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1. Education

- 1988: Ph.D. major in Engineering-Economic Systems and minor in Operations Research. Thesis Title: “Interior Algorithms for Linear, Quadratic and Linearly Constrained Convex Programming,” Stanford University, Stanford, California. Ph.D. Thesis Committee (in alphabetic order): Sam Chiu, George Dantzig, David Luenberger, Edison Tse (Advisor).
- 1987: Visiting Ph.D. Student of Michael Todd, School of Operations Research and Industrial Engineering, Cornell University, Ithaca, New York.
- 1983: M.S. in Engineering-Economic Systems, Stanford University.
- 1982: B.S. in Systems and Control, Huazhong University of Science and Technology (HUST), Wuhan, the People's Republic of China.

2. Professional Experience

- 04/02---: Professor and Director of the Industrial Affiliates Program of Department of Management Science and Engineering and, by courtesy, Electrical Engineering, Stanford University, Stanford. Areas: Mathematical Programming, Algorithm Design and Analysis, Network and Information System Applications.
- 12/07---: Honorary professor, The Hong Kong Polytechnic University.
- 04/06-07/06: Visiting Chair Professor, Tsinghua University, China.
- 01/98---04/02: Henry B. Tippie Research Professor, Department of Management Sciences and Applied Mathematical and Computational Sciences, University of Iowa.
- 12/00---05/01: Visiting Professor, Department of Systems Engineering and Engineering Management, Chinese University of Hong Kong, Hong Kong.
- 09/98---11/98: Visiting Fellow, Mathematical Science Research Institute, UC Berkeley, California.
- 09/93---1/98: Professor, Department of Management Sciences, University of Iowa, Iowa.
- 08/93---12/93: Visiting Scientist, Department of Operations Research and Industrial Engineering, Cornell University, Ithaca, NY.
- 06/93---present: Adjunct Professor, Institute of Applied Mathematics, the Chinese Academy, Beijing, China.
- 06/93---present: Adjunct Professor, Department of Mathematics, Fudan University, Shanghai and Huazhong University of Science and Technology, Wuhan, China.
- 09/90---8/93: Associate Professor, Department of Management Sciences, University of Iowa, Iowa.
- 07/91---8/91: Visiting Scientist, Department of Mathematical and Computational Sciences, Rice University, Houston, TX.
- 09/88---08/90: Assistant Professor, Department of Management Sciences, University of Iowa, Iowa.
- 11/87---08/88: Research Scientist, Optimization Software Development, Integrated Systems Inc., Santa Clara, California.
- 09/86---06/87: Lecturer, Mathematical Programming and Systems Optimization, Department of Engineering-Economic Systems, Stanford University.
- 06/83---06/86: Research Assistant, Mathematical Programming, Decision Systems and Network Planning, Department of Engineering-Economic Systems, Stanford University.

3. Publications (singly authored if no author names shown)

3.1 Refereed Journal Papers

[J136] “Toward the Universal Rigidity of General Frameworks,” (Alfakih, Taheri, and Ye), Working Paper (September 2010), *Math Programming*.

[J135] “The Simplex and Policy-Iteration Methods are Strongly Polynomial for the Markov Decision Problem with a Fixed Discount Rate,” Working Paper (April 2010), to appear in *Math Operations Res.*

[J134] “A Note on Complexity of L-p Minimization” (Ge, Jiang and Ye), Working Paper (September 2009), to appear in *Math Programming*.

[J133] “A Unified Framework for Dynamic Prediction Market Design,” (Agrawal, Delage, Peters, Wang, and Ye), to appear in *Operations Research*.

[J132] “Lower Bound Theory of Nonzero Entries in Solutions of L2-Lp Minimization” (Chen, Xu and Ye), *SIAM J. Scientific Computing* 32:5 (2010) 2832-2852.

[J131] “Semidefinite Relaxation of Quadratic Optimization Problems,” (Luo, Ma, So, Ye, and Zhang), *IEEE Signal Processing Magazine* 27:3 (2010) 20-34.

[J130] “Universal Rigidity and Edge Sparsification for Sensor Network Localization” (Zhu, So and Ye), to appear in *SIAM J. Optimization*.

[J129] “An interior-point path-following algorithm for computing a Leontief economy equilibrium,” (Dang, Zhu and Ye), to appear in *Computational Optimization and Applications*.

[J128] “A FPTAS for Computing a Symmetric Leontief Competitive Economy Equilibrium,” (Zhu, Dang and Ye), to appear in *Math Programming*.

[127] “Statistical ranking and combinatorial Hodge theory.” (Jiang, Lim, Yao, and Ye), *Math Programming* 137:1 (2010).

[J126] “A novel fluence map optimization model incorporating leaf sequencing constraint,” (Jin, Min, Song, Liu, and Ye), *Physics in Medicine and Biology* 55 (2010) 1243-1264.

[J125] “Geometric Rounding: Dependent Randomized Rounding Scheme,” (Ge, He, Ye, and Zhang), Working Paper, Management Science and Engineering, Stanford University (March, 2007), to appear in *Journal of Combinatorial Optimization*.

[J124] “A Note on Equilibrium Pricing as Convex Optimization” (Chen, Ye, Zhang), *Journal of Computational Mathematics* 28:5 (2010) 569–578.

[J123] “Dynamic Spectrum Management with the Competitive Market Model,” (Yao, Armbruster, and Ye), *IEEE Tran on Signal Processing* 58:4 (2010) 2442-2446.

[J122] “Conceptual formulation on four-dimensional inverse planning for intensity modulated radiation therapy,” (Lee, Ma, Ye and Xing), *Physics in Medicine and Biology* 54 (2009) 255-266.

[J121] “Bi-Quadratic Optimization over Unit Spheres and Semidefinite Programming Relaxations,” (Ling, Nie, Qi and Ye), *SIAM J. Optimization* 20:3 (2010) 1286-1310.

[J120] “Stochastic Combinatorial Optimization with Controllable Risk Aversion Level,” (So, Zhang and Ye), *Math Operations Res* 34:3 (2009) 522-537.

- [J119] “Distributionally Robust Optimization under Moment Uncertainty with Application to Data-Driven Problems,” (Delage and Ye), *Operations Research* 58:3 (2009) 595-612.
- [J118] “DSDP5—software for semidefinite programming,” (Benson and Ye), *ACM Tran on Mathematical Software* 34:3 (2008).
- [J117] “Budget Allocation in a Competitive Communication Spectrum Economy,” (Lin, Tsai and Ye), *EURASIP J. Advances in Signal Processing* 2009:1 (2009).
- [J116] “An edge-reduction algorithm for the vertex cover problem,” (Han, Punnen and Ye), *Operations Research Letters* 37 (2009) 181-186.
- [J115] “Using total-variation regularization for segment-based dose optimization with field specific numbers of segments,” (Zhu, Lee, Ma, Ye, Mazzeo and Xing), *Physics in Medicine and Biology* 53 (2008) 6653-6672.
- [J114] “The complexity of equilibria: Hardness results for economies via a correspondence with games” (Codenotti, Saberi, Varadarajan and Ye), *Theoretical Computer Science* 408:2-3 (2008) 188-198.
- [J113] “A Unified Theorem on SDP Rank Reduction,” (So, Ye and Zhang), *Math Operations Res* 33:4 (2008) 910-920.
- [J112] “Further Relaxations of the SDP Approach to Sensor Network Localization,” (Wang, Song, Boyd and Ye), *SIAM J. Optimization* 19 (2008) 655-673.
- [J111] “A Distributed SDP approach for Large-scale Noisy Anchor-free Graph Realization with Applications to Molecular Conformation,” (Biswas, Toh and Ye), *SIAM J. Scientific Computing*, 30:3 (2008) 1251-1277.
- [J110] “Finding Equitable Convex Partitions of Points in a Polygon Efficiently,” (Carlsson, Armbruster and Ye), *ACM Tran on Algorithms* 6:4 (2010).
- [J109] “Exchange Market Equilibria with Leontief’s Utility: Freedom of Pricing Leads to Rationality,” *Theoretical Computer Science* 378:2 (2007) 134-142.
- [J108] “SPASELOC: An Adaptive Subproblem Algorithm for Scalable Wireless Sensor Network Localization,” (Carter, Jin, Saunders, and Ye), *SIAM J. Optimization* 17:4 (2006) 1102-1128.
- [J107] “Approximation Algorithms for Metric Facility Location Problems,” (Mahdian, Ye and Zhang), *SIAM J. Computing* 36:2 (2006) 411-432.
- [J106] “Semidefinite Programming Based Algorithms for Sensor Network Localization,” (Biswas, Liang, Wang and Ye), *ACM Tran on Sensor Networks* 2:2 (2006) 188-220.
- [J105] “Semidefinite Programming Approaches for Sensor Network Localization with Noisy Distance Measurements,” (Biswas, Liang, Toh, Wang and Ye), *IEEE Tran on Automation Science and Engineering* 3:4 (2006) 360-371.
- [J104] “An Improved Algorithm for Approximating the Radii of Point Sets,” (Varadarajan, Venkatesh, Ye and Zhang), *SIAM J. Computing* 36:6 (2007) 1764-1776.
- [J103] “On Approximating Complex Quadratic Optimization Problems via Semidefinite Programming,” (So, Zhang and Ye), *Math Programming* 110:1 (2007) 93-110.
- [J102] “Lot-sizing scheduling with batch setup times,” (Chen, Ye and Zhang), *Journal of Scheduling* 9:3 (2006) 299-310.
- [J101] “A Path to the Arrow-Debreu Competitive Market Equilibrium,” *Math Programming*, 111:1-2 (2008) 315-348.

- [J100] “On Solving Fewnomials Over Intervals in Fewnomial Time,” (Rojas and Ye), *Journal of Complexity* 21:1 (2005) 87-110.
- [J99] “A new complexity result on solving the Markov decision problem,” *Math Operations Res* 30:3 (2005) 733-749.
- [J98] “Improved complexity results on solving real-number linear feasibility problems,” *Math Programming* 106:2 (2006) 339-363.
- [J97] “Theory of Semidefinite Programming for Sensor Network Localization,” (So and Ye), *Math Programming* 109:2-3 (2007) 367-384.
- [J96] “A Multi-Exchange Local Search Algorithm for the Capacitated Facility Location Problem,” (Zhang, Chen and Ye), *Math Operations Research* 30:2 (2005) 389-403.
- [J95] “Improved Combinatorial Approximation Algorithms for the k-Level Facility Location Problem,” (Ageev, Ye and Zhang), *SIAM J. Discrete Math* 18:1 (2004) 207-217.
- [J94] “New results on quadratic minimization,” (Zhang and Ye), *SIAM J. Optimization* 14:1 (2003) 245-267.
- [J93] “Approximate the 2-Catalog Segmentation Problem Using Semidefinite Programming Relaxations,” (Xu, Ye and Zhang), *Optimization Methods and Software* 18:6 (2003) 705-719.
- [J92] “On some interior-point algorithms for nonconvex quadratic optimization”, (Tseng and Ye), *Math Programming* 93 (2003) 217-225.
- [J91] “Approximation of dense- $n/2$ -subgraph and the complement of min-bisection,” (Ye and Zhang), *Journal of Global Optimization* 25:1 (2003) 55-73.
- [J90] “A Note on the Maximization Version of Multi-level Facility Location Problems,” (Zhang and Ye), *Operations Research Letters* 30:5 (2002) 333-335.
- [J89] “Optimization with a few violated constraints,” (Bai, Cho, Tempo and Ye), *IEEE Tran on Automatic Control* 47:7 (2002) 1067-1077.
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- [J87] “Improved Approximation for Max Set Splitting and Max NAE SAT,” (Zhang, Ye, and Han), *Discrete and Applied Mathematics* 142:1-3 (2004) 133-149.
- [J86] “On approximation of Max-Vertex-Cover,” (Han, Ye, Zhang and Zhang), *European J Operations Research* 143:2 (2002) 342-355.
- [J85] “Blind channel equalization using ε -approximation algorithms,” (Li, Bai and Ye), *IEEE Tran on Signal Processing* 49:11 (2001) 2823-2831.
- [J84] “An improved rounding method and semidefinite relaxation for graph partition,” (Han, Ye, and Zhang), *Math Programming* 92:3 (2002) 509-535.
- [J83] “A .699 approximation algorithm for Max-Bisection,” *Math Programming* 90:1 (2001) 101-111.
- [J82] “Characterizations, bounds, and probabilistic analysis of two complexity measures for linear programming problems,” (Todd, Tuncel, Ye), *Math Programming* 90:1 (2001) 59-70.
- [J81] “Convergence results of analytic center estimator,” (Bai, Fu, Tempo, and Ye), *IEEE Tran on Automatic Control* 45:3 (2000) 569-572.

- [J80] "On smoothing methods for the P_0 matrix linear complementarity problem," (Chen and Ye), *SIAM J. Optimization* 11 (2001) 341-363.
- [J79] "Solving large-scale sparse semidefinite programs for combinatorial optimization," (Benson, Ye, and Zhang), *SIAM J. Optimization* 10 (2000) 443-461.
- [J78] "An efficient algorithm for minimizing a sum of P-norms," (Xue and Ye), *SIAM J. Optimization* 10 (2000) 551-579.
- [J77] "Mixed linear and semidefinite programming for combinatorial and quadratic optimization," (Benson, Ye, and Zhang), *Optimization Methods and Software* 11&12 (1999) 515-544.
- [J76] "Approximating global quadratic optimization with convex quadratic constraints," *Journal of Global Optimization* 15 (1999) 1-17.
- [J75] "Approximating quadratic programming with bound and quadratic constraints," *Math Programming* 84 (1999) 219-226.
- [J74] "On homotopy-smoothing methods for box constrained variational inequalities," (Chen and Ye), *SIAM J. Control & Optimization* 37 (1999) 589-616.
- [J73] "On the quadratic convergence of the $O(n^{-5}L)$ -iteration homogeneous and self-dual linear programming algorithm," (Wu, Wu, and Ye), *Annals of Operations Research* 87 (1999) 393-406.
- [J72] "A computational study of the homogeneous algorithm for large-scale convex optimization," (Andersen and Ye), *Computational Optimization and Applications* 10 (1998) 243-269.
- [J71] "Probabilistic analysis of an infeasible interior-point algorithm for linear programming," (Anstreicher, Ji, Potra and Ye), *Math Operations Res* 24 (1999) 176-192.
- [J70] "Infeasible-start primal-dual methods and infeasibility detectors for nonlinear programming problems," (Nesterov, Todd, and Ye), *Math Programming* 84 (1999) 227-267.
- [J69] "Constrained logarithmic least squares in parameter estimation," (Bai and Ye), *IEEE Tran on Automatic Control* 44:1 (1999) 182-185.
- [J68] "Approximation algorithms for quadratic programming," (Fu, Luo, and Ye), *Journal of Combinatorial Optimization* 2:1 (1998) 29-50.
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- [J66] "On a homogeneous algorithm for the monotone complementarity problem," (Andersen and Ye), *Math Programming* 84 (1999) 375-400.
- [J65] "Bounded error parameter estimation: a sequential analytic center approach," (Bai, Ye and Tempo), *IEEE Tran on Automatic Control* 44:6 (1999) 1107-1117.
- [J64] "How partial knowledge helps to solve linear programs," *Journal of Complexity* 12 (1996) 480-491.
- [J63] "Approximate Farkas lemmas and stopping rules for iterative infeasible-point algorithms for linear programming," (Todd and Ye), *Math Programming* 81 (1998) 1-22.
- [J62] "Efficient algorithms for minimizing a sum of Euclidean norms with applications," (Xue and Ye), *SIAM J. Optimization* 7 (1997) 1017-1036.

- [J61] “Complexity analysis of the analytic center cutting plane method that uses multiple cuts,” *Math Programming* 78 (1997) 85-104.
- [J60] “On the relationship between layered least squares and affine scaling steps,” (Vavasis and Ye), *Lectures in Applied Mathematics* 32 (1996) 857-866.
- [J59] “An infeasible interior-point algorithm for solving primal and dual geometric programs,” (Kortanek, Xu, and Ye), *Math Programming* 76 (1997) 155-182.
- [J58] “A primal-dual interior-point method whose running time depends only on the constraint matrix,” (Vavasis and Ye), *Math Programming* 74 (1996) 79-120.
- [J57] “On homogeneous and self-dual algorithm for LCP,” *Math Programming* 76 (1997) 211-222.
- [J56] “Combining interior-point and pivoting algorithms for linear programming,” (Andersen and Ye), *Management Science* 42 (1996) 1719-1731.
- [J55] “Improved complexity using higher-order correctors for primal-dual Dikin affine scaling,” (Jansen, Roos, Terlaky and Ye), *Math Programming* 76 (1997) 117-130.
- [J54] “Interior-point methods for nonlinear complementarity problem,” (Potra and Ye), *Journal of Optimization Theory and Application* 88 (1996) 617-642.
- [J53] “A lower bound on the number of iterations of long-step and polynomial interior-point linear programming algorithms,” (Todd and Ye), *Annals of Operations Research* 62 (1996) 233-252.
- [J52] “A convergent algorithm for quantile regression with smoothing splines,” (Bosch, Ye, and Woodworth), *Computational Statistics & Data Analysis* 19 (1995) 613-630.
- [J51] “A asymptotical $O(n^5L)$ -iteration path-following linear programming algorithm that uses long steps,” (Hung and Ye), *SIAM J. Optimization* 6 (1996) 570-586.
- [J50] “A generalized homogeneous and self-dual linear programming algorithm,” (Xu and Ye), *Operations Research Letters* 17:2 (1995) 181-190.
- [J49] “A simplification of the homogeneous and self-dual linear programming algorithm and its implementation,” (Xu, Hung and Ye), *Annals of Operations Research* 62 (1996) 151-172.
- [J48] “Condition numbers for polyhedra with real number data,” (Vavasis and Ye), *Operations Research Letters* 17 (1995) 209-214.
- [J47] “Identifying an optimal basis in linear programming,” (Vavasis and Ye), *Annals of Operations Research* 62 (1996) 565-572.
- [J46] “On the von Neumann economic growth problem,” *Math Operations Res* 20 (1995) 617-633.
- [J45] “Complexity analysis of an interior-point cutting plane method for convex feasibility problem,” (Goffin, Luo and Ye), *SIAM J. Optimization* 6 (1996) 638-652.
- [J44] “Specially structured uncapacitated facility location problems,” (Jones, Lowe, Muller, Xu, Ye, and Zydiak), *Operations Research* 43 (1995) 661-669.
- [J43] “A surface of analytic centers and infeasible-interior-point algorithms for linear programming,” (Mizuno, Todd, and Ye), *Math Operations Res* 20 (1995) 135-162.

- [J42] "An $O(n^5L)$ -iteration homogeneous and self-dual linear programming algorithm," (Ye, Todd and Mizuno), *Math Operations Res* 19 (1994) 53-67.
- [J41] "Combining binary search and Newton's method to compute real roots for a class of real functions," *Journal of Complexity* 10 (1994) 271-280.
- [J40] "Toward probabilistic analysis of interior-point algorithms for linear programming," *Math Operations Res* 19 (1994) 38-52.
- [J39] "On the convergence of the iteration sequence in primal-dual interior-point methods," (Tapia, Zhang and Ye), *Math Programming* 68 (1995) 141-154.
- [J38] "On quadratic and $O(n^5L)$ convergence of a predictor-corrector algorithm for LCP," (Ye and Anstreicher), *Math Programming* 62 (1993) 537-552.
- [J37] "A complexity analysis for interior-point algorithms based on Karmarkar's potential functions," (Ji and Ye), *SIAM J. Optimization* 4 (1994) 512-520.
- [J36] "The optimal choice of inputs under time of use pricing, fixed proportions technology and adjustment costs: an application to industrial firms," (Spector, Tishler and Ye), *Management Sciences* 41 (1995) 1679-1692.
- [J35] "A decomposition variant of the potential reduction algorithm for linear programming," (Kaliski and Ye), *Management Science* 39 (1993) 757-776.
- [J34] "Minimal adjustment costs, factor demands, and seasonal time-of-use electricity rates," (Tishler and Ye), *Resource and Energy Economics* 15 (1993) 313-335.
- [J33] "On finding an interior point on the optimal face of linear programs," (Mehrotra and Ye), *Math Programming* 62 (1993) 497-516.
- [J32] "On the finite convergence of interior-point algorithms for linear programming," *Math Programming* 57 (1992) 325-335.
- [J31] "A quadratically convergent $O(n^5L)$ -iteration algorithm for linear programming," (Ye, Guler, Tapia and Zhang), *Math Programming* 59 (1993) 151-162.
- [J30] "Convergence behavior of some interior-point algorithms," (Guler and Ye), *Math Programming* 60 (1993) 215-228.
- [J29] "A fully polynomial-time approximation algorithm for computing a stationary point of the general LCP," *Math Operations Res* 18 (1993) 334-345.
- [J28] "A quadratically convergent polynomial interior-point algorithm for solving entropy optimization problems," (Potra and Ye), *SIAM J. Optimization* 3 (1993) 843-860.
- [J27] "On adaptive-step primal-dual interior-point algorithms for linear programming," (Mizuno, Todd and Ye), *Math Operations Res* 18 (1993) 964-981.
- [J26] "Implementation of interior-point algorithms for some entropy optimization problems," (Han, Pardalos and Ye), *Optimization Methods and Software* 1 (1992) 71-80.
- [J25] "Solutions of P_0 -matrix linear complementarity problems," (Pardalos, Ye, Han and Kaliski), *SIAM J. Matrix Anal. Appl.* 14 (1993) 1048-1060.
- [J24] "Near-boundary behavior of the primal-dual potential reduction algorithm for linear programming," (Ye, Kortanek, Kaliski and Huang), *Math Programming* 58 (1993) 243-255.

- [J23] "A potential reduction algorithm allowing column generation," *SIAM J. Optimization* 2 (1992) 7-20.
- [J22] "Convergence behavior of Karmarkar's projective algorithm for solving a simple linear program," (Kaliski and Ye), *Operations Research Letters* 10 (1991) 389-393.
- [J21] "Comparative analysis of affine scaling algorithms for linear programming," *Math Programming* 52 (1992) 405-414.
- [J20] "An extension of the potential reduction algorithm for solving LCP with priority goals," (Kaliski and Ye) *Linear Algebra and its Applications* 193 (1993) 35-50.
- [J19] "On affine scaling algorithms for nonconvex quadratic programming," *Math Programming* 56 (1992) 285-300.
- [J18] "Extensions of the potential reduction algorithm for linear programming," *Journal of Optimization Theory and Applications* 72 (1992) 487-498.
- [J17] "On some efficient interior point methods for nonlinear convex programming," (Kortanek, Potra and Ye), *Linear Algebra and its Applications* 152 (1991) 169-189.
- [J16] "Interior-point algorithms for global optimization," *Annals of Operations Research* 25 (1990) 59-74.
- [J15] "A class of LCPs solvable in polynomial time," (Ye and Pardalos), *Linear Algebra and its Applications* 152 (1991) 3-17.
- [J14] "Algorithms for the solution of quadratic knapsack problems," (Pardalos, Han and Ye), *Linear Algebra and its Applications* 152 (1991) 69-91.
- [J13] "Containing and shrinking ellipsoids in the path-following algorithm," (Ye and Todd), *Math Programming* 47 (1990) 1-9.
- [J12] "A class of projective transformations for linear programming," *SIAM J. Computing* 19 (1990) 457-466.
- [J11] "An $O(n^3L)$ potential reduction algorithm for linear programming," *Math Programming* 50 (1991) 239-258.
- [J10] "An interior point potential reduction algorithm for the linear complementarity problem," (Kojima, Megiddo and Ye), *Math Programming* 54 (1992) 267-279.
- [J9] "A centered projective algorithm for linear programming," (Todd and Ye), *Math Operations Res* 15 (1990) 508-529.
- [J8] "Recovering optimal basic variables in Karmarkar's polynomial algorithm for linear programming," *Math Operations Res* 15 (1990) 564-571.
- [J7] "A 'build-down' scheme for linear programming," *Math Programming* 46 (1990) 61-72.
- [J6] "An extension of Karmarkar's projective algorithm for convex quadratic programming," (Ye and Tse) *Math Programming* 44 (1989) 157-179.
- [J5] "Eliminating columns in the simplex method for linear programming," *Journal of Optimization Theory and Applications* 63 (1989) 103-111.
- [J4] "Karmarkar's algorithm and the ellipsoid method," *Operations Research Letters* 4 (1987) 177-182.
- [J3] "Recovering optimal dual solutions in Karmarkar's polynomial algorithm for linear programming," (Ye and Kojima), *Math Programming* 39 (1987) 305-317.

[J2] "A conclusion on 'missing number' in ergodic exponents of $s \times s$ stochastic matrices," *Journal of Huazhong University of Science and Technology* 2 (1983).

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3.2 Books/Monographs

[C44] *Linear and Nonlinear Programming*, 3rd edition, (David Luenberger and Yinyu Ye), Springer, International Series in Operations Research and Management Science, 2008.

[C15] *Interior-Point Algorithms: Theory and Analysis*, Wiley-Interscience Series in Discrete Mathematics and Optimization, John Wiley & Sons, Monograph, 1997.

3.3 Refereed Conference Proceeding/Book Chapters Papers

Archival Publications

[C51] "The Complexity of Determining the Uniqueness of Tarski's Fixed Point under the Lexicographic Ordering," (Dang and Ye), Proc. of the WINE 2010.

[C50] "Correlation Robust Stochastic Optimization," (Agrawal, Ding, Saberi and Ye), Proc. of the SODA 2010.

[C49] "Universal Rigidity: Towards Accurate and Efficient Localization of Wireless Networks" (Zhu, So and Ye), Proc. of the INFOCOM 2010.

[C48] "A Unified Framework for Dynamic Pari-Mutuel Information Market Design," (Agrawal, Delage, Peters, Wang, and Ye), Proc. of the EC2009.

[C47] "A FPTAS for Computing a Symmetric Leontief Competitive Economy Equilibrium," (Zhu, Dang and Ye), Proc. of the WINE 2008.

[C46] "Parimutuel Betting on Permutations," (Agrawal, Wang and Ye), WINE 2008.

[C40] "Pari-mutuel Markets: Mechanisms and Performance" (Peters, So and Ye), Proc. of the WINE 2007.

[C39] "A Note on Equilibrium Pricing as Convex Optimization" (Chen, Ye, Zhang), Proc. of the WINE 2007.

[C38] "Stochastic Combinatorial Optimization with Controllable Risk Aversion Level," (So, Zhang and Ye), Proc. of the *9th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2006)*, LNCS 4110, pp. 224-235, 2006.

[C37] "A Semidefinite Programming Approach to Tensegrity Theory and Realizability of Graphs" (So and Ye), Proc. of the *17th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 766-775, 2006.

[C36] "Leontief Economies Encode Nonzero Sum Two-Player Games" (Codenotti, Saberi, Varadarajan and Ye), Proc. of the SODA 2006.

[C35] "On Solving Coverage Problems in a Wireless Sensor Network Using Voronoi Diagrams," (So and Ye), Proc. of the WINE 2005.

[C34] "On Exchange Market Equilibria with Leontief's Utility: Freedom of Pricing Leads to Rationality," Proc. of the WINE 2005.

[C33] "Integration of Angle of Arrival Information for Multimodal Sensor Network Localization using Semidefinite Programming," (Biswas, Aghajan and Ye), Proc. of the 39th Asilomar Conference on Signals, Systems and Computers, 2005.

[C32] “On Approximating Complex Quadratic Optimization Problems via Semidefinite Programming Relaxations is available,” (So, Zhang and Ye), Proc. of the IPCO 2005.

[C31] “Market Equilibria for Homothetic, Quasi-Concave Utilities and Economies of Scale in Production,” (Jain, Vazirani and Ye), SODA '05 Proc. of the sixteenth annual ACM-SIAM symposium on Discrete algorithms.

[C30] “Theory of Semidefinite Programming for Sensor Network Localization,” (So and Ye), SODA '05 Proc. of the sixteenth annual ACM-SIAM symposium on Discrete algorithms.

[C29] “Semidefinite Programming for Ad Hoc Wireless Sensor Network Localization” (Biswas and Ye), Proc. of the 3rd international symposium on Information processing in sensor networks, Berkeley, 2004, pp 46-54.

[C28] “Optimal arrival traffic spacing via dynamic programming,” (Bayen, Tomlin, Callantine, Ye and Zhang), AIAA Conference on Guidance, Navigation and Control, AIAA Paper 2004-5228, Aug. 2004.

[C27] “An approximation algorithm for scheduling aircraft with holding time,” (Bayen, Tomlin, Ye and Zhang), Proc. of the 43rd IEEE Conference on Decision and Control, pp. 2760-2767, Dec. 2004.

[C26] “MILP Formulation and Polynomial Time Algorithm for an Aircraft Scheduling Problem,” (Bayen, Tomlin, Ye, and Zhang), Proc. of the 42th IEEE Conference on Decision and Control (CDC), pp 5003-5010, 2003.

[C25] “An Improved Algorithm for Approximating the Radii of Point Sets,” (Ye and Zhang), Proc. of the 6th International Workshop on Approximation Algorithms for Combinatorial Optimization (APPROX) LNCS 2764, pp. 178-187, 2003.

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[C3] “Interior point algorithms for quadratic programming problems” (Pardalos, Ye and Han), Proc. of the Conf. on Optimization Methods and their Applications (in Russian), Nauka, USSR (1990), pp. 194-213.

Other contributions including significant technical reports and book chapters

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[C52] “Probabilistic analysis of semidefinite relaxation detectors in multiple-input, multiple-output systems,” (So and Ye), in *Convex Optimization in Signal Processing and Communications*, Chapter 5, D. P. Palomar and Y. C. Eldar, Ed., Cambridge University Press, 2010.

- [C45] "Solving Min-Max Multi-Depot Vehicle Routing Problem," (Carlsson, Ge, Subramaniam, Wu and Ye), in *FIELDS Book on Global Optimization*, 2008.
- [C43] "On Analyzing Semidefinite Programming Relaxations of Complex Quadratic Optimization Problems," (So, Ye, and Zhang), 8-1, *Handbook of Approximation Algorithms and Metaheuristics*, ed. Teofilo F. Gonzalez, Chapman & Hall/CRC, 2007.
- [C42] "Greedy Algorithms for Metric Facility Location Problems," (So, Ye, and Zhang), 39-1, *Handbook of Approximation Algorithms and Metaheuristics*, ed. Teofilo F. Gonzalez, Chapman & Hall/CRC, 2007.
- [C41] "Semidefinite Programming for Sensor Network and Graph Localization," (So and Ye), in 'Robust Optimization-Directed Design' (ed. A.J. Kurdila, P.M. Pardalos, M. Zabrankin), pp. 127-143, Springer, 2006.
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- [C20] "Semidefinite Programming Relaxations for Nonconvex Quadratic Optimization," (Nesterov, Wolkowics, and Ye), in *Handbook on Semidefinite Programming* (Kluwer, Boston, 2000) 361-419.
- [C19] "Approximating Maximum Stable Set and Minimum Graph Coloring Problems with the Positive Semidefinite Relaxation," (Benson and Ye), in M. Ferris and J. Pang eds., *Applications and Algorithms of Complementarity* (Kluwer Academic Publishers, 2000) 1-18.
- [C18] "Application of Semidefinite Programming to Circuit Partitioning," (C. Choi and Y. Ye), in P. Pardalos eds., *Approximation and Complexity in Numerical Optimization* (Kluwer Academic Publishers, 2000) 130-136.
- [C17] "A simplification to 'a primal-dual interior point method whose running time depends only on the constraint matrix'," (Vavasis and Ye), in S. Zhang et al, eds., *High Performance Optimization, Applied Optimization 33* (Kluwer Academic Publication, 2000) pp. 233-243.
- [C16] "Semidefinite relaxations, multivariate normal distributions, and order statistics," (Bertsimas and Ye), *Handbook of Combinatorial Optimization* (Vol. 3), D.-Z. Du and P.M. Pardalos (Eds.) pp. 1-19, (1998 Kluwer Academic Publishers).
- [C14] "On a Homogeneous Algorithm for a Monotone Complementarity Problem with Nonlinear Equality Constraints," (Andersen and Ye), in Michael C. Ferris and Jong-Shi Pang, eds., *Complementarity and variational Problems: State of the art* (SIAM, 1997) pp. 1-11.
- [C12] "A genuine quadratically convergent polynomial interior point algorithm for linear programming," (Luo and Ye), in Ding-Zhu Du and Jie Sun, eds., *Advances in Optimization and Approximation* (Kluwer Academic Publishers, Boston, 1994).
- [C11] "On the complexity of a column generation algorithm for convex or quasiconvex feasibility problems," (Goffin, Luo and Ye), in W. Hager, D. Hearn and P. Pardalos eds., *Large Scale Optimization: State of the Art* (Kluwer Academic Publishers, Boston, 1994) pp. 182-191.
- [C10] "Average performance of a self-dual interior-point algorithm for linear programming," (Anstreicher, Ji, Potra and Ye), in P. Pardalos eds., *Complexity in Numerical Optimization* (World Scientific, New Jersey, 1993) pp. 1-15.
- [C9] "Translation cuts for convex minimization," (Burke, Goldstein, Tseng and Ye), in P. Pardalos eds., *Complexity in Numerical Optimization* (World Scientific, New Jersey, 1993) pp. 57-73.
- [C7] "A further result on potential reduction algorithm for the P-matrix linear complementarity problem," in P. Pardalos eds., *Advances in Optimization and Parallel Computing* (North-Holland, NY, 1992) pp. 310-316.

[C6] “A new complexity result on minimization of a quadratic function with a sphere constraint,” in C. Floudas and P. Pardalos eds., *Recent Advances in Global Optimization* (Princeton University Press, NJ, 1992).

[C5] “Interior-point algorithms for solving nonlinear optimization problems,” (Han, Pardalos and Ye), COAL Newsletter 19 (1991) 45-54.

[C4] “Interior-point algorithms for quadratic programming,” in S. Kumar ed., *Recent Developments in Mathematical Programming* (Gordon & Breach Scientific Publishers, Philadelphia, 1991).

[C2] “Computational aspects of an interior point algorithm for quadratic programming problems with box constraints,” (Han, Pardalos and Ye), in T. F. Coleman and Y. Li eds., *Large-Scale Numerical Optimization* (SIAM, Philadelphia, 1990) 92-112.

[C1] “An extension of Karmarkar's algorithm and the trust region method for quadratic programming,” in *Progress in Mathematical Programming* (N. Megiddo ed.), Springer Verlag, New York (1989) 49-63.

3.4 Working Papers

[W22] “Hidden-City Ticketing: the Cause and Impact,” (Wang and Ye), Working Paper, May 2011.

[W21] “Existence of Positive Steady States for Mass Conserving and Mass-Action Chemical Reaction Networks with a Single Terminal-Linkage Class,” (Santiago Akle, Onkar Dalal, Ronan M. T. Fleming, Michael Saunders, Nicole Taheri, Yinyu Ye), May 2011.

[W20] “Close the Gaps: A Learning-while-Doing Algorithm for a Class of Single-Product Revenue Management Problems (Wang, Deng and Ye), Working Paper, February 2011.

[W19] “On Doubly Positive Semidefinite Programming Relaxations,” (Ge and Ye), Working Paper, August 2010.

[W18] “On affine motions and bar frameworks in general position,” (Alfakih and Ye), Working Paper, September 2010.

[W17] “Price of Correlations in Stochastic Optimization” (Agrawal, Ding, Sebari, and Ye), Working Paper, February 2010.

[W16] “NP-Hardness Results Related to PPAD” (Dang and Ye), Working Paper, January 2010.

[W15] “A Dynamic Near-Optimal Algorithm for Online Linear Programming” (Agrawal, Wang and Ye), Working Paper, November 2009.

[W14] “Fast and Near-Optimal Matrix Completion via Randomized Basis Pursuit” (Zhu, So and Ye), Working Paper, May 2009.

[W13] “Optimality principles in nonequilibrium biochemical networks” (Fleming, Maes, Saunders, Ye, Palsson), Working Paper, February 2009.

[W12] “Pari-mutuel Markets: Mechanisms and Performance,” (Peters and Ye), Working Paper, Management Science and Engineering, Stanford University, May 2008.

[W11] “Competitive Communication Spectrum Economy and Equilibrium,” Working Paper, Management Science and Engineering, Stanford University, October, 2007.

[W10] “Newsvendor Optimization with Limited Distribution Information,” (Zhu, Zhang and Ye), Working Paper, Management Science and Engineering, Stanford University, November 2006.

[W9] “A Convex Parimutuel Formulation for Contingent Claim Markets,” (Peters, So and Ye), Working Paper, Management Science and Engineering, Stanford University, October 2005.

[W8] "Solving sparse semidefinite programs using the dual scaling algorithm with an iterative solver," (Choi and Ye), Working Paper, Department of Management Sciences, University of Iowa, March 2000.

[W7] "Computational Optimization Laboratory Positive Semidefinite Programming User Guide," (Benson, Ye, and Zhang), Working Paper, Department of Management Sciences, University of Iowa, February 1999.

[W6] "Convergence behavior of the central path for homogeneous and self-dual cones," Working Note, Department of Management Sciences, The University of Iowa, December, 1995.

[W5] "A low complexity combined phase I-phase II potential reduction algorithm for linear programming," Working Paper No. 91-1, College of Business Administration, University of Iowa, 1991.

[W4] "Line search in potential reduction algorithms for linear programming," Working Paper, College of Business Administration, University of Iowa, 1989.

[W3] "A 'build-up' interior method for linear programming," (Dantzig and Ye) SOL Report, Department of Operations Research, Stanford University, 1990.

[W2] "Bimatrix equilibrium points and potential functions," Working Paper No. 88-16, College of Business Administration, University of Iowa, 1988.

[W1] "Further development of the interior algorithm for convex quadratic programming," manuscript, Stanford University and Integrated Systems Inc., Stanford, 1987.

4. Ph.D. Dissertation Advisees, Courses, Software, Invited Presentations and Patents

Ph.D. Dissertation Advisees

Name	Grad Date	University	Last Known Position
John Kaliski,	1992	U of Iowa	Anlon Systems Inc., Mankato, Minnesota
Ronald Bosch	1994 (Co-DA)	U of Iowa	Harvard University, Bio-statistics, School of Public Health
Pi-Fang Huang	1995	U of Iowa	Taiwan Dong-Hai University
Erling Andersen	1996 (Visiting)	U of Denmark	Founder of MOSEK.com, Optimization Software
Tienbin Qian	1997 (Co-DA)	U of Iowa	Motorola at Arizona, Operations Management Team
Steve Benson	1999	U of Iowa	Argonne National Lab at Chicago
Jiawei Zhang	2004	Stanford	NYU
Anthony So	2007	Stanford	Chinese University of Hong Kong
Pratik Biswas	2007	Stanford	Wall Street
Mark Peters	2008	Stanford	Private start-up company
Dongdong Ge	2009	Stanford	Shanghai JiaoTong University
John Carlsson	2009	Stanford	University of Minnesota
Erick Delage	2009	Stanford	HEC Montreal
Zhishu Zhu	2010	Stanford	Oracle Inc.
Shipra Agrawal	2011*	Stanford	
Zizhuo Wang	2012*	Stanford	
Qi Qi	2012*	Stanford	
Nicole Taheri	2012*	Stanford	
Robert Eberhart	2013* (Co-DA)	Stanford	
Onkar Danal	2013* (Co-DA)	Stanford	
Tiago Akle	2013* (Co-DA)	Stanford	
Andy Nguyen	2014* (Co-DA)	Stanford	
Tailai Wen	2014*	Stanford	

* Expected

Courses listed on <http://www.stanford.edu/~yyye/course.html> .

Computer Software/Programs listed on <http://www.stanford.edu/~yyye/Col.html> .

Over 120 invited presentations

Patents through Stanford Technology License:

* A Semi-Definite Programming Method for AD HOC Network Node Localization, 2005

* Convex Parimutuel Call Auction Mechanism (S05-349), 2006

5. Professional Affiliations and Activities

Membership

* The Institute for Operations Research and the Management Sciences (INFORMS)

* Society for Industrial and Applied Mathematics (SIAM)

* Mathematical Optimization Society (MOS)

Positions

* Elected Vice Chair of the SIAM Activity Group on Optimization (SIAG/OPT), 2008-.

* Co-organizer of Workshop of Internet and Network Economics, 2005-.

* Section Officer (Linear Programming) of the Institute for Operations Research and the Management Sciences, (1997-2000).

* Co-organizer of the 1999 DIMACS Princeton workshop on discrete optimization.

* Member of the International Advisory Committee for the 15th and 16th International Symposium on Mathematical Programming (1992-1997).

* Topic Coordinator for the 15th International Symposium on Mathematical Programming (1992-1994).

Special Speaker

* Plenary speaker at the 19th International Symposium on Mathematical Programming, Rio de Janeiro, 2006

* Distinguished Speaker in High Performance Computation for Engineered Systems (HPCES), MIT, 2002.

* Semi-plenary speaker at the 17th International Symposium on Mathematical Programming, Atlanta, 2000.

Journal Boards

* Area Editor of *Math Operations Res* (2010-), *Operations Research* (2005-2010), Chief Editor of *Optimization & Engineering* (2000-) and *Pacific Journal of Optimization* (2003-).

* Associate Editor of *Management Science* (2004-2009), *Math Operations Res* (1998-2001), *Optimization Methods and Software* (2003-), *SIAM Journal on Optimization* (1990-1997), *Journal of the Operations Research Society of Japan* (1998-), *Journal of Computational Mathematics* (2004-).

Reviewers

* NSF proposal review panelist (1994, 1995, 1996, 2000, 2002, 2009, 2011).

* Referee for *Mathematics of Operations Research*, *Mathematical Programming*, *SIAM Journals*, *Operations Research*, *Linear Algebra and its Applications*, and *Journal of Optimization Theory and Applications*, etc.

* Reviewer for National Science Foundation; Natural Sciences and Engineering Research Council of Canada, Research Grant Council of Australia, Research Grant Council of Hong Kong, Sciences and Engineering Research Council of Chili.

6. Industrial and Consulting Activities

Chairman of the technical advisory board of MOSEK (2009-)

Director of the Industrial Affricate Program, Management Science and Engineering, Stanford (2002-)

Recipient of the 2010 EPRI (Electric Power Research Institute) Gift

Recipient of the 2009 IBM Faculty Award

Sample of Industrial Projects and Activities:

Boeing (2004-), Stochastic and Robust Decision Making and Optimization

Boeing (2004-), Dynamic Resource Allocation

American Express (2005-2008), Game and Dynamic Decision

Huawei Technologies Co., Ltd. (China) (2005-), Supply Chain Management and Facility Location
TISCO Inc. (China) (2006-), Supply Chain and Project Management
Polaris Wireless Inc (2006-2007), Mobile Phone Localization
AtRoad, Inc. Fremont (2006-2007), Vehicle Routing
Barcelona Design Inc, (1998-2004), Analog Circuit Design
AT&T (1992-1993), Linear Programming Solver Development
MCI Telecommunication (1991-1992), Real Time Restoration for Telecommunication Network

7. Honors

Yinyu Ye

- * 2009 INFORMS John von Neumann Theory Prize (Co-Recipient) for fundamental sustained contributions to theory in Operations Research and the Management Sciences
- * 2007 Stanford Asian American Faculty of Year Award
- * 2006 INFORMS Optimization Society Farkas Prize (Inaugural Recipient) for fundamental contributions to optimization
- * 2006 INFORMS Fellow
- * 2003 ISI Highly Cited Mathematical Researcher (one of 250 in Mathematical Sciences for 1983-2002, <http://www.ISIhighlycited.com>)
- * 2004 BASES Innovators' Challenge First-Place Winners: Pratik Biswas and Yinyu Ye on sensor network localization.
- * 2005 BASES Innovators' Challenge First-Place Winners: Holy Jin, Mike Carter, Mike Saunders and Yinyu Ye on sensor network management.
- * Research Fellow, Mathematical Science Research Institute, UC Berkeley, 1998.
- * Australian Research Council Fellowship, University of New South Wales, 1997.
- * Japan Education Ministry Fellowship, Institute of Statistical Mathematics, 1996.
- * Dutch Organization for Scientific Research (NWO) Fellowship, Delft University, 1994-1997.
- * Obermann Fellowship, University of Iowa, 1994.
- * Cornell University Theory Center Fellowship, 1993-1994.
- * Fellowship Award of K. C. WONG Education Foundation, Hong Kong, 1993.

Students Supervised by Yinyu Ye

- * 2010 INFORMS Best Interactive Session Award, John Carlsson, for his paper "Dividing a territory between several facilities."
- * 2010 INFORMS Optimization Prize for Young Researchers, Anthony Man-Cho So, for his paper "Moment inequalities for sums of random matrices and their applications to optimization."
- * 2008 First Prize of INFORMS Nicholson Student Paper Competition, E. Delage, for his Ph.D. Thesis "Distributionally Robust Optimization under Moment Uncertainty with Application to Data-Driven Problems"
- * 2004 INFORMS Optimization Prize for Young Researchers, Jiawei Zhang, for his paper "Approximating the Two-Level Facility Location Problem via a Quasi-Greedy Approach"

8. Funded Research

- * Principal Investigator (1 of 2), DOE Grant on Numerical Optimization Algorithms and Software for Systems Biology, 2009-2012.
- * Principal Investigator (1 of 3), Air Force Grant on Optimization Algorithms and Equilibrium Analysis for Dynamic Resource Allocation, 2009-2012.
- * Principal Investigator, NSF GOALI on Region Partitioning, 2008-2011.
- * Principal Investigator, NSF Grant on Complexity of Market Equilibrium, 2006-2010.
- * Principal Investigator, NSF Grant for Markov Decision Problem and Linear Programming, 2003-2006.
- * Principal Investigator, NSF Grant for Semidefinite Programming and Approximation Algorithms, 1999-2003.
- * Principal Organizer (1 of 2), Semidefinite Programming and Large-Scale Discrete Optimization Workshop, DIMACS and Princeton University, 1999.
- * Co-Principal Investigator (1 of 5), NSF Grant for Computational Infrastructure and Equipment, 1998-1999.
- * Co-Principal Investigator (1 of 4), NSF Grant for Hybrid Optimization for Protein Structure, 1998-1999.
- * Co-Principal Investigator (1 of 4), University of Iowa Biosciences Initiative Pilot Grant, 1998.
- * Principal Investigator, NSF Grant for computational complexity, 1997-2000.

- * Principal Investigator, NSF Grant for mathematical programming, 1995-1998.
- * Principal Investigator, NSF Grant for linear programming interior-point algorithms, 1993-1995.
- * Principal Investigator, NSF Grant for linear programming, 1990-1992.
- * Principal Investigator, College Summer Grants, College of Business of Administration, University of Iowa, 1989-1997.
- * Principal Investigator (1 of 2), Center for Advanced Studies Interdisciplinary Research Grant, University of Iowa, 1991-1992.

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