

# CURRICULUM VITAE

## ASU OZDAGLAR

Professor  
Steven and Renee Finn Innovation Fellow  
Electrical Engineering and Computer Science Department, 32-D630  
Massachusetts Institute of Technology  
77 Massachusetts Avenue,  
Cambridge, MA 02139

Tel: 1-617-324-0058  
Fax: 1-617-253-3578  
Web: <http://web.mit.edu/asuman/www>  
E-mail: [asuman@mit.edu](mailto:asuman@mit.edu)

### PERSONAL

DATE OF BIRTH: December 16, 1974  
NATIONALITY: Turkish, US.

### EDUCATION:

INSTITUTION	DEGREE	DATE
Middle East Technical University	BS, EE	1996
MIT	SM	1998
MIT	PhD	2003

TITLE OF DOCTORAL THESIS:  
Pseudonormality and a Lagrange Multiplier Theory for Constrained Optimization

### PROFESSIONAL EXPERIENCE

#### ACADEMIC POSITIONS

2003-2007	Assistant Professor of EECS, M.I.T.
2007-2008	Associate Professor of EECS (without tenure), M.I.T.
2008-2012	Associate Professor of EECS (with tenure), M.I.T.
2012-present	Professor of EECS, M.I.T.

### FIELDS OF INTEREST

Nonlinear and Convex Optimization: Theory and Algorithms,  
Game Theory,  
Social and Economic Networks: Learning, Information Dynamics, and Influence,

Network Economics: Pricing, Investment, and Resource Allocation Games,  
Distributed Optimization Methods,  
Network Resource Allocation: Wireline, Wireless, and Optical Networks.

## AWARDS AND GRANTS

### AWARDS

Bulent Kerim Altay prize (METU-TURKEY)	1993-1996
NATO Science Fellow	1996
Microsoft Fellow	2001
Graduate Student Council Teaching Award- MIT School of Engineering	2004
Provost Award	2005
Sundarum Seshu Scholar at the Coordinated Science Lab., UIUC, Inaugural lecture.	2005
NSF CAREER Award	2005
Class of 1943 Career Development Chair	2006
AACC Donald P. Eckman Award	2008
(The citation reads: “ <i>For contributions to optimization theory, game theory and its applications to congested markets, and learning in large networks with applications to human and social networks</i> ”)	
Kavli Fellow of the National Academy of Sciences	2011
Inaugural Steven and Renee Innovation Fellowship	2012

### GRANTS

#### Current Research Grants:

1. NSF "FORCES: Foundations Of Resilient CybEr-physical Systems," joint with Profs. Sastry, Bayen, Schwartz, Song, Tomlin (Berkeley), Amin, Balakrishnan (MIT), Hiskens, Teneketzis (Michigan), Gabor, Karsai, Koutsoukos, Sztipanovits (Vanderbilt)
2. ARO MURI, “Evolution of Cultural Norms and Dynamics of Socio-political Change,” joint with Profs. Jadbabaie, Kearns (Upenn), Acemoglu, Christia, Dahleh (MIT), Blume, Kleinberg (Cornell), Jackson, Leskovec (Stanford), Shamma (Gatech).
3. ONR MURI, “New Paradigms for Scalable Online Decentralized Optimization,” joint with Profs. Jadbabaie, Rakhlin, Ribeiro (UPenn).
4. Draper, “Analysis and Control of Opinion Dynamics in Social Networks,” joint with Prof. Tsitsiklis (MIT).
5. NSF, "Novel Game-Theoretic Tools and Solution Concepts with Applications to Network Dynamics and Control," joint with Prof. Parrilo (MIT).

6. AFOSR, “Dynamics of Beliefs, Culture, and Social Interactions,” joint with Profs. Acemoglu, Dahleh (MIT), Shamma (Gatech).
7. AFOSR MURI, “Distributed Learning and Information Dynamics in Networked Autonomous Systems,” joint with Profs. Shamma, Balcan (Gatech), Abed, Baras, Martins (UMaryland), Young (UOxford), Dahleh, Kaelbling (MIT).
8. ARO, “Game-Theoretic Models of Social Conflict,” joint with Prof. Acemoglu (MIT).
9. Provost award.

Past Research Grants:

1. MIT Intelligence Initiative, “When are Groups More Intelligent than Individuals?” joint with Prof. Pentland (MIT).
2. NSF Career Grant, “Distributed Multiagent Control and Optimization: Where Game Theory Meets Network Optimization”.
3. Draper, “Opinion Formation and Influence in Conflict Situations: The Role of Networks,” joint with Profs. Barnhart and Christia (MIT).
4. NSF, “An Analytic Framework for Political and Social Change: Conflict, Beliefs, and Dynamics,” joint with Profs. Acemoglu, Dahleh, Shah (MIT).
5. DARPA, ITMANET, “Fundamental Limits of Wireless Networks,” joint with Profs. Goldsmith, Boyd, Johari (Stanford), Effros (Caltech), Coleman, Meyn, Moulin (UIUC), Medard, Shah, Zheng (MIT).
6. NSF, “Optimization and Control of Stochastic Wireless Networks,” joint with Prof. Parrilo (MIT).
7. DARPA, CBMANET, “Control of Mobile Ad-hoc Networks,” joint with Prof. Medard (MIT).
8. AFOSR, “Control Theoretic Modeling for Uncertain Cultural Attitudes and Unknown Adversarial Intent,” joint with Profs. Shamma (Gatech), Dahleh (MIT).
9. NSF, “Future Optical Network Architectures,” joint with Profs. Chan, Shah (MIT).

**PROFESSIONAL SERVICE**

<u>Activity</u>	<u>Beginning</u>	<u>Ending</u>
<u>Program Committee:</u>		
Agent-Mediated Electronic Commerce (AMEC) VI workshop	2004	2004
International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)	2005	2006
Economics of Networked-Systems Workshop (NetEcon)	2006	2006
IEEE International Conference on Computer Communications	2006	2007

(INFOCOM)		
2 <sup>nd</sup> International Conference on Complementarity, Duality, and Global Optimization in Science and Engineering (CDGO)	2006	2007
ACM Conference on Electronic Commerce (EC)	2006	2007
2 <sup>nd</sup> International Workshop on Game Theory in Communication Networks	2008	2008
International Conference on Game Theory in Networks	2009	2009
Information Theory Workshop (ITW)	2009	2009
2 <sup>nd</sup> International Symposium on Algorithmic Game Theory (SAGT)	2009	2009
American Control Conference (ACC)	2010	2010
6 <sup>th</sup> Spain, Italy, and Netherlands meeting on Game Theory (SING 6)	2010	2010
International Conference on Control and Optimization with Industrial Applications (COIA)	2011	2011
7 <sup>th</sup> Spain, Italy, and Netherlands meeting on Game Theory (SING 7)	2011	2011
8 <sup>th</sup> Spain, Italy, and Netherlands meeting on Game Theory (SING 8)	2012	2012
3 <sup>rd</sup> Workshop on Distributed Estimation and Control in Networked Systems (NecSys'12)	2012	2012

Conference Organizer:

Co-organizer, Conference on Frontiers in Game Theory and Networked-Systems, MIT	2008	2008
Co-chair, 1 <sup>st</sup> IFAC Workshop on Estimation and Control of Networked Systems (NecSys'09)	2009	2009
Organizing Committee Member, Workshop on the Frontiers of Controls, Games and Network Science, UT Austin	2010	2010
Scientific Committee Member, Lund Center for Control of Complex Engineering Systems, Thematic Program of Spring 2010: Distributed Decision-Making and Control.	2010	2010
Co-chair, Workshop on the Economics of Networks, Systems, and Computation (NetEcon 11)	2011	2011
Co-organizer, Workshop on Information and Decisions in Social Networks, LIDS	2011	2011
Co-organizer, Workshop on Information and Decisions in Social Networks, LIDS	2012	2012

Session/Cluster Organizer:

Session Organizer, INFORMS	2005, 2007
Session Organizer, IEEE Conference on Decision and Control (CDC)	2005-2008, 2010-2011

Session Organizer, 2 <sup>nd</sup> International Conference on Complementarity, Duality, and Global Optimization in Science and Engineering	2007	2007
Session Organizer, 22 <sup>nd</sup> European Conference on Operational Research: Nonsmooth Optimization, Theory, Algorithms, and Applications	2007	2007
Session Organizer, Joint EUROPT-OMS meeting	2007	2007
Session Organizer, 2 <sup>nd</sup> International Conference on Continuous Optimization	2007	2007
Session Organizer, SIAM Conference on Optimization	2008	2008
Session Organizer, INFORMS Optimization Society Conference	2008	2008
Session Organizer, IEEE Information Theory Workshop (ITW)	2009	2009
Game Theory Cluster Chair, INFORMS	2009	2009
Game Theory Cluster Co-chair, International Symposium on Mathematical Programming (ISMP)	2009	2009
Session Organizer, International Conference on Game Theory for Networks (GameNets)	2009	2009
Game Theory Cluster Co-chair, International Symposium on Mathematical Programming (ISMP)	2012	2012

Other:

Panel Member, NSF	2005, 2006, 2007, 2008, 2009	
Committee Member, George Nicholson Student Prize Competition	2007, 2009	
Associate Editor, Optimization Theory, Algorithms and Applications for the Asia-Pacific Journal of Operational Research (APJOR)	2008	2011
Chair of the Working Group “Game-Theoretic Methods in Networks” under the Technical Committee “Networks and Communications Systems” of the IEEE Control Systems Society	2009	2011
Advisory Board Member of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering (ICST) Transactions on Network Optimization and Control	2009	present
Participant, ARO Network Science Division Planning Strategy Workshop	2010	2010
Participant, ARO Workshop on Reasoning in Adversarial and Noncooperative Environments	2010	2010
Member of Control System Society Board of Governors	2010	2010
Associate Editor, IEEE Transactions on Automatic Control (TAC)	2011	2012
Chair of the Technical Committee “Networks and Communications Systems” of the IEEE Control	2012	present

Reviewer for IEEE Transactions (on Automatic Control, Information Theory, Journal on Selected Areas in Communication, Networking, and Signal Processing), Operations Research, Mathematics of Operations Research, Optimization Methods and Software, Computational Optimization and Applications, Management Science, SIAM Journal on Optimization, Games and Economic Behavior, Review of Economic Studies.

## PUBLICATIONS

### Refereed Publications:

1. D.P. Bertsekas and A. Ozdaglar, "Pseudonormality and a Lagrange Multiplier Theory for Constrained Optimization," *Journal of Optimization Theory and Applications*, vol. 114, pp. 287-343, 2002.
2. A. Ozdaglar and D.P. Bertsekas, "Routing and Wavelength Assignment in Optical Networks," *IEEE Transactions on Networking*, vol. 11, no. 2, pp. 259-272, 2003.
3. A. Ozdaglar and D.P. Bertsekas, "Optimal Solution of Integer Multicommodity Flow Problems with Application in Optical Networks," *Frontiers in Global Optimization, Nonconvex Optim. Appl.*, 74, Kluwer Acad. Publ., pp. 411-435, 2004.
4. A. Ozdaglar and D.P. Bertsekas, "The Relation between Pseudonormality and Quasiregularity in Constrained Optimization," *Optimization Methods and Software, special issue in honor of Olvi Mangasarian*, vol. 19, pp. 493-506, 2004.
5. A. Ozdaglar and P. Tseng, "Existence of Global Minima for Constrained Optimization," *Journal of Optimization Theory and Applications*, vol. 128, no. 3, 27 pages, 2006.
6. D.P. Bertsekas, A. Ozdaglar, and P. Tseng, "Enhanced Fritz John Conditions for Convex Programming," *SIAM Journal on Optimization*, vol. 16, pp. 766-797, 2006.
7. **X. Huang**, A. Ozdaglar and D. Acemoglu, "Efficiency and Braess' Paradox under Pricing in General Networks," *IEEE Journal on Selected Areas in Communication, special issue on Price-Based Access Control and Economics*, vol. 24, no. 5, pp. 977-991, May 2006.
8. D. Acemoglu and A. Ozdaglar, "Competition and Efficiency in Congested Markets," *Mathematics of Operations Research*, vol. 32, no. 1, pp. 1-31, February 2007.
9. **A. Simsek**, A. Ozdaglar and D. Acemoglu, "Generalized Poincare-Hopf Theorem for Compact Nonsmooth Regions," *Mathematics of Operations Research*, vol. 32, no. 1, pp. 193-214, February 2007.
10. A. Nedic and A. Ozdaglar, "A Geometric Framework for Nonconvex Optimization Duality using Augmented Lagrangian Functions," *Journal of Global Optimization*, vol. 40, no. 4, pp. 545-573, 2008.

11. A. Nedic, A. Ozdaglar, and A. Rubinov, "Abstract Convexity for Nonconvex Optimization Duality," *Optimization*, vol. 56, pp. 1-20, 2007.
12. D. Acemoglu, R. Johari, and A. Ozdaglar, "Partially Optimal Routing," *IEEE Journal on Selected Areas in Communications, special issue on Non-cooperative Behavior in Networking*, vol. 25, no. 6, pp. 1148-1160, August 2007.
13. D. Acemoglu and A. Ozdaglar, "Competition in Parallel-Serial Networks," extended version of the INFOCOM 2006 paper, selected for fast-track to *IEEE Journal on Selected Areas in Communications, special issue on Non-cooperative Behavior in Networking*, vol. 25, no. 6, pp. 1180-1192, August 2007.
14. **A.K. Tang, A. Simsek**, A. Ozdaglar, and D. Acemoglu, "On the Stability of P-matrices," *Linear Algebra and its Applications*, vol. 426, pp. 22-32, 2007.
15. A. Ozdaglar, "Price Competition with Elastic Traffic," published in *Networks, special issue on Games, Interdiction, and Human Interaction Problems on Networks*, vol. 52, no. 3, pp. 141-155, 2008.
16. **A. Simsek**, A. Ozdaglar and D. Acemoglu, "Local Indices for Degenerate Variational Inequalities," *Mathematics of Operations Research*, vol. 33, no. 2, pp. 291-301, May 2008.
17. A. Nedic and A. Ozdaglar, "Separation of Nonconvex Sets with General Augmenting Functions," *Mathematics of Operations Research*, vol. 33, no. 3, pp. 587-605, August 2008.
18. A. Nedic and A. Ozdaglar, "Distributed Subgradient Methods for Multi-agent Optimization," *IEEE Transactions on Automatic Control*, vol. 54, no. 1, pp. 48-61, 2009.
19. **N. Stein**, A. Ozdaglar, and P.A. Parrilo, "Separable and Low-Rank Continuous Games," *International Journal of Game Theory*, vol. 37, no. 4, pp. 475-504, 2008.
20. **S. Shakkottai**, R. Srikant, A. Ozdaglar, and D. Acemoglu, "The Price of Simplicity," *IEEE Journal on Selected Areas in Communications, special issue on Game Theory*, vol. 26, no. 7, pp. 1269-1276, 2008.
21. A. Nedic and A. Ozdaglar, "Convergence Rate for Consensus with Delays," *LIDS report 2774, Journal of Global Optimization*, vol. 47, no. 3, pp. 437-456, 2010.
22. D. Acemoglu, **K. Bimpikis**, and A. Ozdaglar, "Price and Capacity Competition," *Games and Economic Behavior*, vol. 66, no. 1, pp. 1-26, May 2009.
23. A. Eryilmaz, A. Ozdaglar, M. Medard and **E. Ahmed**, "On the Delay and Throughput Gains of Coding in Unreliable Networks," *LIDS report 2765, IEEE Transactions on Information Theory*, vol. 54, no. 12, pp. 5511-5524, 2008.
24. A. Nedic and A. Ozdaglar, "Subgradient Methods for Saddle Point Problems," *LIDS report 2764, Journal of Optimization Theory and Applications*, vol. 142, no. 1, pp. 205-228, 2009.
25. A. Nedic and A. Ozdaglar, "Approximate Primal Solutions and Rate Analysis for Dual Subgradient Methods," *LIDS report 2753, SIAM Journal on Optimization*, vol. 19, no. 4, pp. 1757-1780, 2009.
26. A. Nedic, **A. Olshevsky**, A. Ozdaglar, and J.N. Tsitsiklis, "On Distributed Averaging Algorithms and Quantization Effects," *LIDS report 2778, IEEE Transactions on Automatic Control*, vol. 54, no. 11, pp. 2506-2517, 2009.

27. A. Nedic, A. Ozdaglar, and P.A. Parrilo, "Constrained Consensus and Optimization for Multi-agent Networks," *LIDS report 2779, IEEE Transactions on Automatic Control*, vol. 55, no. 4, pp. 922-938, 2010.
28. **A. Parandehgheibi**, A. Eryilmaz, A. Ozdaglar, and M. Medard, "On Resource Allocation in Fading Multiple Access Channels – An Efficient Approximate Projection Approach," *LIDS report 2787, IEEE Transactions on Information Theory*, vol. 56, no. 9, pp. 4417-4437, 2010.
29. A. Eryilmaz, A. Ozdaglar, D. Shah, and E. Modiano, "Distributed Randomized Algorithms for the Optimal Control of Wireless Networks," *IEEE Transactions on Networking*, vol. 18, no. 2, pp. 638-651, 2010.
30. D. Acemoglu, A. Ozdaglar, and **A. ParandehGheibi**, "Spread of (Mis)information in Social Networks," *Games and Economic Behavior*, vol. 70, no. 2, pp. 194-227, 2010.
31. **I. Lobel** and A. Ozdaglar, "Distributed Subgradient Methods over Random Networks," *IEEE Transactions on Automatic Control*, DOI: 10.1109/TAC.2010.2091295, vol. 56, no. 6, pp. 1291-1306, 2011.
32. D. Acemoglu, **K. Bimpikis**, and A. Ozdaglar, "Experimentation, Patents, and Innovation," *American Economic Journal: Microeconomics*, vol. 3, no. 1, pp. 37-77, 2011.
33. D. Acemoglu and A. Ozdaglar, "Opinion Dynamics and Learning in Social Networks," LIDS report 2851, inaugural issue of *Dynamic Games and Applications*, vol. 1, no. 1, pp. 3-49, DOI: 10.1007/s13235-010-0004-1, 2010.
34. **N. Stein**, P.A. Parrilo, and A. Ozdaglar, "Correlated Equilibria in Continuous Games: Characterization and Computation," LIDS report 2805, *Games and Economic Behavior*, vol. 71, no. 2, pp. 436-455, 2011.
35. D. Acemoglu, M. Dahleh, **I. Lobel**, and A. Ozdaglar, "Bayesian Learning in Social Networks," *LIDS report 2780, Review of Economic Studies*, vol. 78, no. 4, pp. 1201-1236, DOI: 10.1093/restud/rdr004, 2011.
36. **Y. Lu**, A. Ozdaglar, and D. Simchi-Levi, "Stock Repurchase with an Adaptive Reservation Price: A Study of the Greedy Policy," *Operations Research Letters*, DOI:10.1016/j.orl.2010.11.006, 13 pages, 2010.
37. **N. Stein**, A. Ozdaglar, and P.A. Parrilo, "Structure of Extreme Correlated Equilibria: A Zero-Sum Example and Its Implications," *International Journal of Game Theory*, vol. 40, no. 4, pp. 749-767, DOI: 10.1007/s00182-010-0267-1, 2011.
38. A. Goldsmith, M. Effros, R Koetter, M. Medard, A. Ozdaglar, L. Zheng, "Beyond Shannon: The Quest for Fundamental Performance Limits of Wireless Ad Hoc Networks," *IEEE Communications Magazine*, vol. 49, no. 5, pp. 195-205, 2011.
39. **A. ParandehGheibi**, M. Medard, A. Ozdaglar, and S. Shakkottai, "Avoiding Interruptions - a QoE Reliability Function for Streaming Media Applications," *IEEE Journal on Selected Areas in Communications, special issue on Trading Rate for Delay at the Transport and Application Layers*, vol. 29, no. 5, pp. 1064-1074, 2011.
40. **W. Chen**, D. Traskov, M. Heindlmaier, M. Medard, S. Meyn, and A. Ozdaglar, "Coding and Control for Communication Networks", *Queueing Systems, Erlang Centennial Issue*, vol. 63, pp. 195-216, 2010.

41. P. Marbach, A. Eryilmaz, and A. Ozdaglar, "Asynchronous CSMA Policies in Multihop Wireless Networks with Primary Interference Constraints," *IEEE Transactions on Information Theory*, vol. 57, no. 6, pp. 3644-3676, 2011.
42. **I. Lobel**, A. Ozdaglar, and **D. Feijer**, "Distributed Multi-agent Optimization with State-Dependent Communication," LIDS report 2834, *Mathematical Programming, special issue in honor of Paul Tseng*, vol. 129, no. 2, pp. 255-284, 2011.
43. **O. Candogan**, I. Menache, A. Ozdaglar, and P.A. Parrilo, "Flows and Decompositions of Games: Harmonic and Potential Games," *Mathematics of Operations Research*, DOI: 10.1287/moor.1110.0500, vol. 36, no. 3, pp. 474-503, 2011.
44. D. Acemoglu, V. Carvalho, A. Ozdaglar, and A. Tahbaz-Salehi, "The Network Origins of Aggregate Fluctuations," *Econometrica*, vol. 80, no. 5, pp. 1977-2016, 2012.
45. **O. Candogan**, K. Bimpikis, and A. Ozdaglar, "Optimal Pricing with Network Effects," *Operations Research*, vol. 60, no. 4, pp. 883-905, 2012.

Refereed Publications in Press/Accepted:

1. **E. Wei**, A. Ozdaglar, and A. Jadbabaie, "A Distributed Newton Method for Network Utility Maximization, Part I: Algorithm," LIDS report 2832, to appear in *IEEE Transactions on Automatic Control*, 35 pages, 2011.
2. **E. Wei**, A. Ozdaglar, and A. Jadbabaie, "A Distributed Newton Method for Network Utility Maximization, Part II: Convergence," LIDS report 2870, to appear in *IEEE Transactions on Automatic Control*, 32 pages, 2011.
3. **O. Candogan**, A. Ozdaglar, and P.A. Parrilo, "Near-Potential Games: Geometry and Dynamics," to appear in *ACM Transactions on Economics and Computation*, LIDS report 2873, 36 pages, 2012.
4. M.E. Yildiz, D. Acemoglu, A. Ozdaglar, A. Saberi, and A. Scaglione, "Discrete Opinion Dynamics with Stubborn Agents," LIDS report 2858, to appear in *ACM Transactions on Economics and Computation*, 48 pages, 2012.
5. D. Acemoglu, G. Como, F. Fagnani, and A. Ozdaglar, "Opinion Fluctuations and Disagreement in Social Networks," LIDS report 2850, to appear in *Mathematics of Operations Research*, 33 pages, 2012.
6. D. Acemoglu, **K. Bimpikis**, and A. Ozdaglar, "Dynamics of Information Exchange in Endogenous Social Networks," to appear in *Theoretical Economics*, 52 pages, 2012.

Refereed Publications Submitted:

1. **P. Njoroge**, A. Ozdaglar, N. Stier-Moses, and G. Weintraub, "Investment in Two Sided Markets and the Net Neutrality Debate," revise-resubmit in *Review of Network Economics*, 63 pages, 2011.
2. **O. Candogan**, A. Ozdaglar, and P.A. Parrilo, "Dynamics in Near-Potential Games," revise-resubmit in *Games and Economic Behavior*, LIDS report 2872, 47 pages, 2011.

3. **M. Zargham**, A. Ribeiro, A. Ozdaglar, and A. Jadbabaie, "Accelerated Dual Descent for Network Optimization," revise-resubmit in *IEEE Transactions on Automatic Control*, 2011.
4. **K. Drakopoulos**, A. Ozdaglar, and J. Tsitsiklis, "On Learning with Finite Memory," revise-resubmit in *IEEE Transactions on Information Theory*, 2012.
5. **E. Adam**, M. Dahleh, and A. Ozdaglar, "On Threshold Models over Finite Networks," submitted for publication in *Mathematics of Operations Research*, 2012.
6. D. Acemoglu, A. Ozdaglar, and A. Tahbaz-Salehi, "Systemic Risk and Stability in Financial Networks," submitted for publication in *Quarterly Journal of Economics*, 2013.
7. A. ParandehGheibi, A. Ozdaglar, and M. Medard, "QoE-aware Media Streaming in Technology and Cost Heterogeneous Networks," submitted for publication in *IEEE Transactions on Information Theory*, 2012.

#### Refereed Conference/Symposia Proceedings

1. A. Ozdaglar, J.H. Shapiro, and W.M. Wells, "Model-based object recognition using laser radar range imagery," *Proc. of SPIE*, vol. 3718, pp. 256-266, 1999.
2. A. Ozdaglar, J.H. Shapiro, and M.I. Miller, "Performance analysis for ground-based target orientation estimation: FLIR/RADAR sensor fusion," *Proc. of Asilomar Conference on Signals, Systems, and Computers*, pp. 1240-1244, Oct. 1999.
3. D.P. Bertsekas and A. Ozdaglar, "Enhanced Optimality Conditions and Exact Penalty Functions," *Proc. of Allerton Conference on Communication, Control, and Computing*, 14 pages, 2000.
4. D. Acemoglu, A. Ozdaglar and R. Srikant, "The Marginal User Principle for Resource Allocation in Wireless Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, vol. 2, pp. 1544-1549, 2004.
5. A. Ozdaglar and D. Acemoglu, "Price of Anarchy with Competing Providers for a General Demand Model," *Proc. of Allerton Conference on Communication, Control, and Computing*, 10 pages, 2005.
6. **A. Simsek**, A. Ozdaglar, and D. Acemoglu, "Uniqueness of Generalized Equilibrium for Box-Constrained Problems and Applications," *Proc. of Allerton Conference on Communication, Control, and Computing*, 10 pages, 2005.
7. D. Acemoglu and A. Ozdaglar, "Price Competition for General Topologies," *Proc. of International Conference on Computer Communications (INFOCOM)*, 12 pages, 2006.
8. A. Eryilmaz, A. Ozdaglar, and M. Medard, "On Delay Performance Gains from Network Coding," *Proc. of Conference on Information Sciences and Systems (CISS)*, 6 pages, 2006.
9. D. Acemoglu, R. Johari, and A. Ozdaglar, "Paradoxes of Traffic Engineering with Partially Optimal Routing," *Proc. of Conference on Information Sciences and Systems (CISS)*, 7 pages, 2006.
10. **X. Huang** and A. Ozdaglar, "Power Control and Network Design in Mobile Sensor Networks," *Proc. of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WIOPT)*, 9 pages, 2006.
11. **E. Ahmed**, A. Eryilmaz, A. Ozdaglar, and M. Medard, "Economic Aspects of Network Coding," *Proc. of Allerton Conference on Communication, Control, and Computing*, 10 pages, 2006. \*\*

12. D. Acemoglu, **K. Bimpikis**, and A. Ozdaglar, "Price and Capacity Competition – Partial Results," *Proc. of Allerton Conference on Communication, Control, and Computing*, 10 pages, 2006.
13. **N. Stein**, A. Ozdaglar, and P.A. Parrilo, "Separable and Low-Rank Games," *Proc. of IEEE Conference on Decision and Control (CDC)*, 7 pages, 2006.
14. A. Eryilmaz, E. Modiano, and A. Ozdaglar, "Distributed Control for Throughput-Optimality and Fairness in Wireless Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2006.
15. A. Eryilmaz, A. Ozdaglar, and E. Modiano, "Polynomial Complexity Algorithms for Full Utilization of Multi-hop Wireless Networks," *Proc. of International Conference on Computer Communications (INFOCOM)*, 9 pages, 2007.
16. A. Eryilmaz, A. Ozdaglar, and P. Marbach, "A Randomized Scheduler for Interference-Limited Networks," *Proc. of Asilomar Conference on Signals, Systems, and Computers*, 5 pages, 2007.
17. **A. Parandehgheibi**, A. Ozdaglar, M. Medard, and A. Eryilmaz, "Utility Maximization for Wireless Networks," *Proc. of Asilomar Conference on Signals, Systems, and Computers*, 5 pages, 2007.
18. K. Bimpikis and A. Ozdaglar, "Price Competition with Atomic Users," *Proc. of Asilomar Conference on Signals, Systems, and Computers*, 5 pages, 2007.
19. S. Shakkottai, R. Srikant, A. Ozdaglar, and D. Acemoglu, "The Price of Simplicity," *Proc. of Asilomar Conference on Signals, Systems, and Computers*, 5 pages, 2007.
20. **I. Lobel**, D. Acemoglu, M. Dahleh, and A. Ozdaglar, "Social Learning in Networks," *Proc. of Workshop on Interdisciplinary Systems Approach in Performance Evaluation and Design of Computer and Communication Systems*, 6 pages, 2007.
21. P. Marbach, A. Eryilmaz, and A. Ozdaglar, "Capacity-Achieving Random Access Schedulers for Dense Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2007.
22. **I. Lobel**, D. Acemoglu, M. Dahleh, and A. Ozdaglar, "Social Learning with Partial Observations," *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2007.
23. A. Nedic and A. Ozdaglar, "On the Rate of Convergence of Distributed Subgradient Methods for Multi-agent Optimization," *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2007.
24. **N. Stein**, P.A. Parrilo, and A. Ozdaglar, "Characterization and Computation of Correlated Equilibria in Infinite Games," invited paper, *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2007.
25. A. Ozdaglar, "Constrained Consensus and Alternating Projections," *Proc. of Allerton Conference on Communication, Control, and Computing*, 10 pages, 2007.
26. **F. Zhao**, M. Medard, D. Lun, and A. Ozdaglar, "Convergence Rates of Min-cost Subgraph Algorithms for Multicast in Coded Networks," *Proc. of Allerton Conference on Communication, Control, and Computing*, 10 pages, 2007.
27. **A. Parandehgheibi**, A. Eryilmaz, A. Ozdaglar, and M. Medard, "Rate Allocation in Fading Multiple Access Channel," *Proc. of Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WIOPT)*, 8 pages, 2008.

28. A. Nedic and A. Ozdaglar, "Subgradient Methods in Network Resource Allocation: Rate Analysis," *invited paper*, *Proc. of Conference on Information Sciences and Systems (CISS)*, 6 pages, 2008.
29. A. Eryilmaz, A. Ozdaglar, D. Shah, and E. Modiano, "Imperfect Randomized Algorithms for the Optimal Control of Wireless Networks," *invited paper*, *Proc. of Conference on Information Sciences and Systems (CISS)*, 6 pages, 2008.
30. D. Acemoglu, M. Dahleh, I. Lobel, and A. Ozdaglar "Bayesian Learning on a Line Topology," *Proc. of American Congress on Operations Research (CLAIO)*, 3 pages, 2008.
31. P.A. Bliman, A. Nedic, and A. Ozdaglar, "Rate of Convergence for Consensus with Delays," *invited paper*, *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2008.
32. A. Nedic, **A. Olshevsky**, A. Ozdaglar, and J.N. Tsitsiklis, "Distributed Subgradient Methods and Quantization Effects," *Proc. of IEEE Conference on Decision and Control (CDC)*, 7 pages, 2008.
33. **N. Stein**, A. Ozdaglar, and P.A. Parrilo, "Convergent Adaptive Discretization Methods for Computing Correlated Equilibria of Polynomial Games," *Proc. of IEEE Conference on Decision and Control (CDC)*, 5 pages, 2008.
34. **B. Bethke**, J.P. How, and A. Ozdaglar, "Approximate Dynamic Programming using Support Vector Regression," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2008.
35. D. Acemoglu, A. Nedic, and A. Ozdaglar, "Convergence of Rule-of-Thumb Learning Rules in Social Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, 7 pages, 2008.
36. A. Nedic, **A. Olshevsky**, A. Ozdaglar, and J.N. Tsitsiklis, "On Distributed Averaging Algorithms and Quantization Effects," *Proc. of IEEE Conference on Decision and Control (CDC)*, 7 pages, 2008.
37. **A. ParandehGheibi**, M. Medard, A. Ozdaglar, and A. Eryilmaz, "Information Theory vs. Queueing Theory for Resource Allocation in Multiple Access Channels", *Proc. of Personal, Indoor and Mobile Radio Communications (PIMRC)*, 5 pages, 2008.
38. **I. Lobel** and A. Ozdaglar, "Convergence Analysis of Distributed Subgradient Methods in Random Networks," *Proc. of Allerton Conference on Communication, Control, and Computing*, 8 pages, 2008.
39. **I. Lobel**, D. Acemoglu, M. Dahleh, and A. Ozdaglar, "Rate of Convergence of Learning in Social Networks," *Proc. of American Control Conference (ACC)*, 6 pages, 2009.
40. C.T.K. Ng, M. Medard, and A. Ozdaglar, "Completion Time Minimization and Robust Power Control in Wireless Packet Networks," *Proc. of IEEE International Conference on Communications (ICC)*, 10 pages, 2009.
41. **O. Candogan**, I. Menache, A. Ozdaglar, and P.A. Parrilo, "Competitive Scheduling in Wireless Collision Channels with Correlated Channel State," *Proc. of International Conference on Game Theory for Networks (GameNets)*, 8 pages, 2009.
42. E. Altman, I. Menache, and A. Ozdaglar, "Noncooperative Load Balancing in the Continuum Limit of a Dense Network," *Proc. of International Conference on Computer Communications (INFOCOM)*, 12 pages, 2009.
43. I. Menache, A. Ozdaglar, R. Srikant, and D. Acemoglu, "Dynamic Online-Advertising Auctions as Stochastic Scheduling," *Proc. of Economics of Networked-Systems Workshop (NetEcon)*, 10 pages, 2009.

44. **P. Njoroge**, A. Ozdaglar, N. Stier-Moses, and G. Weintraub, "Competition, Market Coverage, and Quality Choice in Interconnected Platforms," *Proc. of Economics of Networked-Systems Workshop (NetEcon)*, 13 pages, 2009
45. A. Jadbabaie, A. Ozdaglar, and **M. Zargham**, "A Distributed Newton Method for Network Optimization," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2009.
46. **O. Candogan**, I. Menache, A. Ozdaglar, and P.A. Parrilo, "Near-Optimal Power Control in Wireless Networks: A Potential Game Approach," *Proc. of International Conference on Computer Communications (INFOCOM)*, 9 pages, 2010.
47. **A. ParandehGheibi**, A. Ozdaglar, M. Effros, and M. Medard, "Optimal Reverse Carpooling over Wireless Networks - A Distributed Optimization Approach", *Proc. of Conference on Information Sciences and Systems (CISS)*, 6 pages, 2010.
48. **A. ParandehGheibi**, M. Medard, S. Shakkottai, and A. Ozdaglar, "Avoiding Interruptions - QoE Trade-offs in Block-coded Streaming Media Applications", *Proc. of IEEE International Symposium on Information Theory (ISIT)*, 8 pages, 2010.
49. D. Acemoglu, G. Como, F. Fagnani, and A. Ozdaglar, "Persistence of disagreement in social networks," *Proc. of International Symposium on Mathematical Theory of Networks and Systems (MTNS)*, 2 pages, 2010.
50. **O. Candogan**, A. Ozdaglar, and P.A. Parrilo, "A Projection Framework for Near-Potential Games," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2010.
51. D. Acemoglu, M. Dahleh, A. Ozdaglar, and A. Tahbaz-Salehi, "Observational Learning in an Uncertain World," *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2010.
52. **E. Wei**, A. Ozdaglar, and A. Jadbabaie, "A Distributed Newton Method for Network Utility Maximization," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2010.
53. **A. ParandehGheibi**, M. Medard, A. Ozdaglar, and S. Shakkottai, "Access-Network Association Policies for Media Streaming in Heterogeneous Environments," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2010.
54. M.E. Yildiz, A. Scaglione, and A. Ozdaglar, "Asymmetric Information Diffusion via Gossiping on Static and Dynamic Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, 7 pages, 2010.
55. **O. Candogan**, K. Bimpikis, and A. Ozdaglar, "Optimal Pricing in the Presence of Local Network Effects," *Proc. of Workshop on Internet and Network Economics (WINE)*, 10 pages, 2010.
56. **M. Zargham**, A. Ribeiro, A. Ozdaglar, and A. Jadbabaie, "Accelerated Dual Descent for Network Optimization," *Proc. of American Control Conference (ACC)*, 8 pages, 2011.
57. **B.W.K. Hung**, S. Kolitz, and A. Ozdaglar, "Optimization-Based Influencing of Village Social Networks in a Counterinsurgency," *Proc. of International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction (SBP11)*, 5 pages, 2011.
58. M.E. Yildiz, D. Acemoglu, A. Ozdaglar, and A. Scaglione, "Diffusion of Innovations on Deterministic Topologies," *Proc. of International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 4 pages, 2011.

59. I. Menache, A. Ozdaglar, and N. Shimkin, "Socially Optimal Pricing of Cloud Computing Resources," *Proc. of International ICST Conference on Performance Evaluation Methodologies and Tools (ValueTools)*, 11 pages, 2011.
60. **O. Candogan**, A. Ozdaglar, and P.A. Parrilo, "Learning in Near-Potential Games," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2011.
61. D. Acemoglu, A. Ozdaglar, and M.E. Yildiz, "Diffusion of Innovations in a Stochastic Linear Threshold Model," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2011.
62. **E. Wei**, M. Zargham, A. Ozdaglar, and A. Jadbabaie, "On Dual Convergence of the Distributed Newton Method for Network Utility Maximization," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2011.
63. D. Acemoglu, G. Como, F. Fagnani, and A. Ozdaglar, "Opinion Fluctuations and Disagreement in Social Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, 6 pages, 2011.
64. **A. ParandehGheibi**, M. Roozbehani, A. Ozdaglar, and M. Dahleh, "The Reliability Value of Storage in a Volatile Environment," *Proc. of American Control Conference (ACC)*, 8 pages, 2012. \*\*
65. **E. Wei**, A. Ozdaglar, A. Eryilmaz, A. Jadbabaie, "A Distributed Newton Method for Network Utility Maximization with Delivery Contracts," *Proc. of Conference on Information Sciences and Systems (CISS)*, 10 pages, 2012.
66. **E. Wei** and A. Ozdaglar, "Distributed Alternating Direction Method of Multipliers," *Proc. of IEEE Conference on Decision and Control (CDC)*, 7 pages, 2012.
67. **E. Adam**, M. Dahleh, and A. Ozdaglar, "On the Behavior of Threshold Models over Finite Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2012.
68. **K. Drakopoulos**, A. Ozdaglar, and J. Tsitsiklis, "Conditions for Learning in Generalized Tandem Networks," *Proc. of IEEE Conference on Decision and Control (CDC)*, 8 pages, 2012.
69. **A.I. Chen** and A. Ozdaglar, "A Fast Distributed Proximal-Gradient Method," LIDS report 2900, *Proc. of Allerton Conference on Communication, Control, and Computing*, 10 pages, 2010.

#### Non-refereed Publications

1. **O. Candogan**, K. Bimpikis, and A. Ozdaglar, "Optimal Pricing in Social Networks," *ACM SIGecom Exchanges*, vol. 10, no. 3, 2011.

#### Non-refereed Conference/Symposia Proceedings

1. D. Acemoglu, **K. Bimpikis**, and A. Ozdaglar, "Forming Information Networks," invited paper, *Proc. of Allerton Conference on Communication, Control, and Computing*, 2010.
2. M.E. Yildiz, R. Pagliari, A. Ozdaglar, and A. Scaglione, "Voting Models in Random Networks," invited paper, *Proc. of Information Theory and Application Workshop (ITA)*, 6 pages, 2010.
3. **A. Parandehgheibi**, A. Eryilmaz, A. Ozdaglar, and M. Medard, "Dynamic Rate Allocation in Fading Multiple Access Channels," *Proc. of Information Theory and Application Workshop (ITA)*, 9 pages, 2008.

4. **E. Ahmed**, A. Eryilmaz, M. Medard, and A. Ozdaglar, "On the Scaling Laws of Network Coding Gains in Wireless Networks," *Proc. of International Conference for Military Communications (MILCOM)*, 7 pages, 2007.

#### Book Chapters:

1. A. Ozdaglar and R. Srikant, "Pricing and Incentives in Communication Networks", *Algorithmic Game Theory*, Noam Nisan, Tim Roughgarden, Eva Tardos, and Vijay Vazirani, editors, Cambridge University Press, pp. 571-592, 2007.
2. A. Nedic and A. Ozdaglar, "Cooperative Distributed Multi-agent Optimization," *Convex Optimization in Signal Processing and Communications*, Yonina Eldar and Daniel Palomar, editors, Cambridge University Press, pp. 340-386, 2008.
3. F. Zhao, M. Medard, D.S. Lun, and A. Ozdaglar, "Minimum Cost Subgraph Algorithms for Static and Dynamic Multicasts with Network Coding," *Directions in Wireless Communications*, Vahid Tarokh, editor, Springer, pp. 317-349, 2009.

#### Books:

1. D.P. Bertsekas, A. Nedic, and A. Ozdaglar, *Convex Analysis and Optimization*, Athena Scientific, 2003.
2. I. Menache and A. Ozdaglar, *Network Games: Theory, Models, and Dynamics*, Synthesis Lecture, Jean Walrand, editor, Morgan and Claypool Publishers, 177 pages, 2011.

#### Other Major Publications

1. D. Acemoglu, M. Mostagir, and A. Ozdaglar, "Peers and Pundits: State-Dependent Opinion Dynamics," Working paper, 2012.
2. **E. Wei** and A. Ozdaglar, "Asynchronous Distributed Alternating Direction Method of Multipliers over Networks," Working paper, 2012.
3. D. Acemoglu, M. Mostagir, and A. Ozdaglar, "Managing Innovation in a Crowd," Working paper, 2012.
4. K. Bimpikis, A. Ozdaglar, and M.E. Yildiz, "Competitive Marketing Strategies over Social Networks," Working paper, 2012.
5. D. Acemoglu, A. Malekian, and A. Ozdaglar, "Network Security and Contagion," Working paper, 2012.
6. M.E. Yildiz, D. Acemoglu, and A. Ozdaglar, "Diffusion of Innovations in a Stochastic Linear Threshold Model," Working paper, 2011.
7. **N. Stein**, P.A. Parrilo, and A. Ozdaglar, "Exchangeable Equilibria Contradict Exactness of the Papadimitriou-Roughgarden Algorithm," Working paper, 2011.
8. **N. Stein**, A. Ozdaglar, and P.A. Parrilo, "Exchangeable Equilibria, Part I: Symmetric Bimatrix Games." Working paper, 2011.

9. **N. Stein**, A. Ozdaglar, and P.A. Parrilo, "Exchangeable Equilibria, Part II: General Symmetric Games." Working paper, 2011.
10. **N. Stein**, P.A. Parrilo, and A. Ozdaglar, "A Partial Proof of Nash's Theorem via Exchangeable Equilibria," Working paper, 2011.

#### Internal Memoranda and Progress Reports

1. D.P. Bertsekas, A. Nedic, and A. Ozdaglar, "Min Common/Max Crossing Duality: A Simple Geometric Framework for Convex Optimization and Minimax Theory," *Technical report, LIDS-P-2536*, 47 pages, 2002.
2. **E. Ahmed**, A. Eryilmaz, A. Ozdaglar, and M. Medard, "Economic Aspects of Network Coding," *Technical Report*, 20 pages, 2007.
3. **P. Njoroge** and A. Ozdaglar, "Competition in Interconnected Internet Platforms," *LIDS Technical Report*, 32 pages, 2009.
4. **B. Bethke**, J.P. How, and A. Ozdaglar, "Kernel-based Reinforcement Learning using Bellman Residual Elimination," *LIDS Technical Report*, 48 pages, 2009.
5. D. Acemoglu, A. Ozdaglar, and A. Tahbaz-Salehi, "Cascades in Networks and Aggregate Volatility," *LIDS report 2849*, 47 pages, 50 pages, 2010.
6. C.T.K. Ng, M. Medard, and A. Ozdaglar, "Completion Time Minimization and Robust Power Control in Wireless Packet Networks," *Technical report*, 16 pages, 2011.

#### Patents Issued or To Be Issued

1. A. Ozdaglar and D. P. Bertsekas, "Routing and Wavelength Assignment in Optical Networks," US Serial No. 60/295,941, June 2001.
2. A. Eryilmaz, M. Medard, and A. Ozdaglar, "A Method for Coding-based, Delay Efficient Data Transmission", April 2006.
3. E. Wei, A. Ozdaglar, A. Jadbabaie, "A Distributed Newton Method for Network Utility Maximization," MIT Case 15245J, 2011.

### **INVITED LECTURES**

November 2003, "A Lagrange Multiplier Theory for Constrained Optimization," **invited seminar**, Electrical Engineering Department, California Institute of Technology, Pasadena, CA.

March 2004, "Towards a Game-Theoretic Analysis of Communication Networks," **invited seminar**, Decision Sciences Group, Fuqua School of Business, Duke University, Durham, NC.

October 2004, "Towards a Game-Theoretic Analysis of Communication Networks," **invited seminar**, Industrial and Systems Engineering Department, Lehigh University, Bethlehem, PA.

October 2004, "Price of Anarchy in Price Competition Games," **invited talk**, INFORMS Annual Meeting, Denver, CO.

October 2004, “Efficiency and Braess’ Paradox under Pricing in General Networks,” **invited talk**, IEEE Annual Computer Communications Workshop, Bonita Springs, FL.

March 2005, “Competition and Efficiency in Congested Markets,” **invited seminar**, Electrical Engineering Department, California Institute of Technology, Pasadena, CA.

May 2005, “Competition and Efficiency in Congested Markets,” **invited talk**, University of Waterloo, Mathematical Modeling and Analysis of Communication Networks Workshop, Waterloo, Ontario, Canada.

August 2005, “Differential Topology for the Uniqueness of Critical Points,” **invited talk**, International Conference on Complementarity, Duality, and Global Optimization in Science and Engineering, Blacksburg, VA.

August 2005, “Competition and Efficiency in Congested Markets,” **invited seminar**, Coordinated Science Laboratory, University of Illinois, Urbana-Champaign, IL.

September 2005, “Price of Anarchy with Competing Providers for a General Demand Model,” **invited paper**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

November 2005, “Competition and Efficiency in Congested Markets,” **invited seminar**, Electrical Engineering Department, Boston University, Boston, MA.

November 2005, “Applications of Generalized Poincare Hopf in Network Optimization,” **invited talk**, INFORMS Annual Meeting, San Francisco, CA.

March 2006, “Paradoxes of Traffic Engineering with Partially Optimal Routing,” **invited talk**, Conference on Information Sciences and Systems (CISS), Princeton University, Princeton, NJ.

September 2006, “Paradoxes of Traffic Engineering with Partially Optimal Routing,” **invited seminar**, Industrial and Enterprise Systems Engineering, University of Illinois, Urbana-Champaign, IL.

September 2006, “Price and Capacity Competition – Partial Results,” and “Economic Aspects of Network Coding,” **invited papers**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

October 2006, “Competition and Efficiency in Congested Markets,” **invited talk**, Radcliffe Exploratory Seminar on Dynamic Networks: Behavior, Optimization and Design, Radcliffe Institute, Harvard University, Cambridge, MA.

December 2006, “A Geometric Framework for Nonconvex Optimization Duality and Penalty Methods,” **invited talk**, 5<sup>th</sup> Ballarat Workshop on Global and Non-Smooth Optimization: Theory, Methods and Applications, Ballarat, Australia.

January 2007, “Price and Capacity Competition,” **invited talk**, The Economics of the Software and Internet Industries, Toulouse, France.

February 2007, “Competition and Efficiency in Congested Markets,” **invited seminar**, Isenberg School of Management, University of Massachusetts, Amherst, MA.

February 2007, “A Geometric Framework for Nonconvex Optimization Duality and Penalty Methods,” **invited talk**, Second International Conference on Complementarity, Duality, and Global Optimization, Gainesville, FL.

March 2007, “Approximate Primal Solutions and Rate Analysis for Dual Subgradient Methods,” **invited talk**, Second Cowles Foundation Workshop in Optimization, Yale University, New Haven, CT.

March 2007, “Approximate Primal Solutions and Rate Analysis for Dual Subgradient Methods,” **invited seminar**, Harvard University, Cambridge, MA.

June 2007, “Primal Solutions and Rate Analysis for Subgradient Methods,” **invited seminar**, University of Torino, Turin, Italy.

July 2007, “Consensus Problems for Multi-agent Systems,” **invited talk**, 2<sup>nd</sup> Conference on Optimization Methods and Software and 6<sup>th</sup> EUROPT Workshop on Advances in Continuous Optimization (Joint Europt-OMS Meeting), Prague, Czech Republic.

July 2007, “Primal-Dual Subgradient Methods and Rate Analysis,” **invited talk**, 22<sup>nd</sup> European Conference on Operational Research: Nonsmooth Optimization, Theory, Algorithms, and Applications, Prague, Czech Republic.

August 2007, “Index Theory for Global Uniqueness of Critical Points,” **invited talk**, 2<sup>nd</sup> International Conference on Continuous Optimization, McMaster University, Hamilton, Ontario, Canada.

September 2007, “Primal Solutions and Rate Analysis for Subgradient Methods,” **invited seminar**, Electrical and Systems Engineering Department, University of Pennsylvania, Philadelphia, PA.

September 2007, **invited papers**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

November 2007, **invited talks**, INFORMS Annual Meeting, Seattle, WA.

November 2007, **invited papers**, ASILOMAR Conference in Signals, Systems, and Computers, Pacific Grove, CA.

December 2007, **invited papers**, IEEE Conference on Decision and Control (CDC), New Orleans, LA.

December 2007, “Networks’ Challenge: Where Game Theory Meets Network Optimization,” **plenary speaker**, IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP), St. Thomas, US Virgin Islands.

December 2007, “Distributed Subgradient Methods for Multi-Agent Optimization,” **invited talk**, Workshop on Optimization and Signal Processing, The Chinese University of Hong Kong, Hong Kong.

December 2007, “Distributed Subgradient Methods for Multi-Agent Optimization,” and “Dual Computational Methods,” **invited talks**, National Science and Research Council, Ankara, Turkey.

January 2008, “Networks’ Challenge: Where Game Theory Meets Network Optimization,” **invited seminar**, Electrical and Systems Engineering Department, University of Pennsylvania, Philadelphia, PA.

January 2008, “Dynamic Rate Allocation in Fading Multiple Access Channels,” **invited paper**, Information Theory and Applications (ITA) Workshop, University of California, San Diego, CA.

March 2008, “Subgradient Methods for Saddle Point Problems,” **invited talk**, INFORMS Optimization Society 2008 Conference, Atlanta, GA.

March 2008, “Subgradient Methods in Network Resource Allocation: Rate Analysis,” **invited talk**, Conference on Information Sciences and Systems (CISS), Princeton University, Princeton, NJ.

April 2008, “Approximate Primal Solutions and Rate Analysis in Subgradient Methods,” **invited talk**, Second International Conference on Nonlinear Programming with Applications, Beijing, China.

April 2008, “Approximate Primal Solutions and Rate Analysis in Subgradient Methods,” **invited seminar**, University of Washington, Seattle, WA.

April 2008, “Consensus and Distributed Optimization in Multi-Agent Systems,” **invited seminar**, Columbia University, New York, NY.

May 2008, “Bayesian Learning in Social Networks,” **invited talk**, SIAM Conference on Optimization, Boston, MA.

May 2008, “Bayesian Learning in Social Networks,” **invited talk**, Workshop on Dynamics in Microeconomics and Game Theory, California Institute of Technology, Pasadena, CA.

July 2008, “Networks’ Challenge: Where Game Theory Meets Network Optimization,” **invited tutorial** on Game Theory, IEEE International Symposium on Information Theory, Toronto, Ontario, Canada.

July 2008, “Rule-of-Thumb Learning in Networks,” **invited talk**, Mathematical Theory of Networks and Systems (MTNS), Virginia Tech, Blacksburg, VA.

September 2008, **invited papers**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

October 2008, **invited talks**, INFORMS Annual Meeting, Washington, DC.

November 2008, “Consensus and Distributed Optimization in Multi-Agent Systems,” **invited seminar**, Stanford University, Palo Alto, CA.

December 2008, “Learning and Dynamics in Networks,” **invited tutorial** on Game Theory and Networks, IEEE Conference on Decision and Control (CDC), Cancun, Mexico.

January 2009, “Spread of (Mis)Information in Social Networks,” **invited talk**, Workshop on Adaptive Systems and Mechanism Design, Institute for Mathematical Behavioral Sciences, University of California, Irvine, CA.

January 2009, “Learning in Social Networks,” **invited seminar**, ACCESS Distinguished Lecture Series, KTH Royal Institute of Technology, Stockholm, Sweden.

March 2009, “Distributed Optimization in Multi-Agent Networks,” **invited seminar**, Cornell University, Ithaca, NY.

March 2009, “Spread of (Mis)Information in Social Networks,” **invited talk**, Optimization Applications in Economics, Engineering and Applied Sciences (OPTIMA), University of Illinois, Urbana-Champaign, IL.

May 2009, “Spread of (Mis)Information in Social Networks,” **invited talk**, GameNets, Istanbul, Turkey.

June 2009, “Learning and Dynamics in Networks,” **plenary speaker**, American Control Conference (ACC), Seattle, WA.

August 2009, **invited talks**, International Symposium on Mathematical Programming (ISMP), Chicago, IL.

September 2009, “Distributed Optimization in Multi-Agent Networks,” **keynote speaker**, 1<sup>st</sup> IFAC Workshop on Estimation and Control of Networked Systems (NecSys'09), Venice, Italy.

September 2009, **invited paper**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

October 2009, **invited talks**, INFORMS Annual Meeting, San Diego, CA.

November 2009, “Spread of (Mis)Information in Social Networks,” **invited seminar**, Economics Department, University of Montreal, Montreal, Quebec.

November 2009, **invited panel speaker**, Symposium on Human-Centric Complex Systems, Dartmouth College, Hanover, NH.

November 2009, **invited talk**, Caltech workshop, Pasadena, CA.

November 2009, “Learning and Dynamics in Networks,” **invited seminar**, Economic Theory Workshop, Columbia University, New York, NY.

January 2010, “Flow Representations of Games: Near-Potential Games and Dynamics,” **plenary speaker**, Coordinated Science Laboratory, Student Conference, University of Illinois, Urbana-Champaign, IL.

February 2010, **invited talk**, Workshop on the Frontiers of Controls, Games and Network Science, University of Texas, Austin, TX.

March 2010, “Flow Representations of Games: Near-Potential Games and Dynamics,” **invited talk**, Workshop on Distributed Decisions via Games and Price Mechanisms, Lund University, Lund, Sweden.

May 2010, “Cascades and Aggregate Volatility in Networks,” **invited talk**, International School and Conference on Network Science, Cambridge, MA.

August 2010, “Flow Representations of Games: Near-Potential Games and Dynamics,” **invited talk**, Workshop on Decentralized Control in Systems of Strategic Actors, Santa Fe Institute, Santa Fe, NM.

September 2010, **invited papers**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

September 2010, “Dynamics and Optimization in Social Networks,” **invited talk**, Draper Laboratory, Cambridge, MA.

November 2010, “Dynamics and Optimization in Social Networks,” **invited seminar**, Bilkent University, Ankara, Turkey.

November 2010, “Opinion Dynamics and Control in Social Networks,” **invited talk**, Workshop on Reasoning in Adversarial and Noncooperative Environments, Duke University, Durham, NC.

November 2010, “Distributed Optimization in Multi-Agent Networks,” **invited talk**, Institute for Pure and Applied Mathematics (IPAM) Workshop on Applications of Optimization in

Science and Engineering, Los Angeles, CA.

December 2010, **invited papers**, IEEE Conference on Decision and Control (CDC), Atlanta, GA.

January 2011, “Flow Representations of Games: Near-Potential Games and Dynamics,” **invited talk**, Institute for Pure and Applied Mathematics (IPAM) Workshop on Algorithmic Game Theory, Los Angeles, CA.

February 2011, “Opinion Fluctuations and Disagreement in Social Networks,” **invited talk**, Information Theory and Applications (ITA) Workshop, University of California, San Diego, CA.

February 2011, “Cascades and Aggregate Volatility in Networks,” **invited seminar**, Center for Complex Network Research, Northeastern University, Boston, MA.

March 2011, “Cascades and Aggregate Volatility in Networks,” **invited seminar**, Microeconomic Theory Workshop, Economics Department, Yale University, New Haven, CT.

April 2011, “Opinion Dynamics and Control in Social Networks,” **invited talk**, Boston Chapter of the IEEE Society on Social Implications of Technology, Lincoln Laboratory, Lexington, MA.

April 2011, “Networks’ Challenge: Where Game Theory Meets Network Optimization,” **invited talk**, National Academy of Sciences, Frontiers of Science Workshop, Irvine, CA.

May 2011, “Learning and Dynamics in Social Networks,” **plenary speaker**, Optimization Days, Montreal, Canada.

May 2011, “A Distributed Newton Method for Network Utility Maximization,” **invited talk**, SIAM Conference on Optimization, Darmstadt, Germany.

May 2011, “Dynamics in Near-Potential Games,” **invited talk**, Workshop on Innovations in Algorithmic Game Theory, Hebrew University, Jerusalem, Israel.

June 2011, “Cascades and Aggregate Volatility in Networks,” **invited talk**, Fifteenth Yale Workshop on Adaptive and Learning Systems, Yale University, New Haven, CT.

May 2011, “Distributed Optimization of Multi-Agent Networked Systems,” **invited talk**, Middle East Technical University (METU), Informatics Institute Workshop, Ankara, Turkey.

June 2011, “Dynamics and Optimization in Social Networks,” **plenary speaker**, INFORMS Revenue Management Conference, Columbia University, New York, NY.

June 2011, “Cascades and Aggregate Volatility in Networks,” **invited talk**, Society for the Advancement of Economic Theory (SAET) Conference, Faro, Portugal.

July 2011, “A Distributed Newton Method for Network Utility Maximization,” **invited talk**, Foundations of Computational Mathematics Conference, Workshop on Flocking, Swarming, and Control of Distributed Systems, Budapest, Hungary.

August 2011, **invited talks**, INFORMS Midwest Conference, Ohio State University, Columbus, OH.

September 2011, **invited paper**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

October 2011, **invited tutorial** on Games and Optimization, Winedale Workshop, hosted jointly by UT Austin, Rice University and Texas A&M University, Austin, TX.

October 2011, **plenary speaker**, International Conference on Network Games, Control and Optimization (NetGCoop 2011), Paris, France.

November 2011, **invited talks**, INFORMS Annual Meeting, Charlotte, NC.

November 2011, **invited seminar**, Cymer Center for Control Systems and Dynamics, University of California, San Diego, CA.

April 2012, **invited talk**, GraphEx Symposium, MIT Endicott House, Dedham, MA.

April 2012, **invited talk**, Network Science Workshop at Westpoint, NY.

July 2012, **plenary speaker**, International Conference on Game Theory, Stony Brook University, New York, NY.

September 2012, **keynote speaker**, 3rd IFAC Workshop on Distributed Estimation and Control of Networked Systems (NecSys 12), University of California, Santa Barbara, CA.

September 2012, **invited paper**, Allerton Conference on Communication, Control, and Computing, University of Illinois, Urbana-Champaign, IL.

October 2012, **plenary speaker**, 6th International ICST Conference on Performance Evaluation Methodologies and Tools (ValueTools 12), Corsica.

October 2012, **invited talks**, INFORMS Annual Meeting, Charlotte, NC.

January 2013, **distinguished lecture**, joint between Electrical Engineering Department and Management Science and Engineering, Stanford University, CA.

February 2013, **keynote speaker**, FuturICT Workshop, Media Lab, MIT, Cambridge, MA.

February 2013, **invited talk**, Banff Workshop on Asymptotics of Large-Scale Interacting Networks, Banff, Canada.

April 2013, **invited talk**, Game Theory and Human Behavior Symposium, USC, CA.

April 2013, **invited talk**, MIT Information and Communications Technologies Conference, Cambridge, MA.

June 2013, **invited talk**, Systems, Information, Learning, and Optimization Workshop, Madison, WI.

July 2013, **plenary speaker**, SIAM Conference on Control and Its Applications, San Diego, CA.

## PhD Student List

### Former PhD Students

Lobel, Ilan, “Bayesian Learning in Social Networks,” completed July 2009 (co-supervised with Professors Daron Acemoglu, Munther Dahleh); currently an Assistant Professor at NYU.

Njoroge, Paul, “Two-Sided Markets and Efficiency in the Internet,” completed May 2010; currently a Consultant at Liberty Mutual.

Bimpikis, Kostas, “Strategic Delay and Information Exchange in Endogenous Social Networks,”

completed June 2010 (co-supervised with Professor Daron Acemoglu); currently an Assistant Professor at Stanford University.

Stein, Noah, "Exchangeable and Structured Correlated Equilibria in Games," completed March 2011 (co-supervised with Professor Pablo Parrilo); currently a Research Scientist, Lyric Semiconductor.

ParandehGheibi, Ali, "Dissemination of Delay-Sensitive Information: Coding Algorithms and Control Policies," completed Fall 2011 (co-supervised with Professor Muriel Medard); currently Algorithm Architect, Plexxi, Inc.

### Current PhD Students

Candogan, Ozan, "Iterative Auctions for Graphical Valuations," expected May 2013 (co-supervised with Professor Pablo Parrilo).

Wei, Ermin, "Distributed Optimization in Multi-Agent Networks," expected May 2014.

Drakopoulos, Kimon, "Strategic Experimentation in Social Networks," expected 2014-2015 (co-supervised with Professor John Tsitsiklis).

Adam, Elie, "Systemic Risk and Cascades in Networks," expected 2015-2016 (co-supervised with Professor Munther Dahleh).

Chen, Annie, "Fast Distributed Methods for Multi-Agent Optimization over Networks," expected 2015-2016.

### Master's Theses

Huang, Xin, "Efficiency and Braess' Paradox under Pricing in General Networks," completed May 2005.

Mukherjee, Shubham, "Efficient Resource Allocation through Pricing in Wireless Cellular CDMA Networks," completed May 2005.

Stein, Noah, "Separable and Low-Rank Games," completed May 2007 (co-supervised with Professor Pablo A. Parrilo), **Ernst A. Guillemin Thesis Award, 1st place.**

ParandehGheibi, Ali, "Fair Resource Allocation in Multiple Access Channels," completed May 2008 (co-supervised with Professor Muriel Medard).

Candogan, Ozan, "Optimization and Control of Wireless Networks," completed May 2009 (co-supervised with Professor Pablo Parrilo).

Wei, Ermin, "Second-order Methods for Distributed Optimization," completed May 2010, **Ernst A. Guillemin Thesis Award, 2nd place.**

Hung, Benjamin, "Optimization-Based Selection of Influential Agents in a Rural Afghan Social Network," completed May 2010.

Drakopoulos, Kimon, "Observational Learning with Finite Memory," completed May 2011 (co-supervised with Professor John Tsitsiklis), **Ernst A. Guillemin Thesis Award, 2nd place.**

Adam, Elie, "Diffusion of Innovations in Social Networks," completed May 2012 (co-supervised with Professor Munther Dahleh).

Chen, Annie, “Fast Distributed Methods for Multi-Agent Optimization over Networks,” completed May 2012.

Lee, Christina, “Local Computation of Network Centrality,” expected May 2013 (co-supervised with Professor Devavrat Shah).

Lee, Ji Young, “Dynamics in Harmonic Games” expected May 2014 (co-supervised with Professor Pablo Parrilo).

### **List of Postdoctoral Associates and Fellows**

#### Current Postdocs

Name	Dates of Appointment	PhD Granting Institution	Current Position
Mohamed Mostagir	Oct. 2011-Aug. 2012	Caltech	Post-Doc, LIDS
Azarakhsh Malekian	Sept. 2011-Aug.2012	University of Maryland (Computer Science)	Post-Doc, LIDS

#### Former Postdocs

Name	Current Title	Current Employer
Alireza Tahbaz-Salehi	Assistant Professor	Columbia University
Ercan Yildiz	Research Manager Social Media and Networks Division	Accenture Labs
Ishai Menache	Research Scientist Cloud Computing Group	Microsoft Research
Chris T.K. Ng	Research Scientist	Bell Laboratories, Alcatel-Lucent
Atilla Eryilmaz	Assistant Professor	Ohio State University