q. and Yu, W., "An Introduction to Convex Optimization for Communications and Signal Processing," *IEEE Journal on Selected Areas of Communication*, Vol. 24, No. 8, pp. 1–13, August 2006.
35. Xiao, J.-J., Ribeiro, A., Giannakis, G.B. and Luo, Z.-Q., "Distributed Compression-estimation Using Wireless Sensor Networks," *IEEE Signal Processing Magazine*, Vol. 23, No. 4, pp. 27–41, July 2006.
36. Luo, Z.-Q., Sidiropoulos, N.D., Tseng, P. and Zhang, S., "Approximation Bounds for Quadratic Optimization with Homogeneous Quadratic Constraints," *SIAM Journal on Optimization*, Vol. 18, pp. 1–28, 2007.
37. Xiao, J.-J., Luo, Z.-Q., and Giannakis, G.B., "Performance Bounds for the Rate-Constrained Universal Decentralized Estimators," *IEEE Signal Processing Letters*, Vol. 14, No. 1, pp. 47–50, 2007.
38. Xiao, J.-J., Cui, S., Luo, Z.-Q. and Goldsmith, A.J., "Power Scheduling of Universal Decentralized Estimation in Sensor Networks," *IEEE Transactions on Signal Processing*, Vol. 54, No. 2, pp. 413–422, 2006.

39. Sidiropoulos, N.D. and Luo, Z.-Q., “A Semidefinite Relaxation Approach to MIMO Detection for High-order QAM Constellations,” *IEEE Signal Processing Letters*, Vol. 13, pp. 525–528, September 2006.
40. Ohno, S., Giannakis, G. and Luo, Z.-Q., “Multi-Carrier Multiple Access is Sum-Rate Optimal for Block Transmissions over Circulant ISI Channels,” *IEEE Journal on Selected Areas in Communication*, Special issue on “Advances in Multicarrier CDMA”, Vol. 24, No. 6, pp. 1256–1260, June 2006
41. Luo, Z.-Q. and Pang, J.-S., “Analysis of Iterative Waterfilling Algorithm for Multiuser Power Control in Digital Subscriber Lines,” Special issue of *EURASIP Journal on Applied Signal Processing* on Advanced Signal Processing Techniques for Digital Subscriber Lines, Vol. 2006, Article ID 24012, 10 pages, 2006.
42. Sidiropoulos, N.D., Davidson, T.N., and Luo, Z.-Q., “Transmit Beamforming for Physical Layer Multicasting,” *IEEE Transactions on Signal Processing*, Vol. 54, No. 6, pp. 2239–2251, 2006.
43. Xiao, J.-J., Cui, S., Luo, Z.-Q. and Goldsmith, A.J., “Joint Estimation in Sensor Networks under Energy Constraints,” *IEEE Transactions on Signal Processing*, Vol. 54, No. 2, pp. 413–422, Feb. 2006.
44. Krasnopeev, A., Xiao, J.-J. and Luo, Z.-Q., “Minimum Energy Decentralized Estimation in a Wireless Sensor Network with Correlated Sensor Noise,” Special issue of *EURASIP Journal on Wireless Communications and Networking* on Wireless Sensor Networks, Vol. 2005, Issue 4, pp. 473–482, 2005.
45. Luo, Z.-Q., “Universal Decentralized Estimation in a Bandwidth Constrained Sensor Network,” *IEEE Transactions on Information Theory*, Vol. 51, No. 6, pp. 2210–2219, June 2005.
46. Saad, M. and Luo, Z.-Q., “Reconfiguration with No Service Disruption in Multifiber WDM Networks,” *IEEE/OSA Journal of Lightwave Technology*, Vol. 23, No. 10, pp. 3092–3104, October 2005.
47. Saad, M. and Luo, Z.-Q., “Design of WDM Networks Under Economy of Scaling Pricing and Shortest Path Routing,” *IEEE Journal on Selected Areas of Communication*, Special issue on “Optical Communications and Networking (OCN)”, Vol. 24, No. 4, April 2006.
48. Luo, Z.-Q. and Xiao, J.-J., “Universal Decentralized Estimation in an Inhomogeneous Environment,” *IEEE Transactions on Information Theory*, Vol. 51, No. 10, pp. 3564–3575, October 2005.
49. Gershman, A., Luo, Z.-Q. and Shahbazpanahi, S., “Robust Adaptive Beamforming Based on Worst-Case Performance Optimization,” in *Robust Adaptive Beamforming*, edited by Jian Li and Petre Stoica, John Wiley & Sons, Inc., 2005.
50. Liu, J., Lee, J., Li, L., Luo, Z.-Q. and Wong, K.M., “On-line Clustering Algorithms for Radar Emitter Classification,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 27, No. 8, pp. 1185–1196, Aug. 2005.
51. Luo, Z.-Q., “An Isotropic Universal Decentralized Estimation Scheme for a Bandwidth Constrained Ad Hoc Sensor Network,” *IEEE Journal on Selected Areas in Communications*, a

- special issue on Self-Organizing Distributed Collaborative Sensor Networks, Vol. 23, No. 4, pp. 735–744, April 2005.
52. Yu, J.X., Li, Y., Luo, Z.-Q. and Yoshida, S., “Split Soft-decision Equalization for Wireless Channels with Large Delay Spread,” *IEEE Transactions on Communications*, Vol. 53, No. 2, pp. 269–277, February 2005.
 53. Xiao, J.-J. and Luo, Z.-Q., “Universal Decentralized Detection with a Bandwidth Constrained Sensor Network,” *IEEE Transactions on Signal Processing*, Vol. 53, No. 8, pp. 2617–2624, August 2005.
 54. Cui, S., Kisiailiou, M., Luo, Z.-Q. and Ding, Z., “Robust Blind Multiuser Detection against Signature Waveform Mismatch,” *IEEE Transactions on Wireless Communication*, Vol. 4, No. 4, pp. 1285–1291, 2005.
 55. Yan, Z., Wong, K.M. and Luo, Z.-Q., “Optimal Diagonal Precoder for Multi-antenna Communication Systems,” *IEEE Transactions on Signal Processing*, Vol. 53, No. 6, June 2005.
 56. Zarifi, K., Shahpazpanahi, S., Gershman, A. and Luo, Z.-Q., “Robust Blind Multiuser Detection Based on the Worst-Case Performance Optimization of the MMSE Receiver,” *IEEE Transactions on Signal Processing*, Vol. 53, No. 1, pp. 295–305, January 2005.
 57. Yamashita, N. and Luo, Z.-Q., “A Nonlinear Complementarity Approach to Multiuser Power Control for Digital Subscriber Lines,” *Optimization Methods and Software*, Vol. 19, No. 5, pp. 633–652, October, 2004.
 58. Saad, M. and Luo, Z.-Q., “On the Routing and Wavelength Assignment in Multifiber WDM Networks,” *IEEE Journal on Selected Areas in Communications*, Special issue on “Optical Communications and Networking (OCN)”, Vol. 22, pp. 1708–1717, 2004.
 59. Luo, Z.-Q., Sturm, J. and Zhang, S., “Multivariate Nonnegative Quadratic Mappings,” *SIAM Journal on Optimization*, Vol. 14, No. 4, pp. 1140–1162, 2004.
 60. Luo, Z.-Q., Davidson, T.N., Giannakis, G.B. and Wong, K.M., “Transceiver Optimization for Multiple Access through ISI Channels”, *IEEE Transactions on Signal Processing*, Vol. 52, No. 4, pp. 1037–1052, 2004.
 61. Vorobyov, S., Gershman, A., Luo, Z.-Q. and Ma, N., “Adaptive Beamforming with Joint Robustness Against Mismatched Signal Steering Vector and Interference Nonstationarity,” *IEEE Signal Processing Letters*, Vol. 11, No. 2, pp. 108–111, February, 2004.
 62. Steingrimsson, B., Luo, Z.-Q. and Wong, K.M., “Soft Quasi-Maximum-Likelihood Detection for Multiple-Antenna Channels,” *IEEE Transactions on Signal Processing*, Vol. 51, No. 11, pp. 2710–2719, November, 2003.
 63. Luo, Z.-Q., “Applications of Convex Optimization in Signal Processing and Digital Communication,” *Mathematical Programming*, Vol. 97, Series B, pp. 177–207, 2003.
 64. Shahbazpanahi, S., Gershman, A., Luo, Z.-Q. and Wong, K.M., “Robust Adaptive Beamforming For General-Rank Signal Models,” *IEEE Transactions on Signal Processing*, Vol. 51, No. 9, pp. 2257–2269, September 2003.
 65. Luo, Z.-Q. and Lu, J., “Blind Separation for Instantaneously Mixed Signals,” *Mathematical Programming*, Series B, Vol. 97, No. 3, pp. 587–603, August 2003.

66. Mirjalily, G., Luo, Z.-Q., Davidson, T. and Bosse, E., "Blind Adaptive Decision Fusion for Distributed Detection", *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 39, No. 1, pp. 34–52, January 2003.
67. Liu, J., Gershman, A. and Luo, Z.-Q., "Adaptive Beamforming with Sidelobe Control: A Second Order Cone Programming Approach," *IEEE Signal Processing Letters*, Vol. 10, pp. 331–334, November, 2003.
68. Vorobyov, S., Gershman, A. and Luo, Z.-Q., "Robust Adaptive Beamforming Using Worst-Case Performance Optimization: A Solution to the Signal Mismatch Problem," *IEEE Transactions on Signal Processing*, Vol. 51, No. 2, pp. 313–323, February 2003.
69. Ding, Y.-W., Davidson, T.N., Luo, Z.-Q. and Wong, K.M., "Minimum BER Block Precoders for Zero-forcing Equalization," *IEEE Transactions on Signal Processing*, Vol. 51, No. 9, pp. 2410–2423, September 2003.
70. Maricic, B., Luo, Z.-Q. and Davidson, T.N., "Blind Constant Modulus Equalization via Convex Optimization," *IEEE Transactions on Signal Processing*, Vol. 51, pp. 805–818, March 2003.
71. Davidson, T.N., Luo, Z.-Q. and Sturm, J., "Linear Matrix Inequality Formulation of Spectral Mask Constraints," *IEEE Transactions on Signal Processing*, Vol. 50, pp. 2702–2715, November 2002.
72. Pesavento, M., Gershman, A. and Luo, Z.-Q., "Robust Array Interpolation Using Second-Order Cone Programming," *IEEE Signal Processing Letters*, Vol. 9, pp. 8–11, 2002.
73. Ma, W.-K., Davidson, T.N., Wong, K.M., Luo, Z.-Q. and Ching, P.-C., "Quasi-maximum-likelihood multiuser detection using semi-definite relaxation," *IEEE Transactions on Signal Processing*, Vol. 50, pp. 912–922, April 2002.
74. Luo, Z.-Q., Meng, M., Wong, K.M. and Zhang, J.-K., "A Fractionally Spaced Blind equalizer Based on Linear Programming," *IEEE Transaction on Signal Processing*, Vol. 50, pp. 1650–1660, July 2002.
75. Li, L., Luo, Z.-Q., Wong, K.M. and Bossé, E., "Robust Filtering via Semidefinite Programming with Applications to Target Tracking," *SIAM Journal on Optimization*, Vol. 12, pp. 740–755, 2002.
76. Fukushima, M., Luo, Z.-Q. and Tseng, P., "A Sequential Quadratically Constrained Quadratic Programming Method for Differentiable Convex Minimization," *SIAM Journal on Optimization*, Vol. 12, No. 2, pp. 436–460, 2001.
77. Zhang, J.-K., Davidson, T.N., Luo, Z.-Q. and Wong, K.M., "Design of Interpolating Biorthogonal Multiwavelet Systems with Compact Support," *Applied and Computational Harmonic Analysis*, Vol. 11, pp. 420–438, 2001.
78. Afkhamie, K.H., Luo, Z.-Q. and Wong, K.M., "MMSE Decision-Feedback Equalization with Short Training Sequences: An Application of Interior Point Least Squares," *IEEE Transactions on Signal Processing*, Vol. 49, pp. 1543–1555, July 2001.
79. Fukushima, M., Luo, Z.-Q. and Tseng, P., "Smoothing Functions for Second-Order-Cone Complementarity Problems," *SIAM Journal on Optimization*, Vol. 12, No. 2, pp. 436–460, 2001.

80. Li, L., Luo, Z.-Q., Wong, K.M. and Bossé, E. "Convex Optimization Approach to Identity Fusion For Multi-Sensor Target Tracking," *IEEE Transaction on Systems, Man and Cybernetics*, Part A: Systems and Humans, Vol. 31, No. 3, pp. 172–178, 2001.
81. Fu, M., Souza, C. and Luo, Z.-Q., "Finite Horizon Robust Kalman Filter Design," *IEEE Transactions on Signal Processing*, Vol. 49, pp. 2103–2112, Sept. 2001.
82. Luo, Z.-Q., "New Error Bounds and Their Applications to Convergence Analysis of Iterative Algorithms," *Mathematical Programming, Series B*, Vol. 88, pp. 341–356, 2000.
83. Luo, Z.-Q., Sturm, J.F. and Zhang, S., "Conic Convex Programming and Self-dual Embedding," *Optimization Methods and Software*, Vol. 14, No. 3, pp. 169–218, 2000.
84. Ding, Z. and Luo, Z.-Q., "A Fast Linear Programming Algorithm for Blind Equalization," *IEEE Transactions on Communications*, Vol. 48, pp. 1432–1436, September, 2000.
85. Afkhamie, K.H. and Luo, Z.-Q., "Blind Identification of FIR Systems Driven by Markov-Like Input Signals," *IEEE Transactions on Signal Processing*, Vol. 48, No. 6, pp. 1726–1736, 2000.
86. Davidson, T.N., Luo, Z.-Q. and Wong, K.M., "Spectrally-Efficient Orthogonal Pulse Shape Design via Semidefinite Programming," *IEEE Transactions on Signal Processing*, Vol. 48, No. 5, pp. 1433–1445, 2000.
87. Afkhamie, K., Luo, Z.-Q. and Wong, K.M., "Adaptive Linear Filtering Using Interior Point Optimization Techniques," *IEEE Transactions on Signal Processing*, Vol. 48, No. 6, pp. 1637–1648, 2000.
88. Zhu, Y., Blum, R., Luo, Z.-Q. and Wong, K.M., "Unexpected Properties and Optimal Distributed Sensor Detectors for Dependent Observation Cases," *IEEE Trans. on Automatic Control*, Vol. 45, No. 1, pp. 62–72, 2000.
89. Luo, Z.-Q. and Sturm, J.F., "Error Bounds for Quadratic Systems," *High Performance Optimization*, Hans Frenk, Kees Roos, Tamas Terlaky and Shuzhong Zhang (Eds.), pp. 383–404, Kluwer Academic Publishers, 2000.
90. Luo, Z.-Q. and Sun, J., "Polynomial Cutting Surfaces Algorithm for the Convex Feasibility Problem Defined by Self-Concordant Inequalities", *Computational Optimization and Applications*, Vol. 15, pp. 167–191, 2000.
91. Wong, K.M., Luo, Z.-Q., Liu, J., Lee, J. and Gao, S., "Radar Emitter Classification Using Intra-Pulse Data," *International Journal on Electronics and Communications*, Vol. 53, No. 6, pp. 324–332, 1999.
92. Luo, Z.-Q., Roos, C. and Terlaky, T., "Complexity Analysis of a Logarithmic Barrier Decomposition Method for Semi-infinite Linear Programming", *Applied Numerical Mathematics*, Vol. 29, pp. 379–394, 1999.
93. Zhang, J., Wong, K.M., Luo, Z.-Q. and Ching, P.C., "Blind Adaptive FRESH Filtering for Signal Extraction," *IEEE Transactions on Signal Processing*, Vol. 47, No. 5, pp. 1397–1402, 1999.
94. Li, X.-L., Luo, Z.-Q., Wong, K.M. and Bosse, E., "An Interior Point Linear Programming Approach to Two-Scan Data Association," *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 35, No. 2, pp. 474–490, 1999.

95. Luo, Z.-Q. and Sun, J., “An Analytic Center Based Column Generation Algorithm for Convex Quadratic Feasibility Problems”, *SIAM Journal on Optimization*, Vol. 9, No. 1, pp. 217-235, 1999.
96. Luo, Z.-Q. and Sturm, J.F., “Error Analysis,” *Handbook of Semidefinite Programming: Theory, Algorithms and Applications*, editors: H. Wolkowicz, R. Saigal and L. Vandenberghe, Kluwer Academic Press, pp. 163–188, 1999.
97. Luo, Z.-Q. and Zhang, S., “On Extensions of Frank-Wolfe Theorems,” *Computational Optimization and Applications*, Vol. 13, pp. 87–110, 1999.
98. Fukushima, M., Luo, Z.-Q. and Pang, J.-S., “A Globally Convergent Sequential Quadratic Programming Algorithm for Mathematical Programs with Linear Complementarity Constraints”, *Computational Optimization and Applications*, Vol. 10, No. 1, pp. 5–34, 1998.
99. Fu, M., Luo, Z.-Q. and Ye, Y., “Approximation Algorithms for Quadratic Programming”, *Journal of Combinatorial Optimization*, Vol. 2, pp. 29–50, 1998.
100. Wong, K.M., Luo, Z.-Q., Jin, Q. and Bossé, E., “Data Compression, Data Fusion and Kalman Filtering in Wavelet Packet Sub-bands of a Multi-sensor Tracking System,” *IEEE Proceedings on Radar, Sonar and Navigation*, Vol. 145, pp.100-108, 1998.
101. Luo, Z.-Q., Sturm, J. and Zhang, S., “Superlinear Convergence of a Symmetric Primal-Dual Path Following Algorithm for Semidefinite Programming”, *SIAM Journal on Optimization*, Vol. 8, No. 1, pp. 59–81, 1998.
102. Fu, M. and Luo, Z.-Q., “Computational Complexity of a Problem Arising in Fixed Order Output Feedback Design”, *Systems Control Letters*, Vol. 30, pp. 209–215, 1997.
103. Luo, Z.-Q., Pang, J.-S. and Ralph, D., “A Piecewise Sequential Quadratic Programming for Mathematical Programs with Nonlinear Complementarity Constraints”, *Multi-level Optimization: Algorithms and Applications*, edited by Pardalos, P., Kluwer Academic Press, pp. 209–228, 1998.
104. Luo, Z.-Q. and Tseng, P., “A New Class of Merit Functions for Nonlinear Complementarity Problems”, *SIAM Proceedings on Complementarity Problems*, pp. 204–225, 1997.
105. Luo, Z.-Q., Wu, S. Q. and Ye, Y., “Predictor-Corrector Method for Nonlinear Complementarity Problem,” *Acta Mathematicae Applicatae Sinica*, Vol. 13, pp. 324–340, July, 1997.
106. Luo, Z.-Q., “Analysis of a Cutting Plane Method That Uses Weighted Analytic Center and Multiple Cuts,” *SIAM Journal of Optimization*, Vol. 7, pp. 697–716, 1997.
107. Jin, Q., Luo, Z.-Q., and Wong, K.M., “Optimum Filter Banks for Signal Decomposition and Its Application in Adaptive Echo Cancellation,” *IEEE Trans. On Signal Processing*, Vol. 44, no. 7, pp. 1669-1680, July, 1996.
108. Luo, Z.-Q., Pang, J.-S., Ralph, D. and Wu, S.-Q., “Exact Penalization and Stationarity Conditions of Mathematical Programs with Equilibrium Constraints,” *Mathematical Programming*, Vol. 75, pp. 19–76, 1996.
109. Tseng, P. and Luo, Z.-Q., “On Computing the Nested Sums and Infimal Convolutions of Convex Piecewise–Linear Functions,” *Journal of Algorithms*, Vol. 21, pp. 240–266, 1996.

110. Goffin, J.-L., Luo, Z.-Q. and Ye, Y., “Complexity Analysis of an Interior Cutting Plane Method for Convex Feasibility Problems”, *SIAM Journal on Optimization* Vol. 6, No. 3, pp. 638–652, 1996.
111. Jin, Q., Wong, K. M. and Luo, Z. Q., “The Estimation of Time Delay and Doppler Stretch of Wideband Signals,” *IEEE Transactions on Signal Processing*, Vol. 43, pp. 904–916, 1995.
112. Luo, Z.-Q., “Convergence Analysis of Primal-Dual Interior Point Algorithms for Convex Quadratic Programs,” *Recent Trends in Optimization Theory and Applications*, R.P. Argawal, Editor, pp. 255–270, 1995 World Scientific Publishing Company.
113. Luo, Z.-Q. and Tseng, P., “Perturbation Analysis of a Condition Number for Linear Systems,” *SIAM Journal on Matrix Analysis and Applications*, Vol. 15, pp. 636–660, 1994.
114. Luo, Z.-Q. and Tseng, P., “Analysis of an Approximate Gradient Projection Method with Applications to the Back Propagation Algorithm,” *Optimization Methods and Software*, Vol. 4, pp. 85–101, 1994.
115. Goffin, J.-L., Luo, Z.-Q. and Ye, Y., “On the Complexity of a Column Generation Algorithm for Convex or Quasiconvex Feasibility Problems,” *Large Scale Optimization: State of the Art*, W.W. Hager, D.W. Hearn and P.M. Pardalos, Editors, 1994 Kluwer Academic Publishers B.V., pp. 182–191.
116. Luo, Z.-Q. and Tseng, P., “On the Rate of Convergence of a Distributed Asynchronous Routing Algorithm,” *IEEE Transactions on Automatic Control*, Vol. 39, pp. 1123–1129, 1994.
117. Luo, Z.-Q., “One-Way Communication Complexity of Computing a Collection of Rational Functions,” *Journal of Complexity*, Vol. 10, pp. 179–198, 1994.
118. Jin, Q., Luo, Z.-Q. and Wong, K.M., “An Optimum Complete Orthonormal Basis for Signal Analysis and Design,” *IEEE Transactions on Information Theory*, Vol. 40, pp. 732–742, May, 1994.
119. Luo, X.-D. and Luo, Z.-Q., “Extension of Hoffman’s Error Bound to Polynomial Systems,” *SIAM Journal on Optimization*, Vol. 4, pp. 383–392, May, 1994.
120. Luo, Z. Q. and Parnas, D. L., “On the Computational Complexity of a Maximum Trade Problem,” *Acta Mathematicae Applicatae Sinica*, Vol. 10, No. 4, pp. 434–440, 1994.
121. Luo, Z.-Q., Mangasarian, O. L., Ren, J. and Solodov, M., “New Error Bounds for the Linear Complementarity Problem,” *Mathematics of Operations Research*, Vol. 19, pp. 880–893, 1994.
122. Luo, Z.-Q. and Tsitsiklis, J.N., “Data Fusion with Minimal Communication,” *IEEE Transactions on Information Theory*, Vol. 40, pp. 1551–1563, 1994.
123. Luo, Z.-Q. and Pang, J.-S., “Error Bounds for Analytic Systems and Their Applications,” *Mathematical Programming*, Vol. 67, pp. 1–28, 1994.
124. Luo, Z.-Q. and Wu, S. Q., “A Modified Predictor-Corrector Method for Linear Programming,” *Computational Optimization and Applications*, Vol. 3, pp. 83–91, 1994.
125. Luo, Z.-Q. and Ye, Y., “A Genuine Quadratically Convergent Polynomial Interior Point Algorithm for Linear Programming,” *Advances in Optimization and Approximation*, Du, D.-Z. and Sun, J. eds, 1994 Kluwer Academic Publishers B.V., pp. 235–246.

126. Luo, Z.-Q. and Tsitsiklis, J., "On the Communication Complexity of Distributed Algebraic Computation," *Journal of Association of Computing Machinery*, Vol. 40, pp. 1019-1047, November, 1993.
127. Luo, Z.-Q. and Tseng, P. "Error Bound and Reduced-Gradient Projection Algorithms for Convex Minimization Over a Polyhedral Set," *SIAM Journal on Optimization*, Vol. 3, pp. 43-59, February 1993.
128. Wong, K.M., Luo, Z.-Q. and Jin, Q., "Design of Optimum Signals for the Simultaneous Estimation of Time Delay and Doppler Shift," *IEEE Transactions on Signal Processing*, Vol. 41, pp. 2141-2154, June, 1993.
129. Luo, Z.-Q. and Tseng, P., "On the Convergence Rate of Dual Ascent Methods for Strictly Convex Minimization," *Mathematics of Operations Research*, Vol. 18, pp. 846-867, November, 1993.
130. Luo, Z.-Q. and Tseng, P., "Error Bounds and Convergence Analysis of Feasible Descent Methods: A General Approach," *Annals of Operations Research*, Vol. 46, pp. 157-178, 1993.
131. Luo, Z.-Q. and Tseng, P., "On the Linear Convergence of Descent Methods for Convex Essentially Smooth Minimization," *SIAM Journal on Control & Optimization*, Vol. 30, No. 2, pp. 408-425, 1992.
132. Luo, Z.-Q. and Tseng, P., "Error Bound and Convergence Analysis of Matrix Splitting Algorithms for the Affine Variational Inequality Problem," *SIAM Journal on Optimization*, Vol. 2, No. 1, pp. 43-54, 1992.
133. Luo, Z.-Q. and Tseng, P., "On the Convergence of the Coordinate Descent Method for Convex Differentiable Minimization," *Journal of Optimization Theory and Applications*, Vol. 72, No. 1, pp. 7-35, 1992.
134. Tseng, P. and Luo, Z.-Q., "On the Convergence of the Affine-Scaling Algorithm," *Mathematical Programming*, Vol. 56, pp. 301-319, 1992.
135. Luo, Z.-Q. and Tseng, P., "On a Global Error Bound for a Class of Monotone Affine Variational Inequality Problems," *Operations Research Letter*, Vol. 11, pp. 159-165, 1992.
136. Luo, Z.-Q. and Tseng, P., "On the Convergence of a Matrix Splitting Algorithm for the Symmetric Linear Complementarity Problem," *SIAM Journal on Control & Optimization*, Vol. 29, No. 5, pp. 1037-1060, 1991.
137. Luo, Z.-Q. and Tsitsiklis, J., "On the Communication Complexity of Solving a Polynomial Equation," *SIAM Journal on Computing*, Vol. 20, pp. 936-950, 1991.
138. Luo, Z.-Q., "On the Convergence of the LMS Algorithm with Adaptive Learning Rate for Linear Feedforward Networks," *Neural Computation*, Vol. 3, No. 2, pp. 226-245, 1991.
139. Luo, Z.-Q. and Tseng, P., "A Decomposition Property for a Class of Square Matrices," *Applied Mathematics Letters*, Vol. 4, pp. 67-69, 1991.
140. Luo, Z.-Q., "Communication Complexity of Computing a Collection of Rational Functions," *Advances in Computing and Information*, edited by S. Akl, F. Fiala and W. Koczkodaj, Lecture Notes of Computer Science, Springer-Verlag, pp. 453-462, 1990.

141. Tsitsiklis, J.N. and Luo, Z.-Q., “Communication Complexity of Convex Optimization,” *Journal of Complexity*, Vol. 3, pp. 231–243, 1987.

• **Journal Papers (submitted)**

1. Razaviyayn, M., Baligh, H., Callard, A. and Luo, Z.-Q., “Joint User Grouping and Transceiver Design in a MIMO Interfering Broadcast Channel,” Submitted to *IEEE Transactions on Signal Processing*, 2011.
2. Hong, M., Sun, R., Luo, Z.-Q. and Baligh, H., “Joint Base Station Clustering and Beamformer Design for Partial Coordinated Transmission in Heterogenous Networks,” Submitted to *IEEE Journal on Selected Areas of Communications*, 2012.
3. Hong, M. and Luo, Z.-Q., “Distributed Linear Precoder Optimization and Base Station Selection for an Uplink Heterogeneous Network”, Submitted to *IEEE Transactions on Signal Processing*, 2012.

B. Selected Refereed Conference Papers

1. Shi, Q.-J., Razaviyayn, M., Luo, Z.-Q. and He, C., “An iteratively weighted MMSE approach to distributed sum-utility maximization for a MIMO interfering broadcast channel,” *2011 IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP)*, pp. 3060–3063, 2011.
2. Song, E.-B., Shi, Q.-J., Sanjabi, M., Sun, R.-Y. and Luo, Z.-Q., “Robust SINR-constrained MISO downlink beamforming: When is semidefinite programming relaxation tight?” *2011 IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP)*, pp. 3096–3099, 2011.
3. Yang, K.-H., Jiang, L.-Z., and Luo, Z.-Q., “Efficient semidefinite relaxation for robust geolocation of unknown emitter by a satellite cluster using TDOA and FDOA measurements,” *2011 IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP)*, pp. 2584–2587, 2011.
4. Yang, K.-H., Cai, S., Luo, Z.-Q., “Convex relaxation approaches to maximum likelihood DOA estimation in ULA’s and UCA’s with unknown mutual coupling,” *2011 IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP)*, pp. 2556–2559, 2011.
5. Razaviyayn, M., Lyubeznik, G. and Luo, Z.-Q., “On the degrees of freedom achievable through interference alignment in a MIMO interference channel,” *2011 IEEE Eleventh International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, , pp. 511–515, 2011.
6. Liu, Y.-F., Dai, Y.-H. and Luo, Z.-Q., “On the complexity of leakage interference minimization for interference alignment,” *2011 IEEE Eleventh International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, , pp. 471–475, 2011.
7. Liu, Y.-F., Dai, Y.-H., and Luo, Z.-Q., “On the complexity of optimal coordinated downlink beamforming,” *2010 IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP)*, pp. 3274–3277, 2010.

8. Razaviyayn, M., Morin, Y., Luo, Z.-Q., "A Stackelberg game approach to distributed spectrum management," *2010 IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP)*, pp. 3006–3009, 2010.
9. Razaviyayn, M., Sanjabi Boroujeni, M., Luo, Z.-Q., "Linear transceiver design for interference alignment: Complexity and computation," *2010 IEEE Eleventh International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, , pp. 1–5, 2010.
10. Plate, R.S., Wang, Y., Luo, Z.-Q. and Gao, C., "Adaptive feedback cancellation in hearing aids using the IPLS algorithm," *2010 IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP)*, pp. 177 –180, 2010.
11. Nekui, M., Kisialiou, M., Davidson, T. N. and Luo, Z.-Q., "Efficient Soft Demodulation of MIMO QPSK via Semidefinite Relaxation," *Proceedings of 2007 IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 2665–2668, April 2008.
12. Chang, T.-H., Luo, Z.-Q., Li D. and Chi, C.-Y., "A Convex Optimization Method for Joint Mean and Variance Parameter Estimation of Large-margin CDHMM," *Proceedings of 2007 IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 4053–4056, April 2008.
13. Srirangarajan, S., Tewfik, A.H. and Luo, Z.-Q., "Distributed Sensor Network Localization with Inaccurate Anchor Positions and Noisy Distance Information," *Proceedings of 2007 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. III-521–III-524, April 2007.
14. Razavi, A. and Luo, Z.-Q., "Distributed Optimization in an Energy-Constrained Network," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. III-189–III-192, April 2007.
15. Kisialiou, M. and Luo, Z.-Q., "Efficient Implementation of a Quasi-Maximum-Likelihood Detector Based on Semi-Definite Relaxation," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. IV-1329–IV-1332, April 2007.
16. Hayashi, S. and Luo, Z.-Q., "Dynamic Spectrum Management: When is FDMA Sum-Rate Optimal?" *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. III-609–III-612, April 2007.
17. Karipidis, E., Sidiropoulos, N.D. and Luo, Z.-Q., "Convex Transmit Beamforming for Downlink Multicasting to Multiple Co-Channel Groups," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 5, Vol. 5, pp. V–V, May 2006.
18. Jindal, N. and Luo, Z.-Q., "Capacity Limits of Multiple Antenna Multicast," *Proceedings of 2006 IEEE International Symposium on Information Theory*, pp. 1841–1845, July 2006.
19. Anghel, P.A.; Kaveh, M.; Zhi-Quan Luo, Z.-Q., "Optimum Power Allocation for Cooperative Systems with Orthogonal Space-Time Transmissions," *Proceedings of 2006 IEEE International Symposium on Information Theory*, pp. 2067–2071, July 2006.

20. Xiao, J.-J., Cui, S., Luo, Z.-Q. and Goldsmith, A.J., "Linear Coherent Decentralized Estimation," *Proceedings of IEEE Global Conference on Communications*, San Francisco, CA, Nov. 2006.
21. Xiao, J.-J., Luo, Z.-Q. and Jindal, N., "Linear Coding for Fading Channels," *Proceedings of IEEE Global Conference on Communications*, San Francisco, CA, Nov. 2006.
22. Cui, S., Xiao, J.-J., Goldsmith, A.J., Luo, Z.-Q. and Poor, H.V., "Estimation Diversity with Multiple Heterogeneous Sensors," *Proceedings of IEEE International Conference on Communications*, Istanbul, Turkey, June 2005.
23. Kisiailiou, M. and Luo, Z.-Q., "Reducing Power Consumption in a Sensor Network by Information Feedback," *Proceedings of the 14th European Signal Processing Conference*, Florence, Italy, Sep. 2006.
24. Xiao, J.J., Luo, Z.-Q., Cui, S. and Goldsmith, A.J., "Power-efficient Analog Forwarding Transmission in an Inhomogeneous Gaussian Sensor Network," *Proceedings of 2005 IEEE 6th Workshop on Signal Processing Advances in Wireless Communications*, pp. 121–125, June 2-8, 2005.
25. Luo, Z.-Q. and Xiao, J.J., "Universal Decentralized Estimation in a Bandwidth Constrained Sensor Network," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. iv/829–iv/832, March 2005.
26. Krasnopeev, A., Xiao, J.J. and Luo, Z.-Q., "Minimum Energy Decentralized Estimation in Sensor Network With Correlated Sensor Noise," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. iii/673–iii/676, March 2005.
27. Cui, S., Xiao, J.J., Goldsmith, A.J., Luo, Z.-Q. and Poor, H.V., "Energy-Efficient Joint Estimation in Sensor Networks: Analog Vs. Digital," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. iv/745–iv/748, March 2005.
28. Xiao, J.-J. and Luo, Z.-Q., "Optimal Rate Allocation for the Vector Gaussian CEO Problem," *Proceedings of 2005 1st IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing*, pp. 56–59, Dec. 2005.
29. Karipidis, E., Sidiropoulos, N.D. and Luo, Z.-Q., "Transmit Beamforming to Multiple Co-Channel Multicast Groups," *Proceedings of 2005 1st IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing*, pp. 109–112, Dec. 2005.
30. Luo, Z.-Q., Giannakis, G.B. and Zhang, S., "Optimal Linear Decentralized Estimation In A Bandwidth Constrained Sensor Network," *Proceedings of 2005 IEEE International Symposium on Information Theory*, pp. 1441–1445, Sept. 2005.
31. Singh, J., Nookala, V., Luo, Z.-Q. and Sapatnekar, S., "Robust Gate Sizing By Geometric Programming," *Proceedings on the 42nd IEEE Design Automation Conference*, pp. 315–320, June 2005.
32. Farid, A.A., Luo, Z.-Q. and Ding, Z., "Blind Channel Equalization Based On Second Order Statistics," *Proceedings of 2005 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. iii/557 - iii/560, March 2005.

33. Kisialiou, M. and Luo, Z.-Q., "Performance Analysis Of Quasi-Maximum-Likelihood Detector Based On Semi-Definite Programming," *Proceedings of 2005 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. iii/433 - iii/436, March 2005.
34. Luo, Z.-Q. and Xiao, J.-J., "Decentralized Estimation in an Inhomogeneous Environment," *Proceedings of 2004 International Symposium on Information Theory*, pp. 520, June 2004.
35. Xiao, J.J., Luo, Z.-Q., Cui, S. and Goldsmith, A.J., "Power-efficient Analog Forwarding Transmission in an Inhomogeneous Gaussian Sensor Network," *Proceedings of 2005 IEEE 6th Workshop on Signal Processing Advances in Wireless Communications*, pp. 121–125, June 2-8, 2005
36. Luo, Z.-Q. and Xiao, J.J., "Universal Decentralized Estimation in a Bandwidth Constrained Sensor Network," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. iv/829–iv/832, March 2005.
37. Krasnopeev, A., Xiao, J.J. and Luo, Z.-Q., "Minimum Energy Decentralized Estimation in Sensor Network With Correlated Sensor Noise," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. iii/673–iii/676, March 2005.
38. Cui, S., Xiao, J.J., Goldsmith, A.J., Luo, Z.-Q. and Poor, H.V., "Energy-Efficient Joint Estimation in Sensor Networks: Analog Vs. Digital," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. iv/745–iv/748, March 2005.
39. Xiao, J.J., Cui, S., Luo, Z.-Q. and Goldsmith, A.J., "Joint Estimation in Sensor Networks Under Energy Constraints," *Proceedings of 2004 First Annual IEEE Communications Society Conference on Sensor and Ad Hoc Communications and Networks*, pp. 264–271, October 2004.
40. Jin-Jun Xiao, J.J. and Luo, Z.-Q., "Decentralized Detection in a Bandwidth Constrained Sensor Network," *Proceedings of the IEEE 2004 Global Telecommunications Conference*, Vol. 1, No. 29, pp. 123–128, December 2004.
41. Saad, M. and Luo, Z.-Q., "Design of Edge-disjoint Path Protected WDM Networks: Asymptotic Optimality of Shortest Path," *Proceedings of 2004 IEEE Global Telecommunications Conference*, Vol. 2, pp. 1000–1004, Nov. 29 – Dec. 3, 2004. Digital Object Identifier 10.1109/GLOCOM.2004.1378109
42. Zarifi, K.; Shahbazpanahi, S.; Gershman, A.B.; Zhi-Quan Luo; "Robust Blind Multiuser Detection Based on Worst-case MMSE Performance Optimization," *Proceedings of 2004 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. iv-897–900 , May 2004.
43. Anghel, P.A., Kaveh, M. and Luo, Z.-Q., "Optimal Relayed Power Allocation in Interference-free Nonregenerative Cooperative Systems," *Proceedings of 2004 IEEE 5th Workshop on Signal Processing Advances in Wireless Communications*, pp. 21–25, July 2004.
44. Yonghong Liu and Luo, Z.-Q., "Design of Robust IIR Magnitude Filters via Semidefinite Programming," *Proceedings of 2003 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 6, pp. VI-13–16, 6-10 April 2003.

45. Luo, Z.-Q., Luo, X.-D., Kisialiou, M., "An Efficient Quasi-maximum Likelihood Decoder for PSK Signals," *Proceedings of 2003 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 6, pp. VI-561-4, 6-10 April 2003.
46. Vorobyov, S., Gershman, A.B., Luo, Z.-Q. and Ma, N., "Adaptive Beamforming with Joint Robustness Against Signal Steering Vector Errors and Interference Nonstationarity," *Proceedings of 2003 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 5, pp. V-345-8, 2003.
47. Shahbazpanahi, S., Gershman, A.B., Luo, Z.-Q. and Wong, K.M., "Robust Adaptive Beamforming Using Worst-case SINR Optimization: A New Diagonal Loading-type Solution for General-rank Signal Models," *Proceedings of 2003 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 5, pp. V-333-6, 2003.
48. Steingrimsson, B., Luo, Z.-Q. and Wong, K.M., "Soft Quasi-maximum-likelihood Detection for Multiple-antenna Channels," *Proceedings of 2003 IEEE International Conference on Communications*, Vol. 4, pp. 2330-2334, 11-15 May 2003.
49. Saad, M.E.M.; Zhi-Quan Luo, Z.-Q., "Reconfiguration With No Service Disruption in Multifiber WDM Networks Based on Lagrangean Decomposition," *Proceedings of 2003 IEEE International Conference on Communications*, Vol. 2, pp. 1509-1513, 11-15 May 2003.
50. Luo, Z.-Q., Shum, Q.-Y. and Gongyun Zhao, G., "User Capacity Analysis of Space Division Multiple Access Channel," *Proceedings of the Thirty-Seventh Asilomar Conference on Signals, Systems and Computers*, Vol. 1, pp. 223-227, November 2003.
51. Steingrimsson, B., Luo, Z.-Q. and Wong, K.M., "Quasi-ML Detectors With Soft Output And Low Complexity For PSK Modulated MIMO Channels," *Proceedings of the 4th IEEE Workshop on Signal Processing Advances in Wireless Communications*, 15-18 June 2003 pp. 427-431.
52. Luo, Z.-Q, Luo, X. and Kisialiou, M., "An Efficient Quasi-ML Detection Method for Constant Modulus Signals," *Proceedings of 2003 IEEE International Conference on Acoustics, Speeches and Signal Processing*, Hong Kong, PR China, April 6-10, 2003.
53. Saad, M. and Luo, Z.-Q., "On the Routing and Wavelength Assignment in Multifiber WDM Networks," *To appear in Proceedings of 2002 Globecom*.
54. Li, Y. and Luo, Z.-Q., "Parallel Detection for V-BLAST System," *Proceedings of 2002 IEEE International Conference on Communication*, Vol. 1, pp. 340-344, 2002.
55. Ohno, S., Anghel, P., Giannakis, G. and Luo, Z.-Q., "Multi-Carrier Multiple Access is Sum-Rate Optimal for Block Transmissions over Circulant ISI Channels," *Proceedings of 2002 IEEE International Conference on Communication*, Vol. 3, pp. 1656-1660, 2002.
56. Vorobyov, S., Gershman, A. and Luo, Z.-Q., "Robust Adaptive Beamforming Using Worst-Case Performance Optimization via Second-Order Cone Programming," *Proceedings of 2002 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. 2901 -2904, 2002.

57. Ding, Y., Davidson, T., Zhang, J.-K., Luo, Z.-Q. and Wong, K.M., "Minimum BER Block Precoders for Zero-Forcing Equalization," *Proceedings of 2002 IEEE International Conference on Acoustics, Speech, and Signal Processing*.
58. Davidson, T.N., Luo, Z.-Q. and Sturm, J.F., "Linear Matrix Inequality Formulation Of Spectral Mask Constraints," *Proceedings of 2001 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 6, pp. 3813–3816, 2001.
59. Cui, S., Luo, Z.-Q. and Ding, Z., "Robust Blind Multiuser Detection Against CDMA Signature Mismatch," *Proceedings of 2001 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. 2297–2300, 2001.
60. Maricic, B., Luo, Z.-Q. and Davidson, T.N., "Blind Equalization Of Constant Modulus Signals Via Restricted Convex Optimization," *Proceedings of 2001 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. 2169–2172, 2001.
61. Pesavento, M., Gershman, A.B. and Luo, Z.-Q., "A Robust Technique For Array Interpolation Using Second-Order Cone Programming," *Proceedings of the 11th IEEE Signal Processing Workshop on Statistical Signal Processing*, 2001 pp. 217–220, 2001.
62. Cui, S., Luo, Z.-Q. and Ding, Z., "Robust CDMA Signal Detection In The Presence Of User And Interference Signature Mismatch," *2001 IEEE Third Workshop on Signal Processing Advances in Wireless Communications*, pp. 221–224, 2001.
63. Afkhamie, K.H., Luo, Z.-Q. and Wong, K.M., "Interior Point Least Squares Estimation: Exploiting Transient Convergence In MMSE Decision-Feedback Equalization," *Proceedings of 2001 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 1, pp. 5–8, 2001.
64. Milanovic, J., Davidson, T.N., Luo, Z.-Q. and Wong, K.M., "Design Of Robust Redundant Precoding Filter Banks With Zero-Forcing Equalizers For Unknown Frequency-Selective Channels," *Proceedings of 2000 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 5, pp. 2761–2764, 2000.
65. Fu, M., de Souza, C.E. and Luo, Z.-Q., "Finite Horizon Robust Kalman Filter Design," *Proceedings of the 38th IEEE Conference on Decision and Control*, Vol. 5, 1999, pp. 4555–4560, 1999.
66. Davidson, T.N., Luo, Z.-Q. and Wong, K.M., "Robust Pulse Amplitude Modulation Via Semidefinite Programming," *Proceedings of 1999 2nd IEEE Workshop on Signal Processing Advances in Wireless Communications*, pp. 317–320, 1999.
67. Afkhamie, K.H. and Luo, Z.-Q., "Adaptive Parameter Estimation Using Interior Point Optimization Techniques: Convergence Analysis," *Proceedings of 1999 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. 1681–1684, 1999.
68. Zhang, X.-P. and Luo, Z.-Q., "A New Time-Scale Adaptive Denoising Method Based On Wavelet Shrinkage," *Proceedings of 1999 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, pp. 1629–1632, 1999.

69. Ratnarajah, T., Luo, Z.-Q. Wong, K.M., "Semidefinite Programming Solutions To Robust State Estimation Problem With Model Uncertainties," *Proceedings of the 37th IEEE Conference on Decision and Control*, Vol. 1 , pp. 275–276, 1998.
70. Zhang, J., Wong, K.M. and Luo, Z.-Q., "A New Flexible Structure of Blind Adaptive Frequency Shift Filter for Signal Extraction," *Proc. ISCAS'97*, Hong Kong, June, 1997.
71. T.N. Davidson, Luo, Z.-Q. and Wong, K.M., "A Hopping Scheme for Wavelet Packet Division Multiplexing," *Proc. 5th NJIT Symp. on Subband and Wavelet Trans. in Comm.*, NJ, April, 1997.
72. Jin, Q., Wong, K.M., Luo, Z.-Q. and Bossé, É., "Data Compression, Data Fusion, and Kalman Filtering in Wavelet Transform," *Proc. Intl. Wkshop. Sig. & Im. Proc.*, Manchester, England, November, 1996.
73. Afkhamie, K.H. and Luo, Z.-Q., "Blind Equalization Using Second-Order Statistics," *Proceedings of 1995 International Conference on Acoustics, Speech, and Signal Processing*, Vol. 2, pp. 1053-1056, 1995.
74. Dam, W.C., Taylor, D.P. and Luo, Z.-Q., "Computational Cutoff Rate Of BDPSK Signaling Over Correlated Rayleigh Fading Channels," *Proceedings of 1995 IEEE International Symposium on Information Theory*, pp. 152.
75. Luo, Z.-Q. and Tseng, P., "A New Class of Merit Functions for the Nonlinear Complementarity Problem," *1995 International Conference on Complementarity Problems*, Baltimore, Maryland, November, 1995.
76. Afkhamie, K. and Luo, Z.-Q., "Blind Deconvolution Using Second Order Statistics," *Proceedings of ICASSP'95*, Detroit, May 1995.
77. Jin, Q., Wong, K. M. and Luo, Z. Q., "Wideband Time Delay and Doppler Stretch Estimation: the Application of Wavelet Transform and the Optimum Signal," presented at *ICASSP93'*, Minneapolis, Minnesota, June, 1993.
78. Luo, Z.-Q. and Tseng, P., "Analysis of the Back Propagation Algorithm for Neural Networks with Arbitrary Error Functions," presented at the Symposium of Parallel Optimization 3, Madison, University of Wisconsin, July, 1993.
79. Jin, Q., Wong, K. M. and Luo, Z. Q., "Wideband Time Delay and Doppler Stretch Estimation: the Application of Wavelet Transform and the Optimum Signal," *Proceedings of ICASSP93'*, Minneapolis, Minnesota, June, 1993.
80. Luo, Z.-Q. and Tseng, P., "Error Bounds and Convergence Analysis of Feasible Descent Methods for Solving Symmetric Variational Inequality Problems," presented at the ORSA/TIMS conference, San Francisco, October, 1992.
81. Luo, Z.-Q. and Tseng, P., "Error Bounds and Convergence Analysis of Feasible Descent Methods for Solving Symmetric Variational Inequality Problems," presented at the ORSA/TIMS conference, San Francisco, October, 1992.

82. Luo, Z.-Q. and Tseng, P., "Convergence Studies of Matrix Splitting Algorithms for the Linear Complementarity Problems," presented at the ORSA/TIMS conference, Nashville, Tennessee, May, 1991.
83. Luo, Z.-Q. and Tseng, P., "On the Hoffman's Error Bound for a Polyhedral Set," presented at the 14th International Symposium on Mathematical Programming, Amsterdam, The Netherlands, August, 1991.
84. Luo, Z.-Q. and Tsitsiklis, J., "On the Communication Complexity of Solving a Polynomial Equation," presented at *1990 International Symposium on Information Theory*, San Diego, California, January, 1990.
85. Luo, Z.-Q. and Tseng, P., "Convergence Studies of Coordinate Descent Algorithms for Convex Minimization Problems," presented at the ORSA/TIMS conference, Philadelphia, October, 1990.
86. Luo, Z.-Q. and Tsitsiklis, J., "Communication Complexity of Algebraic Computation," *1990 IEEE Symposium on Foundations of Computer Science*, pp. 758–765, October, 1990.
87. Luo, Z.-Q., "Communication Complexity of Computing a Collection of Rational Functions," presented on *International Conference on Computing and Information*, pp. 408–412, 1990, Niagara Falls, Ontario, Canada.
88. Jin, Q., Luo, Z.-Q. and Wong, K.M., "Optimum Signal Design in Time-Frequency Plane," *Proceedings of the International Symposium on Digital Signal Processing*, Beijing, P.R. China, October, 1990.
89. Luo, Z.-Q. and Tsitsiklis, J., "Communication Complexity of Algebraic Computation," *1990 IEEE Symposium on Foundations of Computer Science*, pp. 758–765, October, 1990.
90. Luo, Z.-Q. and Tsitsiklis, J., "Communication Complexity in Distributed Algebraic Computation," *Proceedings of the 28th IEEE Conference on Decision and Control*, pp. 899–900, Tampa, Florida, December, 1989.

C. Books and Special Issues

1. Luo, Z.-Q., Pang, J.-S. and Ralph, D., *Mathematical Programs with Equilibrium Constraints*, Cambridge University Press, 400 pages, 1996.
2. Luo, Z.-Q. and Pang, J.-S. (Guest Editors), *Error Bounds and Their Applications in Mathematical Programming*, **Mathematical Programming**, Series B, 2000.
3. Chiang, M., Low, S., Luo, Z.-Q., Shroff, N. and Yu, W. (Guest Editors), Special issue of *IEEE Journal of Selected Areas of Communications* on 'Nonlinear Optimization of Communication Systems', 2006.
4. Luo, Z.-Q., Gastpar, M., Liu, J. and Swami, A., (Guest Editors), Special issue of *IEEE Signal Processing Magazine* on 'Distributed Signal Processing for Sensor Networks', 2006.

INVITED PRESENTATIONS (2002 – present)

1. Colloquium speaker, Department of Electrical and Computer Engineering, Rutgers University, November, 2011.
2. Colloquium speaker, Department of Mathematics, KTH Royal Institute of Technology, October, 2011.
3. Colloquium speaker, LIDS, MIT, November, 2010.
4. Semi-plenary speaker, 2010 International Conference on Continuous Optimization, Santiago, Chile.
5. Colloquium speaker, Department of Electrical Engineering, University of Iowa, October, 2009.
6. Invited speaker, 2009 Summer workshop on Optimization and Supply Chain Management, NCTU, Hsingchu, July 2009.
7. Colloquium speaker, Yuan-Tse University, Taiwan, August, 2009.
8. Invited speaker, 2009 International Conference on Numerical Linear Algebra and Nonlinear Optimization, Lijiang, China, August, 2009.
9. Invited speaker, 2009 International Conference on Linear Programming and Its Extensions, Haikou, China, May 2009.
10. Invited speaker, Huawei Technologies Inc., Shenzhen, China, May 2009.
11. Invited speaker, 2009 International Conference on Acoustic, Statistical Signal Processing, Taipei, March, 2009.
12. Invited speaker, 2009 Workshop on Convex Optimization and its Applications, University of Sharjah, the United Arab Emirates, April, 2009.
13. Invited speaker, The 4th Sino-Japanese Optimization Meeting (SJOM 2008), Tainan, August 2008.
14. Colloquium speaker, Department of Electrical Engineering, Princeton University, March, 2008.
15. Colloquium speaker, Department of Industrial and Enterprise Systems Engineering, UIUC, March 2008.
16. Colloquium speaker, Department of Industrial and Enterprise Systems Engineering, UIUC, October 2007.
17. Colloquium speaker, Department of Electrical and Computer Engineering, Syracuse University, October 2007.
18. Invited speaker, Department of Electrical and Computer Engineering, Texas A&M University, October 2007.
19. Invited speaker, Signals and Systems Distinguished Seminar Series, Department of Electrical Engineering, UCLA, October 2007.

20. Invited speaker, Distinguished Lecture Series, Department of Electrical Engineering, KTH, Sweden, December 2006.
21. Invited speaker, 2006 BIRS Workshop on Optimization and Engineering, Banff, November, Canada.
22. Plenary speaker, 2006 MOPTA Conference, Waterloo, Canada, July 2006.
23. Invited speaker, 2006 Annual Meeting of the Operations Research Society of China, Shenzhen, China, June 2006.
24. Invited speaker, Microsoft Research, Redmond, Washington, August 2006.
25. Invited speaker, Hughes Network Systems, Germantown, Maryland, March 2006.
26. Distinguished Lecturer, *IEEE Sensor Array and Multichannel Signal Processing Workshop*, Waltham, MA, June 2006.
27. Distinguished Lecturer, Program in Computation, Design and Optimization (CDO), MIT, March 2006.
28. Colloquium speaker, Laboratory for Information and Decision Systems, MIT, March 2006.
29. Invited speaker, The third Sino-Japan Optimization Meeting, Singapore, November 2005.
30. Colloquium speaker, Cornell University, School of Operations Research and Industrial Engineering, February 2005.
31. Invited speaker, Distinguished Lecture Series, Department of Electrical and Computer Engineering, University of Waterloo, May 2004.
32. Colloquium speaker, Department of Electrical and Computer Engineering, UCLA, November 2003.
33. Invited speaker, Information Systems Laboratory, Department of Electrical Engineering, Stanford University, October, 2003.
34. Invited speaker, Department of EECS, UC Berkeley, October 2003.
35. Semi-plenary speaker, International Symposium on Mathematical Programming, Copenhagen, Denmark, August 2003.
36. Tutorial, IEEE International Conference on Acoustics Speech and Signal Processing, Orlando, Florida, 2002.
37. Invited speaker, Department of Industrial and Systems Engineering, and School of Electrical and Computer Engineering, Georgia Institute of Technology, April 2002.
38. Colloquium speaker, the Johns Hopkins University, Department of Mathematical Sciences, February 2002.