

CURRICULUM VITAE

Emre Alper Yıldırım

1 Personal Data

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2 Academic Degrees

Assoc. Prof.	Industrial Engineering, Higher Education Council of Turkey	2006
Ph.D.	Operations Research, Cornell University, Ithaca, New York, USA	2001
M.S.	Operations Research, Cornell University, Ithaca, New York, USA	2000
B.S.	Industrial Engineering, Bilkent University, Ankara, Turkey	1997

3 Research Interests

Mathematical Optimization
Convex Optimization
Design and Analysis of Algorithms
Continuous Optimization
Applied Optimization

4 Academic Positions

September 2016 – present Associate Director
Graduate School of Sciences and Engineering
Koç University, Istanbul, Turkey

Emre Alper Yıldırım

December 2015 – present	Professor Department of Industrial Engineering Koç University, Istanbul, Turkey
February 2011 – December 2015	Associate Professor Department of Industrial Engineering Koç University, Istanbul, Turkey
June 2008 – January 2011	Associate Professor Department of Industrial Engineering Bilkent University, Ankara, Turkey
September 2005 – June 2008	Assistant Professor Department of Industrial Engineering Bilkent University, Ankara, Turkey
August 2001 – June 2005	Assistant Professor Department of Applied Mathematics and Statistics Stony Brook University, Stony Brook, New York, USA
August 2000 – December 2000	Instructor School of Operations Research and Industrial Engineering Cornell University, Ithaca, New York, USA
January 1999 – August 2001	Graduate Research Assistant School of Operations Research and Industrial Engineering Cornell University, Ithaca, New York, USA
June 1999 – August 1999	Givens Research Associate Mathematics and Computer Science Division Argonne National Laboratory Argonne, Illinois, USA
January 1998 – January 2000	Teaching Assistant School of Operations Research and Industrial Engineering Cornell University, Ithaca, New York, USA

5 Professional Awards and Honors

5.1 Research Awards

1. **2015:** Journal of Global Optimization Best Paper Award for a Paper Published in 2014
2. **2011:** TÜBA (The Turkish Academy of Sciences) Young Scientist Award (TÜBA-GEBİP)
3. **2009:** TÜBİTAK (The Scientific and Technological Research Council of Turkey) Incentive Award
4. **2006:** INFORMS (Institute for Operations Research and Management Sciences) Optimization Society Prize for Young Researchers
5. **2004:** The Research Foundation of SUNY (State University of New York) Promising Inventor Award
6. **2003:** National Science Foundation Faculty Early Career Development (CAREER) Award
7. **1999:** Givens Research Associateship, Argonne National Laboratory

5.2 Teaching Awards

1. **2004:** Outstanding Teacher Award, Department of Applied Mathematics and Statistics, Stony Brook University
2. **1999:** Undergraduate Teaching Award, presented to top graduate student Teaching Assistant at the School of Operations Research and Industrial Engineering, Cornell University by AIIE (American Institute of Industrial Engineers)

5.3 Travel Awards

1. **2008:** TÜBİTAK (Turkish Scientific and Technical Research Council) Travel Award for the Foundations of Mathematical Conference (FoCM) in Hong Kong, China
2. **2006:** TÜBİTAK (Turkish Scientific and Technical Research Council) Travel Award for the INFORMS (Institute for Operations Research and Management Sciences) Annual Meeting in Pittsburgh, PA, USA
3. **2000:** Student Travel Award for ISMP 2000 (International Symposium on Mathematical Programming) in Atlanta, GA, USA

4. **2000:** SIAM Student Travel Award for 2000 SIAM (Society of Industrial and Applied Mathematics) Annual Meeting in Puerto Rico, USA
5. **1997:** TÜBİTAK (Turkish Scientific and Technical Research Council) A-1 (NATO) Travel Support for Graduate Studies Abroad

5.4 Scholarships and Tuition Waivers

1. **1997 – 2001:** Graduate Teaching and Research Assistantship, Cornell University, Ithaca, New York, USA
2. **1992 – 1997:** Merit-Based Full Undergraduate Tuition Waiver and Stipend Awarded by Bilkent University, Ankara, Turkey

5.5 Other

1. **May 2012:** Plenary Speaker at the 3rd Conference on Optimization Methods and Software, Chania, Crete, Greece
2. **June 1997:** Graduated with the highest cumulative GPA in a class of 55, Department of Industrial Engineering, Bilkent University, Ankara, Turkey
3. **June 1992:** Ranked 23rd among over 1 million entrants in the Nationwide University Admissions Exam in Turkey

6 Research Supervision

6.1 Postdoctoral Researchers

6.1.1 Current

1. Çağlar Arı. Project Title: *Convex Optimization in Parameter Estimation of Probabilistic Models*. January 2014 – present

6.2 Doctoral Students

6.2.1 Past

1. Gizem Sağol. Thesis Title: *On Polyhedral Approximations of Copositive Formulations of Certain Quadratic Optimization Problems*. Ph.D. in Industrial Engineering and Operations Management, Koç University, August 2016

2. Xiaofei Fan-Orzechowski (co-advised with Eugene Feinberg). Thesis Title: *Applications of Lovász's Theta and Lagrangian Functions to Certain Deterministic and Stochastic Optimization Problems*. Ph.D. in Applied Mathematics and Statistics, Stony Brook University, December 2005 (Recipient of the 2006 Woo Jong Kim Dissertation Award at Stony Brook University)
3. Elizabeth John. Thesis Title: *Implementation of Warm-Start Strategies in Interior-Point Methods for Linear Programming*. Ph.D. in Applied Mathematics and Statistics, Stony Brook University, August 2005

6.2.2 Current

1. Yakup Görkem Gökmen. Thesis Title: *Copositive Formulations of Binary Quadratic Optimization Problems* (tentative). Ph.D. in Industrial Engineering and Operations Management, Koç University, August 2017 (expected)
2. Oğuz Can Binatlı. Thesis Title: *Efficient Solutions of Polyhedral Approximations of Copositive Optimization Problems* (tentative). Ph.D. in Industrial Engineering and Operations Management, Koç University, August 2018 (expected)
3. Nermin Elif Kurt. Thesis Title: *A Market Clearing Model in Turkish Day Ahead Electricity Market* (tentative). Ph.D. in Industrial Engineering and Operations Management, Koç University, August 2018 (Co-advised with Lerzan Örmeci, Koç University) (expected)

6.3 Master's Students

6.3.1 Past

1. Özge Soyogul. Thesis Title: *A Simulation-Optimization Approach to the Storage Location Assignment Problem: A Case Study of a Distribution Warehouse in Automotive Manufacturing*. M.S. in Industrial Engineering, Koç University, February 2016
2. Ali Hassanzadeh Kalshani. Thesis Title: *Optimization Based Heuristics for the Graph Partitioning Problem*. M.S. in Industrial Engineering, Koç University, July 2015
3. Ali Yeşilçimen. Thesis Title: *Alternative Optimization Models for Reviewer Allocation in Peer Review Systems*. M.S. in Industrial Engineering, Koç University, February 2015
4. Senem Sancar. Thesis Title: *Simultaneous Berth Allocation and Crane Assignment Problem*. M.S. in Industrial Engineering, Koç University, July 2014 (Co-advised with Deniz Özdemir, Yaşar University)

5. Onur Uzunlar. Thesis Title: *Joint Routing, Gateway Selection, Scheduling and Power Management Optimization in Wireless Mesh Networks*. M.S. in Industrial Engineering, Bilkent University, July 2011 (Co-advised with Kağan Gökbayrak, Bilkent University)
6. Selva Şelfun. Thesis Title: *Outer Approximation Algorithms for the Congested p -Median Problem*. M.S. in Industrial Engineering, Bilkent University, July 2011 (Co-advised with Hande Yaman, Bilkent University)
7. Ahmed Burak Paç. Thesis Title: *Row Generation Techniques for Approximate Solution of Linear Programming Problems*. M.S. in Industrial Engineering, Bilkent University, September 2010
8. Esra Koca. Thesis Title: *A Two-Stage Solution Approach to Spare Parts Distribution under a Special Cost Structure*. M.S. in Industrial Engineering, Bilkent University, July 2010
9. Utku Guruşçu. Thesis Title: *Implementation of a Specialized Algorithm for Clustering Using Minimum Enclosing Balls*. M.S. in Industrial Engineering, Bilkent University, July 2010

6.3.2 Current

1. İsmail Ozan Sert. Thesis Title: *Effective Reoptimization of Transportation Plans Under Disruptions* (tentative). M.S. in Industrial Engineering, Koç University, August 2015 (expected) (Co-advised with Metin Türkay, Koç University)

6.4 Undergraduate Students

6.4.1 Past

1. Nur Timurlenk, IE 490 Introduction to Research, Fall 2010, Bilkent University, Project: *Solving Sudoku Puzzles: Formulations, Cuts, and Bounds*
2. Pelin Diren, IE 490 Introduction to Research, Fall 2009, Bilkent University, Project: *Heuristics for Control of Wireless Mesh Networks*
3. Olcay Sarmaz, IE 490 Introduction to Research, Fall 2009, Bilkent University, Project: *Exact Methods for Joint Channel Assignment, Routing, and Link Scheduling in Multi-Radio Wireless Mesh Networks*
4. Özge Demiryapan, IE 490 Introduction to Research, Fall 2007, Bilkent University, Project: *Further Insights into the Average Behavior of the Simplex Method*

7 Research Grants

7.1 Past

1. Principal Investigator, TÜBİTAK (The Scientific and Technological Research Council of Turkey). *Copositive Optimization Based Solution Approaches for NP-Hard Optimization Problems*, 196,780 TRY, June 1, 2013 – December 1, 2015. Project Number: 112M870
2. Co-Investigator, TÜBİTAK (The Scientific and Technological Research Council of Turkey). *Advanced Multi-Objective Optimization Techniques for Simultaneous Berth Allocation and Crane Scheduling Problem under Uncertainty*, 118,610 TRY, June 1, 2013 – June 1, 2015. Project Number: 112M865. (PI: Deniz Özdemir, Yaşar University)
3. Co-Principal Investigator, IBM Open Collaborative Research (OCR) Award. *Proactive Transportation Plan Management*, USD 30,000, March 1, 2013 – March 1, 2015. (PI: Metin Türkay, Koç University)
4. Co-Investigator, TÜBİTAK (The Scientific and Technological Research Council of Turkey). *Multiobjective Optimization Based Solution Methods for Planning and Operational Problems of Wireless Mesh Networks*, 111,840 TRY, October 1, 2010 – September 30, 2012. Project Number: 110M312. (PI: Kağan Gökbayrak, Bilkent University)
5. Co-Investigator, TÜBİTAK (The Scientific and Technological Research Council of Turkey). *Optimization of Production-Emission and Carbon Allowance Trading Processes Under the Carbon Trade Mechanism and Statistical Analysis of Carbon Market Data*, 135,295 TRY, September 15, 2010 – September 15, 2012. Project Number: 110M307. (PI: Ülkü Gürler, Other Co-Investigators: Emre Berk and Deniz Yenigün, Bilkent University)
6. Principal Investigator, TÜBİTAK (The Scientific and Technological Research Council of Turkey). *A Comprehensive Electronic Proposal Evaluation and Selection System*, 212,180 TRY, August 1, 2009 – February 1, 2012. Project Number: 109M149. (Other Co-Investigators: Cevdet Aykanat and A. Yavuz Oruç, Bilkent University)
7. Co-Investigator, Platform ARGE, *Optimization of Spare Parts Depot and Spare Parts Distribution System at TOFAŞ A. Ş.*, 80,000 TRY, November 1, 2007 – August 31, 2008. (PI: Barbaros C. Tansel, Bilkent University)
8. Principal Investigator, TÜBİTAK (The Scientific and Technological Research Council of Turkey). *Development of Specific and Efficient Algorithms for Large-Scale Geometric Optimization Problems*, 20,250 TRY, October 1, 2007 – October 1, 2008. Project Number: 107M411

9. Principal Investigator, Bilkent University Faculty Research Development Grant. *Investigations in Geometric Optimization*, USD 1,500, January 1, 2007 – December 31, 2007
10. Principal Investigator, ADP Investor Communications Services. *SPIR (New York State Strategic Partnership for Industrial Resurgence): Algorithmic Aspects of Booklet Bundling*, USD 18,593, July 15, 2004 – July 15, 2005. (Co-PIs: Joseph S. B. Mitchell and Esther M. Arkin, Stony Brook University)
11. Principal Investigator, National Science Foundation Faculty Early Career Development (CAREER) Award. *CAREER: A Unifying Interior-Point Approach to Sensitivity Analysis and Reoptimization in Conic Programming*, USD 400,000, June 1, 2003 – May 31, 2008 (terminated in August 2006 due to relocation). Project Number: DMI0237415

8 Scholarly Publications

8.1 Ph.D. Dissertation

1. E. Alper Yıldırım. *An Interior-Point Perspective on Sensitivity Analysis in Linear Programming and Semidefinite Programming*. School of Operations Research and Industrial Engineering, Cornell University, Ithaca, NY, USA. August 2001.

8.2 Refereed Journal Publications

1. E. Alper Yıldırım and Michael J. Todd. Sensitivity Analysis in Linear Programming and Semidefinite Programming Using Interior-Point Methods. *Mathematical Programming*, 90 (2), pp. 229–261, 2001.
2. E. Alper Yıldırım and Michael J. Todd. An Interior-Point Approach to Sensitivity Analysis in Degenerate Linear Programs. *SIAM Journal on Optimization*, 12 (3), pp. 692–714, 2002.
3. E. Alper Yıldırım and Stephen J. Wright. Warm Start Strategies in Interior-Point Methods for Linear Programming. *SIAM Journal on Optimization*, 12 (3), pp. 782–810, 2002.
4. E. Alper Yıldırım. An Interior-Point Perspective on Sensitivity Analysis in Semidefinite Programming. *Mathematics of Operations Research*, 28 (4), pp. 649–676, 2003.
5. Piyush Kumar, Joseph S. B. Mitchell, and E. Alper Yıldırım. Approximate Minimum Enclosing Balls in High Dimensions Using Core-Sets. *The ACM Journal of Experimental Algorithmics*, Vol. 8, Article 1, 2003. (Special issue devoted to selected papers from the Fifth Workshop on Algorithm Engineering and Experiments (ALENEX'03))

6. E. Alper Yıldırım. Unifying Optimal Partition Approach to Sensitivity Analysis. *Journal of Optimization Theory and Applications*, 122 (2), pp. 405–423, 2004.
7. Piyush Kumar and E. Alper Yıldırım. Minimum Volume Enclosing Ellipsoids and Core Sets. *Journal of Optimization Theory and Applications*, 126 (1) pp. 1–21, 2005.
8. E. Alper Yıldırım and Xiaofei Fan-Orzechowski. On Extracting Maximum Stable Sets in Perfect Graphs Using Lovász’s Theta Function. *Computational Optimization and Applications*, 33 (2–3), pp. 229–247, 2006.
9. E. Alper Yıldırım. On the Minimum Volume Covering Ellipsoid of Ellipsoids. *SIAM Journal on Optimization*, 17 (3), pp 621–641, 2006. (Winner of the 2006 INFORMS Optimization Society Young Researcher Prize)
10. Michael J. Todd and E. Alper Yıldırım. On Khachiyan’s Algorithm for the Computation of Minimum Volume Enclosing Ellipsoids. *Discrete and Applied Mathematics*, 155 (13), pp 1731–1744, 2007.
11. Piyush Kumar and E. Alper Yıldırım. Computing Minimum Volume Enclosing Axis-Aligned Ellipsoids. *Journal of Optimization Theory and Applications*, 136 (2), pp. 211–228, 2008.
12. Elizabeth John and E. Alper Yıldırım. Implementation of Warm-Start Strategies in Interior-Point Methods for Linear Programming in Fixed Dimension. *Computational Optimization and Applications*, 41 (2), pp. 151–183, 2008.
13. E. Alper Yıldırım. Two Algorithms for the Minimum Enclosing Ball Problem. *SIAM Journal on Optimization*, 19 (3), pp. 1368–1391, 2008.
14. S. Damla Ahipaşaoğlu and E. Alper Yıldırım. Identification and Elimination of Interior Points for the Minimum Enclosing Ball Problem. *SIAM Journal on Optimization*, 19 (3), pp. 1392–1396, 2008.
15. Piyush Kumar and E. Alper Yıldırım. An Algorithm and a Core Set Result for the Weighted Euclidean One-center Problem. *INFORMS Journal on Computing*, 21 (4), pp. 614–629, 2009.
16. E. Alper Yıldırım. A Simpler Characterization of a Spectral Lower Bound on the Clique Number, *Mathematical Methods of Operations Research*, 71 (2), pp. 267–281, 2010.
17. Piyush Kumar and E. Alper Yıldırım. A Linearly Convergent Linear-Time First-Order Algorithm for Support Vector Classification with a Core Set Result, *INFORMS Journal on Computing*, 23 (3), pp. 377–391, 2011.
18. E. Alper Yıldırım. On the Accuracy of Uniform Polyhedral Approximations of the Copositive Cone, *Optimization Methods and Software*, 27 (1), pp. 155–173, 2012.

19. Esra Koca and E. Alper Yıldırım. A Hierarchical Solution Approach for a Multi-commodity Distribution Problem Under a Special Cost Structure. *Computers and Operations Research*, 39 (11), pp. 2612–2624, 2012.
20. Kağan Gökbayrak and E. Alper Yıldırım. Joint Gateway Selection, Transmission Slot Assignment, Routing, and Power Control for Wireless Mesh Networks. *Computers and Operations Research*, 40 (7), pp. 1671–1679, 2013.
21. Immanuel M. Bomze, Stefan Gollowitzer, and E. Alper Yıldırım. Rounding on the Standard Simplex: Regular Grids for Global Optimization. *Journal of Global Optimization*, 59 (2-3), pp. 243–258, 2014. (Winner of the Journal of Global Optimization Best Paper Award for a paper published in 2014)
22. Emre Mengi, E. Alper Yıldırım, and Mustafa Kılıç. Numerical Optimization of Eigenvalues of Hermitian Matrix Functions. *SIAM Journal on Matrix Analysis and Applications*, 35 (2), pp. 699–724, 2014.
23. Gizem Sağol and E. Alper Yıldırım. Analysis of Copositive Optimization Based Linear Programming Bounds on Standard Quadratic Optimization. *Journal of Global Optimization*, 63 (1), pp. 37–59, 2015.
24. Refail Kasımbeyli and E. Alper Yıldırım. Optimality Conditions in Nonconvex and Nonsmooth Optimization Revisited. To appear in *Pure and Applied Functional Analysis*.
25. Kağan Gökbayrak and E. Alper Yıldırım. Exact and Heuristic Approaches Based on Noninterfering Transmissions for Joint Gateway Selection, Time Slot Allocation, Routing and Power Control for Wireless Mesh Networks. To appear in *Computers and Operations Research*.
26. E. Alper Yıldırım. Inner Approximations of Completely Positive Reformulations of Mixed Binary Quadratic Optimization Problems: A Unified Analysis. To appear in *Optimization Methods and Software*.

8.3 Refereed Publications in Conference Proceedings

1. Piyush Kumar, Joseph S. B. Mitchell, and E. Alper Yıldırım. Computing Core-Sets and Approximate Smallest Enclosing Hyperspheres in High Dimensions. *Proceedings of the 5th Workshop on Algorithm Engineering and Experiments (ALENEX)*, pp. 45–55, 2003.
2. Onur Uzunlar, Kağan Gökbayrak, and E. Alper Yıldırım. Joint Routing, Gateway Selection, Scheduling and Power Management Optimization in Wireless Mesh Networks, *Proceedings of the Industrial and Systems Engineering Research Conference (ISERC 2012)*, 2012.

8.4 Work in Progress

1. Gizem Sağol and E. Alper Yıldırım. Error Bounds for Box-Constrained Quadratic Optimization Problems via Copositive Optimization.
2. Yakup Görkem Gökmen and E. Alper Yıldırım. On Copositive Formulations of Binary Integer Quadratic Programming Problems.
3. Çağlar Arı and E. Alper Yıldırım. On the M-Step in the EM Algorithm.
4. Ali Yeşilçimen and E. Alper Yıldırım. Alternative Formulations for Allocation of Proposals to Reviewers in Peer Review Systems.
5. Oğuz Can Binatlı and E. Alper Yıldırım. Efficient Solutions of Polyhedral Approximations of Copositive Optimization Problems.

8.5 Citation Statistics

1. Total Number of Google Scholar Citations: 942 (As of September 30, 2016)
2. Total Number of Web of Science Citations: 427 (As of August 22, 2016)

9 Conference Presentations and Seminars

1. 5th International Conference on Continuous Optimization August 2016
Tokyo, Japan
Contributed Talk: Inner Approximations of Completely Positive Reformulations of Mixed Binary Quadratic Programs
2. Barbaros Tansel Memorial Lecture March 2016
Bilkent University, Ankara, Turkey
Invited Talk: Copositive and Completely Positive Optimization: Theory and Tractable Approximations
3. National Conference on Operations Research September 2015
and Industrial Engineering, Ankara, Turkey
Invited Talk: Copositive Optimization: Theory and Polyhedral Approximations (in Turkish)
4. 27th European Conference on Operational Research July 2015
Glasgow, United Kingdom
Invited Talk: Inner Polyhedral Approximations of Completely Positive Optimization Problems

5. 13th EUROPT Workshop on Advances in Continuous Optimization July 2015
Edinburgh, United Kingdom
Invited Talk: Inner Polyhedral Approximations of Completely Positive Optimization Problems
6. Yaşar University, İzmir, Turkey March 2015
Invited Talk: Completely Positive Optimization: Theory and Tractable Approximations
7. Sabancı University, Istanbul, Turkey December 2014
Invited Talk: Completely Positive Optimization: Theory and Tractable Approximations
8. Koç University Seminar Series, Istanbul, Turkey May 2014
Invited Talk: Optimization Based Approaches for the Design of an Effective Peer Review System
9. Anadolu University, Eskişehir, Turkey November 2013
Invited Talk: Copositive Optimization: Theory and Tractable Approximations
10. 4th International Conference on Continuous Optimization July 2013
Lisbon, Portugal
Invited Talk: Copositive Optimization Based Bounds on Standard Quadratic Optimization
11. 11th EUROPT Workshop on Advances in Continuous Optimization June 2013
Florence, Italy
Invited Talk: Copositive Optimization Based Bounds on Standard Quadratic Optimization
12. Koç University Board of the Trustees Meeting, Istanbul, Turkey May 2013
Invited Talk: Optimization Based Approaches for the Design of Effective Peer Review Systems (in Turkish)
13. 21st International Symposium on Mathematical Programming August 2012
Berlin, Germany
Invited Talk: Warm-Start Strategies: What Matters More?
14. 3rd Conference on Optimization Methods and Software May 2012
Crete, Greece
Plenary Talk: The Frank-Wolfe Algorithm, Away Steps, and Core Sets in Optimization
15. 25th Conference of European Chapter on Combinatorial Optimization April 2012
Antalya, Turkey
Invited Talk: A Hierarchical Solution Approach for a Multicommodity Distribution Problem Under a Special Cost Structure

16. Galatasaray University, Istanbul, Turkey April 2012
Invited Talk: A Hierarchical Solution Approach for a Multicommodity Distribution Problem Under a Special Cost Structure (in Turkish)
17. Operations Research Center for Industrial and Business Systems March 2012
Seminar, Koç University, Istanbul, Turkey
Invited Talk: A Hierarchical Solution Approach for a Multicommodity Distribution Problem Under a Special Cost Structure
18. Turkish Academy of Sciences Young Scientists Program September 2011
Annual Meeting, Ege University, Izmir, Turkey
Invited Talk: Multicriteria Optimization Approaches for the Development of an Effective Peer Review System (in Turkish)
19. Workshop on Global Optimization July 2011
Izmir University of Economics, Izmir, Turkey
Invited Talk: On Tractable Approximations of Copositive Optimization: Theory and Practice
20. SIAM Conference on Optimization, Darmstadt, Germany May 2011
Invited Talk: Computational Experience with Polyhedral Approximations of Copositive Programs
21. Johann Bernoulli Institute of Mathematics and Computer Science May 2011
University of Groningen, Groningen, The Netherlands
Invited Talk: Core Sets in Optimization: A Unifying Framework
22. Mathematics Colloquium, Koç University, Istanbul, Turkey March 2011
Invited Talk: Core Sets in Optimization: A Unifying Framework
23. University of Vienna, Vienna, Austria January 2011
Invited Talk: Core Sets in Optimization: A Unifying Framework
24. Operations Research Center for Industrial and Business Systems Seminar July 2010
Koç University, Istanbul, Turkey
Invited Talk: Core Sets in Optimization: A Unifying Framework
25. 8th EUROPT Workshop on Advances in Continuous Optimization July 2010
Aveiro, Portugal
Contributed Talk: On the Accuracy of Uniform Polyhedral Approximations of the Copositive Cone
26. 24th Mini EURO Conference, Izmir, Turkey June 2010
Invited Talk: On the Accuracy of Uniform Polyhedral Approximations of the Copositive Cone

27. Industrial Engineering Department Seminar, Bilkent University
Ankara, Turkey
Invited Talk: Recent Progress in Core Sets
October 2009
28. International Symposium on Mathematical Programming
Chicago, USA
Invited Talk: Recent Advances in Warm-Starts in Interior-Point Methods
August 2009
29. Faculty of Engineering and Natural Sciences Seminar
Sabanci University, Istanbul, Turkey
Invited Talk: Efficient Algorithms for Large-Scale Minimum Enclosing Ball Problems
January 2009
30. National Conference on Operations Research
and Industrial Engineering, Istanbul, Turkey
Contributed Talk: Efficient Algorithms for Large-Scale Optimization Problems Based
on Core Sets (in Turkish)
July 2008
31. FoCM (Foundations of Computational Mathematics) Conference
Hong Kong, China
Invited Talk: Recent Progress in Core Sets (session chair)
June 2008
32. SIAM Conference on Optimization, Boston, USA
Sponsored Talk: Two Algorithms for the Minimum Enclosing Ball Problem (minisymposium organizer and session chair)
May 2008
33. Institute of Applied Mathematics General Seminar,
Middle East Technical University, Ankara, Turkey
Invited Talk: Two Algorithms for the Minimum Enclosing Ball Problem
October 2007
34. Second Mathematical Programming Society International Conference
on Continuous Optimization, McMaster University, Hamilton, Canada
Invited Talk: On Khachiyan's Algorithm for the Computation of Minimum-Volume
Enclosing Ellipsoids (session chair)
August 2007
35. 22nd European Conference on Operational Research
Prague, Czech Republic
Sponsored Talk: On Khachiyan's Algorithm for the Computation of Minimum-Volume
Enclosing Ellipsoids (stream organizer, session organizer, and session chair)
July 2007
36. Joint EUROPT-OMS Meeting, Prague, Czech Republic
Sponsored Talk: Two Algorithms for the Minimum Enclosing Ball Problem (member
of the organizing committee, session organizer, and session chair)
July 2007
37. INFORMS Fall 2006 Meeting, Pittsburgh, USA
Invited Talk: On the Minimum Volume Covering Ellipsoid of Ellipsoids (recipient of
the INFORMS Optimization Prize for Young Researchers)
November 2006

38. International Symposium on Mathematical Programming August 2006
Rio de Janeiro, Brazil
Sponsored Talk: On the Minimum Volume Covering Ellipsoid of Ellipsoids (cluster organizer, session organizer, and session chair)
39. Industrial Engineering Department Seminar, Bilkent University March 2006
Ankara, Turkey
Invited Talk: An Implementation of Warm-Start Strategies in Interior-Point Methods for Linear Programming
40. Institute of Applied Mathematics General Seminar March 2006
Middle East Technical University, Ankara, Turkey
Invited Talk: An Implementation of Warm-Start Strategies in Interior-Point Methods for Linear Programming
41. Operations and Information Systems Group Seminar Series March 2006
Koç University, Istanbul, Turkey
Invited Talk: On Extracting Maximum Stable Sets from Lovász's Theta Function in Perfect Graphs
42. Industrial Engineering Department Seminar, Bilkent University September 2005
Ankara, Turkey
Invited Talk: On Extracting Maximum Stable Sets from Lovász's Theta Function in Perfect Graphs
43. Continuous Optimization Seminar June 2005
University of Waterloo, Waterloo, Canada
Invited Talk: On the Minimum Volume Covering Ellipsoid of Ellipsoids
44. Workshop on Mathematical Programming in Data Mining June 2005
and Machine Learning, McMaster University, Hamilton, Canada
Invited Talk: On the Minimum Volume Covering Ellipsoid of Ellipsoids (session organizer and chair)
45. SIAM Conference on Optimization, Stockholm, Sweden May 2005
Sponsored Talk: An Implementation of Warm-Start Strategies in Interior-Point Methods for Linear Programming (minisymposium organizer and chair)
46. Operations Research Seminar February 2005
Stony Brook University, Stony Brook, USA
Invited Talk: On Extracting Large Stable Sets from Lovász's Theta Function
47. INFORMS Fall 2004 Meeting, Denver, USA October 2004
Sponsored Talk: Efficient Algorithms for Large-Scale Geometric Optimization (invited session organizer and session chair)

48. New York University, New York, USA October 2004
Invited Talk: Identifying Core Sets and Its Algorithmic Implications in Large-Scale Geometric Optimization
49. McMaster University, Hamilton, Canada May 2004
Invited Talk: Efficient Algorithms for Large-Scale Geometric Optimization Problems and Core Sets
50. INFORMS Fall 2003 Meeting, Atlanta, USA October 2003
Sponsored Talk: Minimum Enclosing Balls and Ellipsoids for Large Data Sets (invited session organizer and session chair)
51. DIMACS Workshop on Geometric Optimization May 2003
Rutgers University, Piscataway, USA
Invited Talk: Approximate Minimum Volume Enclosing Ellipsoids Using Core Sets
52. Lehigh University, Bethlehem, USA April 2003
Invited Talk: Computing Core-Sets and Approximate Smallest Enclosing Hyperspheres in High Dimensions
53. IBM T. J. Watson Research Center, Yorktown Heights, USA March 2003
Invited Talk: Computing Core-Sets and Approximate Smallest Enclosing Hyperspheres in High Dimensions
54. Carnegie Mellon University, Pittsburgh, USA January 2003
Invited Talk: Computing Core-Sets and Approximate Smallest Enclosing Hyperspheres in High Dimensions
55. FoCM (Foundations of Computational Mathematics) Conference August 2002
Minneapolis, USA
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis in Semidefinite Programming
56. SIAM Conference on Optimization, Toronto, Canada May 2002
Contributed Talk: On Sensitivity Analysis in Conic Programming
57. The University of Michigan, Ann Arbor, USA March 2002
Invited Talk: On Sensitivity Analysis in Conic Programming
58. INFORMS Fall 2001 Meeting, Miami Beach, USA November 2001
Contributed Talk: An Interior-Point Perspective on Sensitivity Analysis in Semidefinite Programming
59. Stanford University, Stanford, USA March 2001
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis in Linear and Semidefinite Programming

60. The University of Florida, Gainesville, USA February 2001
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis in Linear and Semidefinite Programming
61. Stony Brook University, Stony Brook, USA January 2001
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis in Linear and Semidefinite Programming
62. McMaster University, Hamilton, Canada January 2001
Invited Talk: An Interior-Point Perspective on Reoptimization in Linear Programming
63. The University of Waterloo, Waterloo, Canada January 2001
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis in Linear and Semidefinite Programming
64. Bilkent University, Ankara, Turkey January 2001
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis in Linear and Semidefinite Programming
65. INFORMS Fall 2000 Meeting, San Antonio, USA November 2000
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis
66. International Symposium on Mathematical Programming August 2000
Atlanta, USA
Invited Talk: An Interior-Point Perspective on Sensitivity Analysis in Linear Programming
67. SIAM Annual Meeting, Puerto Rico July 2000
Contributed Talk: Warm-Start Strategies in Interior-Point Methods for Linear Programming
68. INFORMS Fall 1999 Meeting, Philadelphia, USA November 1999
Contributed Talk: Sensitivity Analysis in Linear and Semidefinite Programming Using Interior-Point Methods
69. Argonne National Laboratory, MCS Division, Chicago, USA July 1999
Invited Talk: Semidefinite Programming and Sensitivity Analysis for Dummies

10 Teaching

10.1 Koç University

1. INDR 201, Discrete Mathematical Structures. Fall 2011, Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016.
2. INDR 430/530, Decision Analysis. Fall 2011, Fall 2012.

3. INDR 450/580, Selected Topics in Industrial Engineering: Approximation Algorithms. Spring 2011.
4. INDR 484/584, Logistics Management. Spring 2011, Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016.
5. INDR 501 Optimization Models and Algorithms. Fall 2016.
6. INDR 562, Integer and Combinatorial Optimization. Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016.

10.2 Bilkent University

1. IE 202, Introduction to Modeling and Optimization. Spring 2006, Spring 2008, Spring 2009, Fall 2009, Spring 2010.
2. IE 400, Principles of Engineering Management. Fall 2006, Fall 2007.
3. IE 500, Mathematics of Operations Research. Fall 2007, Fall 2008, Fall 2009, Fall 2010.
4. IE 513, Linear Programming. Fall 2005, Fall 2006.
5. IE 519, Approximation Algorithms. Fall 2008, Fall 2010.
6. IE 614, Nonlinear Programming. Spring 2007, Spring 2010.

10.3 Stony Brook University

1. AMS 301, Finite Mathematical Structures A. Fall 2001, Spring 2002, Fall 2002, Spring 2003, Fall 2003, Spring 2004.
2. AMS 544, Discrete and Nonlinear Optimization. Spring 2002, Spring 2003, Spring 2004.
3. AMS 641, Semidefinite Programming and Its Applications, Fall 2002.
4. EAS 101, Engineering and Applied Sciences, Fall 2003.

10.4 Cornell University

1. OR&IE 522, Topics in Linear Optimization, Fall 2000.

10.5 Curriculum Development

1. Developed a new course on *Discrete Mathematical Structures* (INDR 201), Koç University, Fall 2011
2. Offered a new graduate course on *Approximation Algorithms* (INDR 450/580), Koç University, Spring 2011
3. Developed and offered a new graduate course on *Approximation Algorithms* (IE 519), Bilkent University, Fall 2008
4. Developed and offered a new graduate course on *Mathematics of Operations Research* (IE 500), Bilkent University, Fall 2007
5. Developed and offered a new graduate course on *Semidefinite Programming and Its Applications* (AMS 641), Stony Brook University, Fall 2002
6. Completely reworked the graduate course AMS 544 (Discrete and Nonlinear Optimization), Stony Brook University, Spring 2002

11 Departmental and University Service

11.1 Koç University

1. Member of the College of Engineering Faculty Council (August 2016 – present)
2. Associate Director of the Graduate School of Sciences and Engineering (September 2016 – present)
3. MÜDEK (Association for Evaluation and Accreditation of Engineering Programs) Department Coordinator (Fall 2015 – present)
4. Member of the Faculty Search Committee (Fall 2015)
5. Member of the Graduate Qualifying Exam Committee (Fall 2014 – present)
6. Graduate Program Coordinator, June 2013 – July 2015
7. Member of the Graduate School of Sciences and Engineering Academic Council, January 2013 – December 2015
8. Coordinator of the Area Track Program in Operations Research, August 2011 – August 2013

11.2 Bilkent University

1. Member of the Faculty Executive Committee, Fall 2009 – February 2011
2. Member of the Library Advisory Board, April 2007 – February 2011
3. Library Representative of the Department of Industrial Engineering, December 2007 – February 2011
4. Co-organizer of the Weekly Department Seminars, Fall 2006 – Spring 2007
5. Member of the Graduate Committee, February 2006 – February 2011
6. Member of the Student Academic Performance and Evaluation Committee (SAPEC), July 2006 – February 2011
7. Member of the Doctoral Qualifying Examination Committee, Fall 2006 – Spring 2010

11.3 Stony Brook University

1. Member of the university-wide Administrative Review Committee, Fall 2004 – Fall 2005
2. Member of the university-wide University Affairs Committee, Fall 2004 – Fall 2005
3. Member of the Graduate Admissions Committee, 2005
4. Member of the Operations Research Faculty Search Committee, 2005

12 Professional Activities

12.1 Editorial Positions

1. Member of the Editorial Board, *Optimization Letters* (since January 2014)
2. Member of the Editorial Board, *Optimization Methods and Software* (since May 2008)
3. Member of the Editorial Board, *Algorithmic Operations Research* (November 2004 – December 2012)

12.2 Other Professional Activities

1. Member of the Program Committee, IIE International Conference, Istanbul, Turkey, June 2013
2. Organizing Committee Chair, The 3rd Conference on Optimization Methods and Software, Crete, Greece, 2012

3. Member of the Editorial Board, Engineering Dictionary in Turkish, Turkish Academy of Sciences (TÜBA), September 2011 – November 2011
4. Member of the Scientific Committee, 4th International Conference of Iranian Operations Research Society, University of Guilan, Iran, May 2011
5. Committee Member, INFORMS Optimization Society Prize for Young Researchers, 2010
6. Member of the Program Committee, 24th Mini EURO Conference on Continuous Optimization and Information-Based Technologies in the Financial Sector, Izmir, Turkey, July 2010
7. Member of the Program Committee, National Conference on Operations Research and Industrial Engineering, Bilkent University, Ankara, Turkey, June 2009
8. Nonlinear Programming Cluster Organizer, 23rd European Conference on Operational Research, Bonn, Germany, July 2009
9. Member of the Organizing Committee, EURO Mini Conference on Continuous Optimization and Knowledge-Based Technologies, Neringa, Lithuania, May 2008
10. Member of the Organizing Committee, 2nd Conference on Optimization Methods and Software and 6th EUROPT Workshop on Advances in Continuous Optimization, Prague, Czech Republic, July 2007
11. Nonlinear Programming Cluster Organizer, 22nd European Conference on Operational Research, Prague, Czech Republic, July 2007
12. Nonsmooth Optimization and Convex Programming Cluster Organizer, 19th International Symposium on Mathematical Programming (ISMP), Rio de Janeiro, Brazil, July 2006
13. National Science Foundation Panelist for the Operations Research Program, 2002
14. Turkish National Scientific and Technological Research Council (TÜBİTAK) Panelist for the Industrial Engineering Program, 2011, 2012, 2013
15. Ad hoc reviewer for *Mathematical Programming*, *SIAM Journal on Optimization*, *Mathematical Programming Computation*, *Mathematics of Operations Research*, *Operations Research*, *Discrete Applied Mathematics*, *Optimization and Engineering*, *Journal of Optimization Theory and Applications*, *Computational Optimization and Applications*, *Optimization Methods and Software*, *European Journal of Operational Research*, *Optimization*, *Algorithmic Operations Research*, *Algorithmica*, *Information Sciences*, *Theoretical Computer Science*, *Applied Mathematics Letters*, *Optimization Letters*, *Applied Mathematics and Computation*, *Journal of Applied Mathematics and*

Computing, International Journal on Computational Geometry and Applications, SIAM Journal on Scientific Computing, IEEE Transactions on Parallel and Distributed Systems, Mathematical Methods of Operations Research, Neural Networks, Journal of the Franklin Institute, International Journal of Computer Mathematics, Central European Journal of Operational Research, Journal of Graphic Tools, IEEE Transactions on Neural Networks, Journal of Classification, Science in China, Turkish Journal of Mathematics, Endüstri Mühendisliği (in Turkish), Yöneylem Araştırması (in Turkish), MPS-SIAM Book Series on Optimization, SIAM Books, SODA'03 (Symposium on Discrete Algorithms), SODA'10 (Symposium on Discrete Algorithms), SoCG'15 (Symposium on Computational Geometry), ALENEX'03 (Fifth Workshop on Algorithm Engineering and Experiments), 2013 IEEE International Symposium on Information Theory, European Control Conference - ECC 2013

16. Reviewer for *American Mathematical Society (AMS) Mathematical Reviews Database*, 2001 – 2005

13 Professional Society Memberships

1. Mathematical Optimization Society (MOS)
2. Society of Industrial and Applied Mathematics (SIAM)
3. Yöneylem Araştırması Derneği (YAD – Operations Research Society of Turkey)