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Education

- California Institute of Technology, Pasadena, CA** Jan. 1998 - Nov. 2000
Ph.D. in Control and Dynamical Systems.
Thesis title: "Receding horizon control of nonlinear systems:
A control Lyapunov function approach"
Thesis Advisors: John C. Doyle & Richard M. Murray
- University of New Mexico, Albuquerque, NM** Sep. 1996 - Dec. 1997
M.S. in Electrical Engineering.
Thesis title: "Robust, non-fragile controller synthesis using
model based fuzzy systems: A linear matrix inequality approach"
Thesis Advisor: Mo Jamshidi
- Sharif University of Technology, Tehran, Iran** Sep. 1990 - Feb. 1995
B.S. in Electrical Engineering (focus: Control Systems)

Experience

- Massachusetts Institute of Technology, Cambridge, MA** Oct. 2014 - present
Interim Director
Socio-technical Systems Research Center
- Massachusetts Institute of Technology, Cambridge, MA** Jan. 2014-Dec. 2014
Visiting Research Scientist
Laboratory for Information and Decision Systems
- University of Pennsylvania, Philadelphia, PA** July 2013-present
Alfred Fitler Moore Professor of Network Science
Director, Singh Program in Networked and Social Systems (NETS) at Penn Engineering

University of Pennsylvania, Philadelphia, PA Professor of Electrical & Systems Engineering Secondary Appointments in Computer & Information Sciences and Operations and Information Management (Wharton)	July 2011-present
University of Pennsylvania, Philadelphia, PA Founding Co-director, Raj and Neera Singh Program in Networked and Social Systems (NETS) at Penn Engineering	Sep 2009-June 2013
University of Pennsylvania, Philadelphia, PA Skirkanich Associate Professor of Innovation in Electrical & Systems Engineering	Feb 2009-June 2011
University of Pennsylvania, Philadelphia, PA Associate Professor of Electrical and Systems Engineering	July 2008 - Feb 2009
University of Pennsylvania, Philadelphia, PA Assistant Professor of Electrical and Systems Engineering	July 2002 - July 2008
Yale University, New Haven, CT Postdoctoral associate in Electrical Engineering.	July 2001 - June 2002
California Institute of Technology, Pasadena, CA Postdoctoral scholar in Control and Dynamical Systems	Dec. 2000 - June 2001
California Institute of Technology, Pasadena, CA Graduate research assistant in Control and Dynamical Systems	Jan. 1998 - Nov. 2000
University of New Mexico, Albuquerque, NM Graduate research assistant in Electrical Engineering	Aug. 1996 - Jan. 1998
Kara Systems Inc., Tehran, Iran Control Engineer	May 1995 - Jun. 1996

Awards and Achievements

- IEEE Fellow, for contributions to the theory of multi-agent coordination and control, December 2013
- Finalist, Best Student Paper Award (as advisor)
IEEE Conference on Decision and Control, Shanghai, China, December 2009
- O. Hugo Schuck Best Paper Award, American Automatic Control Council, June 2008
- Student Best Paper Award (as advisor)
American Control Conference, New York, NY, July 2007.
- George S. Axelby Outstanding Paper Award
IEEE Control Systems Society, December 2005.

- ONR Young Investigator Award, March 2004
- NSF Career Development Award, January 2004
- Finalist, Student Best Paper Award (as advisor)
American Control Conference, Minneapolis, MN, June 2006
- Finalist, Student Best Paper Award(as advisor)
IEEE Conference on Decision and Control, Bahamas, December 2004
- Outstanding Graduate Student Award, University of New Mexico, December 1997
- Graduated with High Honors, Sharif University of Technology, February 1995
- Sharif University of Technology Scholarship
Awarded for achievement in the nation-wide university entrance exam, September 1990
(Ranked 45th out of more than 300,000 applicants)

Other Affiliations

- Faculty member, Warren Center for Network and Data Sciences
- Affiliated Faculty, Center for Technology, Innovation and Cooperation (CTIC)
- Faculty Member, General Robotics, Automation, Sensing and Perception Laboratory (GRASP), University of Pennsylvania. August 2002-present
- Research Affiliate, Department of Electrical Engineering, Yale University. (October 2002- October 2004)

Research Interests

- Network Science
- Network Economics
- Social learning, information aggregation and collective behavior in social networks
- Mathematical systems theory, control theory, optimization
- Analysis, optimization, and design of networked and coupled dynamical systems
- Distributed decision making and estimation
- Applications of algebraic-topology in analysis, deployment and design of coverage algorithms for sensor networks
- Optimization-based and optimal control of nonlinear systems with application to Unmanned Aerial Vehicles (UAVs)

Teaching Experience

- University of Pennsylvania, Spring 2009, 2010, 2011, 2012, 2013
Modern Convex Optimization. (**New Course**)
- University of Pennsylvania, Academic Years 2005-2008
ESE 899: Departmental Seminar.
- University of Pennsylvania, Fall 2002, 2007, 2008, 2009, 2010, 2011, 2012, 2013
Introduction to Optimization Theory.
- University of Pennsylvania, Spring 2007
Distributed and Networked Dynamical Systems. **New Course**

- University of Pennsylvania, Spring 2003, Fall 2005, Spring 2008, 2009, 2010, 2011
Modern Convex Optimization.
- University of Pennsylvania, Spring 2004, 2005
Control Systems.
- University of Pennsylvania, Fall 2003, 2004
Linear Systems Theory
- California Institute of Technology, Pasadena, CA, winter 2001
Introduction to control of physical systems.
- California Institute of Technology, Pasadena, CA, fall 1999
Teaching assistant, Introduction to Modern Control.
- Workshop on nonlinear control Design, IEEE Conference on Decision and Control, CDC'99, Tampa, FL, December 1998
Co-organized and presented lectures in the workshop on nonlinear control design.
- University of New Mexico, Albuquerque, NM, fall 1997.
Teaching assistant, linear systems theory.

PhD Graduates and Placement

- Chinwendu Eniyoha (2008-2014, defending Fall 2014)
- Arastoo Fazeli (2008-2014, defending Fall 2014)
- Michael Zargham (2008-2014defending Fall 2014)
- Jaelynn Oh (OPIM Dept., Wharton; 2012-2013, co-advised), Assistant Professor (starting July 2013), Operations & Information Systems Department, David Eccles School of Business, The University of Utah, Salt Lake City, UT
- Pooya Molavi (2008-2013), PhD student, MIT Economics
- Alireza Tahbaz-Salehi (2004-2009), Winner of the 2010 Joseph and Rosaline Wolf Award for Best Dissertation, Assistant Professor of Decision, Risk and Operations, Graduate School of Business, Columbia University.
- Nader Motee (2003-2007). Winner of the 2008 Joseph and Rosaline Wolf Award for Best Dissertation, Assistant Professor of Mechanical Engineering at Lehigh University
- Nima Moshtagh (2003-2008), Senior Research Scientist, Advanced Technology Laboratory, Lockheed Martin Space Systems Company, Palo Alto, CA
- Ali Ahmadzadeh (2003-2008), Quantitative Strategist, Constellation Energy, Baltimore, MD

Masters Students and Graduates

- Stamatina Lamprinakou (2013-2014)
- Angelos Stamatakis (2008-2009), PhD student at Johns Hopkins University
- Alex Stewart (2006-2007), Willow Garage Inc.

Current PhD Students

- **graduating**

- Michael Zargham (2008-2014)
- Chinwendu Enyioha(2008-2014),
- Arastoo Fazeli(2008-2014)
- **5th year:**
 - Shahin Shahrampoor(2009-2015)
 - Shaudi Mahdavi(2009-2014)
- **4th year:**
 - Rasul Tutunov (CIS, 2011-2016)
 - Hoda Heidari (CIS, 2011-2016)
- **3rd year:**
 - Vassilis Tzoumas (2012-2017)
 - M. Amin Rahimian (2012-2017)
- **2nd year:**
 - Saad Aleem (2013-2018)

Visitors

- Mariano Beguerisse Diaz, visiting postdoc from Imperial College, London April-July 2013
- John Duchi, visiting graduate Student, UC Berkeley, March 2013
- Maria Carmela De Gennaro, visiting graduate student, Univ. del Sannio, Italy, April 2005 - May 2006.
- Samuel Martin, visiting graduate student, Universite de Grenoble, Summer 2011

Postdoctoral Scholars and placement

- Amir Ajorlou (September 2013-present)
- Ali Kakhbod (September 2012- February 2014), now postdoc at MIT
- Serban Sabau (Jan 2012- Jan 2013), Assistant Professor of Electrical Engineering, Stevens Institute of Technology, Hoboken, NJ
- Victor Preciado (Fall 2009-July 2012), Assistant Professor of Electrical and Systems Engineering, University of Pennsylvania, Philadelphia, PA
- Usman Khan (Fall 2009- January 2011), Assistant Professor of Electrical Engineering at Tufts University, Boston, MA
- Nader Motee (Fall 2007-Fall 2008), Assistant Professor of Mechanical Engineering and Mechanics, Lehigh University
- Abubakr Mohammad (2006-2007), Assistant Professor, Lahore University of Management Sciences (LUMS), School of Engineering, Lahore, Pakistan

Publications

Journal Articles (working papers, and papers under review)

1. **A. Jadbabaie**, P. Molavi, and A. Tahbaz-Salehi, "Information heterogeneity and the speed of learning in social networks," *Review of Economic Studies*, Revise and Resubmit
2. A. Jadbabaie, A. Kakhbod, and A. Tahbaz Salehi and **A. Jadbabaie**, "Optimal Pricing in Networks under Asymmetric Information," working paper
3. A. Fazeli and **A. Jadbabaie**, "Consensus in random networks: Beyond IID," *IEEE Transactions on Automatic Control*, Under revision
4. P. Molavi, C. Eksin, A. Ribeiro, and **A. Jadbabaie**, "Learning to coordinate," *Operations Research*, Revision resubmitted
5. A. Ajorlou, A. Jadbabaie, and A. Kakhbod, "Dynamic Pricing in Social Networks: The Word of Mouth Effect" *working paper*, SSRN 2495509, submitted for publication
6. S. Shahrampour, A. Rakhlin, A. Jadbabaie, "Distributed Detection : Finite-time Analysis and Impact of Network Topology," *working paper*, submitted to
7. M. Zargham, A. Ribeiro, and **A. Jadbabaie**, "The Accelerated Back Pressure algorithm," revision under review at *IEEE Transactions on Signal Processing*
8. R. Tutunov, H. Bou Ammar, **A. Jadbabaie**, E. Eaton, "On the Degree Distribution of Plya Urn Graph Processes," arXiv:1410.8515.
9. V. Tzoumas, M. A. Rahimian, G. J. Pappas, **A. Jadbabaie**, "Minimal Actuator Placement with Bounds on Control Effort," arXiv:1409.3289, submitted to *IEEE Transactions on Control of Network Systems*
10. S. Sabau, C. Oara, S. Warnick, **A. Jadbabaie**, "A Novel Description of Linear Time-Invariant Networks via Structured Coprime Factorizations,"

Journal Articles (Appeared or In Press)

1. U. Khan and **A. Jadbabaie**, "Collaborative scalar-gain estimation with limited sensing information," *Automatica*, Vol. 50, No. 7, pp. 1909-1914, July 2014.
2. M. Zargham, A. Ribeiro, A. Ozdaglar, and **A. Jadbabaie**, "Accelerated Dual Descent for Network Flow Optimization," *IEEE transactions on Automatic Control*, Vol. 59, No. 4, pp. 905-920
3. VM Preciado, M Zargham, C Enyioha, GJ Pappas, **A. Jadbabaie**, "Optimal Resource Allocation for Network Protection Against Spreading Processes," *IEEE Transactions on Control of Network Systems*, Vol. 1, No. 1, pp. 99-108
4. S Martin, A Girard, A. Fazeli, **A. Jadbabaie**, "Multi-agent flocking under general communication rule," *IEEE Transactions on Control of Network Systems*, Vol. 1, No. 2, 2014
5. C. Eksin, P. Molavi, A. Ribeiro, and **A. Jadbabaie**, "Bayesian Quadratic Network Game Filters," *IEEE Transactions on Signal Processing*, Vol. 62, No. 9, pp. 2250-2264
6. C. Eksin, P. Molavi, A. Ribeiro, and **A. Jadbabaie**, "Learning in Network Games with Incomplete Information," *IEEE Signal Processing Magazine*, Vol. 30, No. 3, pp. 30-42, April 2013

7. V. Preciado, **A. Jadbabaie**, G. C. Verghese, "Structural analysis of Laplacian spectral properties with application to electric transmission networks," *IEEE Transactions on Automatic Control*, Vol. 58, No. 9, pp. 2338-2343, September 2013
8. V. Preciado and **A. Jadbabaie**, "Moment-based analysis of spreading processes from network structural information," *IEEE Transactions on Networking*, Vol. 21, No. 2, pp. 373-382, April 2013
9. E. Wei, A. Ozdaglar, and **A. Jadbabaie**, "A distributed Newton Method for network utility maximization, Part I" *IEEE Transactions on Automatic Control*, Vol. 58, No. 9, pp. 2162-2176, September 2013
10. E. Wei, A. Ozdaglar, and **A. Jadbabaie**, "A distributed Newton Method for network utility maximization, Part II" *IEEE Transactions on Automatic Control*, Vol. 58, No. 9, pp. 2176-2189, September 2013
11. P. Molavi, A. Tahbaz Salehi, and **A. Jadbabaie**, "Reaching Consensus with Increasing Information," *IEEE Journal of Selected Topics in Signal Processing*, special issue on adaptation and learning over complex networks, Vol. 7, No. 2, pp. 358-370, January 2013
12. **A. Jadbabaie**, P. Molavi, A. Sandroni, and A. Tahbaz-Salehi, "Non Bayesian Social learning," *Games and Economic Behavior* 76(2012) pp. 210-225, September 2012
13. A. Papachristodoulou and **A. Jadbabaie**, "Delay Robustness of Nonlinear Internet Congestion Control Schemes" *IEEE Transactions on Automatic Control*, Vol. 55, No. 6, June 2010, pp. 1421-1428
14. A. Papachristodoulou and **A. Jadbabaie**, and U. Munz, "Effects of Delay in Multi-Agent Consensus and Oscillator Synchronization," *IEEE Transactions on Automatic Control*, Vol. 55, No. 6, June 2010, pp. 1471-1477
15. A. Tahbaz-Salehi, and **A. Jadbabaie**, "Distributed coverage verification in sensor networks without location information," *IEEE Transactions on Automatic Control*, Forthcoming, Vol 55., No. 8, August 2010
16. A. Tahbaz-Salehi, and **A. Jadbabaie**, "Consensus in ergodic-stationary graph processes," *IEEE Transactions on Automatic Control*, Vol. 55, No. 1, January 2010, pp. 225 - 230
17. M. Zavlanos, H. Tanner, **A. Jadbabaie**, and G. J. Pappas, "Hybrid control for connectivity-preserving flocking," *IEEE Transactions on Automatic Control*, Vol. 54, No. 12, pp. 2869-2876, December 2009
18. N. Motee and **A. Jadbabaie**, "Distributed multiparametric quadratic programming," *IEEE Transactions on Automatic Control*, Vol. 54, No. 10, pp. 2279-2289, October 2009
19. N. Moshtagh, N. Michael, **A. Jadbabaie**, and K. Daniilidis, "Vision-Based, distributed control laws for motion coordination of nonholonomic robots" *IEEE Transactions on Robotics*, Vol. 25, No. 4, pp. 851-860, August 2009
20. N. Motee and **A. Jadbabaie**, "Optimal control of spatially distributed systems," *IEEE Transactions on Automatic Control*, Vol. 53, No. 7, pp. 1616-1629, August 2008
21. P. Parrilo and **A. Jadbabaie**, "Approximation of the joint spectral radius of a set of matrices using sum of squares," *Linear Algebra and its Applications* Vol. 428, No. 10, pp. 2385-2402, May 2008.

22. A. Tahbaz Salehi and **A. Jadbabaie**, “On consensus in random networks,” *IEEE Transactions on Automatic Control*, Vol. 53, No.3, pp. 791–796, April 2008.
23. S.G. Loizou and **A. Jadbabaie**, “Density functions for navigation function based systems,” Accepted for publication in *IEEE Transactions on Automatic Control*, Vol. 53, No. 2, pp. 612–617, March 2008.
24. N. Moshtagh and **A. Jadbabaie**, “Geodesic control laws for flocking of multiagent systems,” *IEEE Transactions on Automatic Control*, Vol. 52, No. 4, pp. 681–686, April 2007.
25. S. Prajna, **A. Jadbabaie**, and G. J. Pappas, “A framework for worst case and stochastic safety verification using barrier certificates,” *IEEE Transactions on Automatic Control*, Vol. 52, No. 8, pp. 1415-1429, August 2007.
26. H. Tanner, **A. Jadbabaie**, and G. J. Pappas, “Flocking in fixed and switching networks” *IEEE Transactions on Automatic Control*, Vol. 52, No. 5, pp. 863-868, May 2007. **(Highest cited paper in IEEE TAC from 2007-2012)**
27. J. S. Kim, T-W. Yoon, **A. Jadbabaie**, and C. De Persis , “Input-to-State Stable Finite Horizon MPC for Neutrally Stable Linear Discrete-Time Systems with Input Constraints”, *Systems and Control Letters*, Vol. 55, 2006, pp. 293-303.
28. **A. Jadbabaie** and J. Hauser, “On the stability of receding horizon control with a general terminal cost,” *IEEE Transactions on Automatic Control*, Vol. 50, No.5, May 2005, pp. 674-678.
29. **A. Jadbabaie**, J. Lin, and A. S. Morse, “Coordination of groups of mobile autonomous agents using nearest neighbor rules,” *IEEE Transactions on Automatic Control*, Vol. 48, No. 6, June 2003, pp. 988-1001. **Winner, IEEE CSS George S. Axelby Award**
30. **A. Jadbabaie** and J. Hauser, “Control of a tethered flying wing: a receding horizon-LPV approach,” *International Journal of Robust and Nonlinear Control*, Vol. 12, No. 9, July 2002, pp. 869-896.
31. **A. Jadbabaie**, J. Yu, and J. Hauser, “Unconstrained receding horizon control of nonlinear systems,” *IEEE Transactions on Automatic Control*, Vol. 46, No. 5, pages 736-743, May 2001.
32. J. Yu, **A. Jadbabaie**, J. Primbs, and Y. Huang, “Comparison of nonlinear control designs on a ducted fan model,” *Automatica*, Vol. 37, No. 12, pages 1971-1978, December 2001.
33. D. Famularo, C. Abdallah, P. Dorato, W. Haddad, and **A. Jadbabaie**, “robust, non-fragile LQ controllers: the static state feedback case,” *International Journal of Control*, Vol. 73, No. 2, pages 159-165, January 2000.
34. **A. Jadbabaie** and S. Emami, “Fuzzy predictive control of a heat exchanger with variable dead-time,” *International Journal of Environmentally Conscious Design and Manufacturing*, Vol. 2, No. 4, pages 67-72, February 1995.

Refereed Book Chapters

1. N. Moshtagh, N. Michael, **A. Jadbabaie**, and K. Daniilidis, “Bearing-only control laws for balanced circular formations of ground robots, ” in *Proceedings of Robotics: Science and Systems IV*, MIT Press, June 2008.

2. A. Ahmadzadeh, J. Keller, **A. Jadbabaie**, G. J. Pappas, and V. Kumar, "An optimization-based approach to time-critical cooperative surveillance and coverage with UAVs" in *Experimental Robotics*, O. Khatib, V. Kumar, and D. Rus (Eds.), Springer track in advanced robotics, Volume 39, pp. 491–500, 2008.
3. A. Muhammad and **A. Jadbabaie**, "Dynamic coverage verification in Mobile Sensor Networks Via Switched Higher Order Laplacians," in *Proceedings of Robotics: Science and Systems*, , MIT Press, Cambridge, MA 2007.
4. P.A. Parrilo and **A. Jadbabaie**, "Approximation of the joint spectral radius of a set of matrices using sum of squares" in *Hybrid Systems: Computation and Control*, Alberto Bemporad, Antonio Bicchi and Giorgio Buttazzo , editors, Springer Lecture Notes in Computer Science, 2007.
5. A. Muhammad and **A. Jadbabaie**, "Asymptotic stability of switched higher order Laplacians implies Dynamic Coverage" in *Hybrid Systems: Computation and Control*, Alberto Bemporad, Antonio Bicchi and Giorgio Buttazzo , editors, Springer Lecture Notes in Computer Science, 2007.
6. N. Moshtagh, **A. Jadbabaie**, and K. Daniilidis, "Vision-based distributed coordination of multi-agent systems," in *Robotics: Science and Systems*, pp. 41-48, MIT Press, Cambridge, MA 2005.
7. S. Prajna and **A. Jadbabaie**, "Safety verification of hybrid systems using barrier certificates," in *Hybrid Systems: Computation and Control*, R. Alur and G. Pappas, editors, Springer Lecture Notes in Computer Science, vol. 2993, pp. 477-492, 2004.
8. H. Tanner, **A. Jadbabaie**, and G. Pappas, "Coordination of Flocks of Autonomous Mobile Agents," *Proceedings of the Block Island Workshop on Cooperative Control*, V. Kumar, N.E Leonard, and A. S. Morse, editors, *Cooperative Control*, Springer Lecture notes in Control and Information Science, vol. 309, pages, 229-239, 2004.
9. R. M. Murray, J. Hauser, **A. Jadbabaie**, M. Milam, B. Dunbar, and R. Franz, "Online Control Customization via Optimization-based Control," in T. Samad and G. Balas, editors, *Software Enabled Control: Information technology for dynamical systems*, Wiley-IEEE Press, 2003.
10. **A. Jadbabaie**, C. Abdallah, M. Jamshidi, and A. Titli, "Observer-based controller synthesis for model-based fuzzy systems via linear matrix inequalities," in S. Farinwata, D. Filev, and R. Langari, editors, *Fuzzy Control: Synthesis and Analysis*, pp. 239-252. Wiley, 2000.

Book Review and Expository Articles

- A. Jadbabaie, "Technical Perspective: Natural Algorithms in a Networked World," *Communications of the ACM*, December 2012.
- A. Jadbabaie, "Convex Optimization by Stephen P. Boyd and Lieven Vandenberghe," *IEEE Control Systems Magazine*, December 2005.
- A. Jadbabaie, "Flocking and motion Coordination," *Springer Encyclopedia of Control*

Refereed Conference Papers

1. A. Ajorlou, A. Kakhbod, and A. Jadbabaie, "Strategic Information Diffusion: Spread vs. Exploit," *NetEcon 2014*, Austin, TX

2. A. Fazeli, A. Ajorlou, A. Jadbabaie, "Optimal Budget Allocation in Social Networks: Quality or Seeding?," *Proceedings of the IEEE Conference on Decision and Control*, December 2014
3. , MA Rahimian, P. Molavi, and A. Jadbabaie, "Non Bayesian learning without recall," *Proceedings of the IEEE Conference on Decision and Control*, December 2014
4. C. Eniyoha, MA Rahimian, A. Jadbabaie, and GJ Pappas, "Controllability and Fraction of Leaders in Infinite Networks," *Proceedings of the IEEE Conference on Decision and Control*, December 2014
5. R. Tutunov, M. Zargham, **A. Jadbabaie**, "On Convergence Rate of Accelerated Dual Descent Algorithm," *Proceedings of the IEEE Conference on Decision and Control*, December 2014
6. S. Shahrapour, A. Rakhlin, **A. Jadbabaie**, Online learning of dynamic parameters in social networks, *Proceedings of Advances in Neural Information Processing Systems (NIPS)*, 2013
7. M. Zargham, A. Ribeiro, and **A. Jadbabaie**, "Accelerated BackPressure Algorithm," *Proceedings of the 2013 IEEE Global Communications Conference, GlobeComm 2013*
8. C. Eksin, P. Molavi, A. Ribeiro, and **A. Jadbabaie**, "Distributed Filters for Bayesian Network Games," *EUSIPCO 2013*
9. S. Shahrapour and **A. Jadbabaie**, "Exponentially Fast Parameter Estimation in Networks Using Distributed Dual Averaging," to appear in *Proceedings of the IEEE Conference on Decision and Control*, December 2013, Florence, Italy
10. P. Molavi, C. Eksin, A. Ribeiro, and **A. Jadbabaie**, "Learning to Coordinate in a Beauty Contest Game," *Proceedings of the IEEE Conference on Decision and Control*, December 2013, Florence, Italy
11. M. Zargham, A. Ribeiro, and **A. Jadbabaie**, "Accelerated Dual Descent for Constrained Convex Network Flow Optimization," *Proceedings of the IEEE Conference on Decision and Control*, December 2013, Florence, Italy
12. V. Preciado, M. Zargham, C. Eniyoha, **A. Jadbabaie**, and G. Pappas, "Optimal Vaccine Allocation to Control Epidemic Outbreaks in Arbitrary Networks," *Proceedings of the IEEE Conference on Decision and Control*, December 2013, Florence, Italy
13. S. Sabau, S. Warnick, and **A. Jadbabaie**, "A Novel Description of Linear Time-Invariant Networks via Structured Coprime Factorizations," *Proceedings of the IEEE Conference on Decision and Control*, December 2013, Florence, Italy
14. A. Olshevski and **A. Jadbabaie**, "Combinatorial bounds and scaling laws for noise amplification in networks," *Proceedings of the 2013 European Control Conference*, June 2013, Zurich, Switzerland
15. C. Eksin, P. Molavi, A. Ribeiro, and **A. Jadbabaie**, "Bayesian quadratic network game filters," *Proceedings of the IEEE Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, Vancouver, Canada
16. A. Fazeli and **A. Jadbabaie**, "Game theoretic analysis of a strategic model of competitive contagion and product adoption in social networks," *Proceedings of the 2012 IEEE Conference on Decision and Control*, December 2012, Maui, HI
17. A. Fazeli and **A. Jadbabaie**, "Duopoly pricing game in networks with local coordination effects," *Proceedings of the 2012 IEEE Conference on Decision and Control*, December 2012, Maui, HI

18. P. Molavi and **A. Jadbabaie**, "Network structure and efficiency of observational social learning," *Proceedings of the 2012 IEEE Conference on Decision and Control*, December 2012, Maui, HI
19. J. Oh, M. Zargham, X. Su, **A. Jadbabaie**, "Game theoretic analysis of customer subscription decisions in networks with positive externality," *Proceedings of the 2012 IEEE Conference on Decision and Control*, December 2012, Maui, HI
20. M. Zargham, A. Ribeiro, **A. Jadbabaie**, "Network Optimization Under Uncertainty," *Proceedings of the 2012 IEEE Conference on Decision and Control*, December 2012, Maui, HI
21. A. Fazeli and **A. Jadbabaie**, "Consensus in martingale graph processes," *Proceedings of the 2012 American Control Conference*, June 2012, Montreal, Canada
22. P. Molavi, A. Tahbaz-Salehi, K.R. Rad, and **A. Jadbabaie**, "On consensus and exponentially fast social learning," *Proceedings of the 2012 American Control Conference*, June 2012, Montreal, Canada
23. M. Zargham, A. Ribeiro, A. Ozdaglar, **A. Jadbabaie**, "A distributed line search method for network optimization," *Proceedings of the 2012 American Control Conference*, June 2012, Montreal, Canada
24. S. Martin, A. Fazeli, A. Girard, and **A. Jadbabaie**, "'Multi-agent flocking with random communication radius," *Proceedings of the 2012 American Control Conference*, June 2012, Montreal, Canada
25. V. Preciado, J. Oh, **A. Jadbabaie**, "Analysis of equilibria and strategic interaction in complex networks," *2011 Proceedings of the IEEE Conference on Decision and Control*, Dec. 2011
26. A. Fazeli and **A. Jadbabaie**, "On consensus in a correlated model of network formation," *2011 IEEE Conference on Decision and Control*, Dec 2011
27. P. Molavi and **A. Jadbabaie**, "On Non-Bayesian Social learning," submitted to *2011 IEEE Conference on Decision and Control*, Dec. 2011
28. E. Wei, M. Zargham, A. Ozdaglar, and **A. Jadbabaie**, "On dual convergence of the distributed Newton method for network utility Maximization, submitted to *2011 IEEE Conference on Decision and Control*, Dec. 2011
29. U. Khan and **A. Jadbabaie**, "On the stability and optimality of distributed Kalman filters with finite-time data fusion," *Proceedings of the American Control Conference*, San Francisco, CA, June 2011
30. P. Molavi and **A. Jadbabaie**, "A topological view of estimation from noisy relative measurements," *Proceedings of the American Control Conference*, San Francisco, CA, June 2011
31. M. Zargham, A. Ribeiro, A. Ozdaglar, **A. Jadbabaie**, "Accelerated dual descent for network optimization," *Proceedings of the American Control Conference*, San Francisco, CA, June 2011
32. M. Zavlanos, V. Preciado, **A. Jadbabaie**, and G. J. Pappas, "Spectral control of mobile robot networks," *Proceedings of the American Control Conference*, San Francisco, CA, June 2011
33. P. Molavi and **A. Jadbabaie**, "On convergence of beliefs in a non-Bayesian model of learning," *Proceedings of the Allerton Conference in Communications, Control, and Computing*, Sep 2010

34. U. Khan, S. Kar, **A. Jadbabaie**, and J. Moura, "On connectivity, observability, and stability in distributed estimation," *Proceedings of the 2010 IEEE Conference on Decision and Control*, Atlanta, GA, December 2010
35. V. Preciado, A. Tahbaz-Salehi, and **A. Jadbabaie**, "On asymptotic consensus value in directed random networks," *Proceedings of the 2010 IEEE Conference on Decision and Control*, Atlanta, GA, December 2010
36. V. Preciado and **A. Jadbabaie**, "From local measurements to network spectral properties: beyond degree distributions," *Proceedings of the 2010 IEEE Conference on Decision and Control*, Atlanta, GA, December 2010
37. E. Wei, A. Ozdaglar, and **A. Jadbabaie**, "A distributed Newton method for network utility maximization," *Proceedings of the 2010 IEEE Conference on Decision and Control*, Atlanta, GA, December 2010
38. N. Motee, **A. Jadbabaie**, G. Pappas, "Path planning for multiple robots using duality," *Proceedings of the 2010 American Control Conference*, Baltimore, MD, June 2010
39. V. Preciado A. Tahbaz-Salehi, and **A. Jadbabaie**, "Variance analysis of consensus in directed switching random networks," *Proceedings of the 2010 American Control Conference*, Baltimore, MD, June 2010
40. V. Preciado M. Zavlanos, **A. Jadbabaie**, and G. J. Pappas "Distributed Control of the Laplacian Spectral Moments of Networks," *Proceedings of the 2010 American Control Conference*, Baltimore, MD, June 2010
41. N. Motee, **A. Jadbabaie**, G. J. Pappas, "A Duality Approach to Path Planning for Multiple Robots," *Proceedings of the IEEE Conference on Robotics: ICRA 2010*, Anchorage, Alaska, May 2010
42. J. Derenick, V. Kumar, and **A. Jadbabaie**, "Towards Simplicial Coverage Repair for Mobile Robot Teams," *Proceedings of the IEEE Conference on Robotics: ICRA 2010*, Anchorage, Alaska, May 2010
43. A. Tahbaz-Salehi and **A. Jadbabaie**, "Social learning under peer pressure," *Proceedings of the IEEE Conference on Decision and Control*, Shanghai, China, December 2009.
Finalist: Best paper award
44. V. Preciado and **A. Jadbabaie**, "Spectral analysis of virus spreading in random geometric networks," *Proceedings of the IEEE Conference on Decision and Control*, Shanghai, China, December 2009
45. V. Preciado and **A. Jadbabaie**, "Moment-based analysis of synchronization in random networks," *Proceedings of the IEEE Conference on Decision and Control*, Shanghai, China, December 2009
46. **A. Jadbabaie**, A. Ozdaglar, and M. Zargham, "A distributed Newton Method for network optimization," *Proceedings of the IEEE Conference on Decision and Control*, Shanghai, China, December 2009
47. N. Motee, **A. Jadbabaie**, "Approximation methods and spatial interpolation in distributed control systems," *Proceedings of the 2009 American Control Conference*, St Louis, MI, June 2009.
48. N. Motee, A. Ahmadzadeh, **A. Jadbabaie**, G. J. Pappas, "Multi-vehicle path planning in dynamically changing environments," *Proceedings of the IEEE Conference on Robotics: ICRA 2009*, Kobe, Japan, May 2009

49. A. Tahbaz-Salehi and **A. Jadbabaie**, “Distributed coverage verification in sensor networks without location information,” *Proceedings of the IEEE Conference on Decision and Control*, Cancun, Mexico, December 2008
50. N. Moshtagh and **A. Jadbabaie**, “Steering laws for distributed motion coordination of kinematic agents in three dimensions,” *Proceedings of the IEEE Conference on Decision and Control*, Cancun, Mexico, December 2008
51. E. August, A. Papachristodoulou, B. Recht, M. Roberts, and **A. Jadbabaie**, “Determining interconnections in biochemical networks using linear programming ,” *Proceedings of the IEEE Conference on Decision and Control*, Cancun, Mexico, December 2008
52. N. Motee, **A. Jadbabaie**, and Bassam Bamieh “On decentralized optimal control and information structures,” *proceedings of the 2008 American Control Conference*, Seattle, WA, June 2008.
53. M. Zavlanos, A. Tahbaz-Salehi, and **A. Jadbabaie**, and G. J. Pappas, “Distributed topology control of dynamic networks,” *proceedings of the 2008 American Control Conference*, Seattle, WA, June 2008.
54. A. Ahmadzadeh, **A. Jadbabaie**, G. J. Pappas, and V. Kumar , “Elastic multi-particle systems for bounded-curvature path planning. Part I & II,” *Proceedings of the 2008 American Control Conference*, Seattle, WA, June 2008.
55. A. Ahmadzadeh, **A. Jadbabaie**, G. J. Pappas, and V. Kumar , “Elastic multi-particle systems for bounded-curvature path planning. Part II: Applications,” *submitted to the 2008 American Control Conference*, Seattle, WA, June 2008.
56. E. Stump, **A. Jadbabaie**, and V. Kumar, “ Connectivity Management in Mobile Robot Teams,” *proceedings of the IEEE International Conference on Robotics, ICRA 2008*, Pasadena, CA 2008.
57. A. Tahbaz-Salehi and **A. Jadbabaie**, “Small world phenomena, rapidly mixing Markov chains and average consensus algorithms ,” *Proceedings of the IEEE Conference on Decision and Control*, New Orleans, LA, December 2007.
58. A. Tahbaz-Salehi and **A. Jadbabaie**, “Necessary and sufficient conditions for consensus consensus over random independent and identically distributed switching graphs,” *Proceedings of the IEEE Conference on Decision and Control*, New Orleans, LA, December 2007.
59. N. Motee and **A. Jadbabaie**, “An operator-theoretic framework for analysis of large-scale quadratic programming,” *Proceedings of the IEEE Conference on Decision and Control*, New Orleans, LA, December 2007.
60. M. Zavlanos, **A. Jadbabaie**, and G. J. Pappas, “Flocking while preserving network connectivity,” *Proceedings of the IEEE Conference on Decision and Control*, New Orleans, LA, December 2007.
61. N. Moshtagh and **A. Jadbabaie**, “Distributed coordination of dynamic rigid bodies with nonholonomic constraints,” *Proceedings of the IEEE Conference on Decision and Control*, New Orleans, LA, December 2007.
62. A. Ahmadzadeh, **A. Jadbabaie**, G. J. Pappas, and V. Kumar , “Stable multi-particle systems and application in multi-vehicle path planning and coverage,” *Proceedings of the IEEE Conference on Decision and Control*, New Orleans, LA, December 2007.

63. A. Tahbaz-Salehi and **A. Jadbabaie**, “Distributed verification of intruder-free coverage in dynamic sensor networks,” *Proceedings of the 44th Allerton Conference on Communications, Control, and Computing*, Allerton House, IL, September 2007.
64. A. Muhammad and **A. Jadbabaie**, “Distributed computation of homology groups by gossip,” *Proceedings of the American Control Conference ACC 2007*, New York City, NY, July 2007.
65. N. Motee and **A. Jadbabaie**, “Optimal Control of Spatially distributed systems,” *Proceedings of the American Control Conference*, New York City, NY, July 2007. **Winner, Best Student Paper Award.**
66. A. Tahbaz-Salehi and **A. Jadbabaie**, “On recurrence of connectivity in Vicsek’s model of motion coordination for mobile autonomous agents,” *proceedings of the American Control Conference*, New York City, NY, July 2007.
67. A. Tahbaz-Salehi and **A. Jadbabaie**, “On consensus in random networks,” *Proceedings of the 43rd Allerton Conference on Communications, Control, and Computing*, Allerton House, IL, September 2006.
68. N. Motee and **A. Jadbabaie**, “Receding horizon control of spatially distributed systems over arbitrary graphs,” *Proceedings of the IEEE Conference on Decision and Control*, San Diego, CA, December 2006. Finalist, Best Paper Award.
69. M.C. De Gennaro and **A. Jadbabaie**, “Decentralized control of connectivity for multi agent systems,” *Proceedings of the IEEE Conference on Decision and Control*, San Diego, CA, December 2006.
70. A. Tahbaz-Salehi and **A. Jadbabaie**, “A one-parameter family of distributed consensus algorithms with boundary: from shortest paths to mean hitting times,” *Proceedings of the IEEE Conference on Decision and Control*, San Diego, CA, December 2006.
71. S. G. Loizou and **A. Jadbabaie**, “Density functions for navigation function based systems,” *Proceedings of the IEEE Conference on Decision and Control*, San Diego, CA, December 2006.
72. A. Papachristodoulou and **A. Jadbabaie**, “Synchronization in oscillator networks with heterogeneous delays, switching topologies and nonlinear dynamics,” *Proceedings of the IEEE Conference on Decision and Control*, San Diego, CA, December 2006.
73. A. Ahmadzadeh, J. Keller, **A. Jadbabaie**, G.J. Pappas and V. Kumar, “Multi-UAV deployment for coverage with spatio-temporal specifications,” *Proceedings of the IEEE Conference on Decision and Control*, San Diego, CA, December 2006.
74. C. Gao, F. Bullo, J. Cortes, and **A. Jadbabaie**, “Notes on averaging over acyclic digraphs and discrete coverage control,” *Proceedings of the IEEE Conference on Decision and Control*, San Diego, CA, December 2006.
75. A. Ahmadzadeh, G. Buchman, Peng Cheng, **A. Jadbabaie**, J. Keller, V. Kumar, and G. J. Pappas, “Cooperative Control of UAVs for Search and Coverage,” *Proceedings of the AUVSI Conference on Unmanned Systems*, August 2006, Orlando, FL.
76. A. Ahmadzadeh, J. Keller, G.J. Pappas, **A. Jadbabaie**, and V. Kumar, “An Optimization-based Approach to time critical cooperative surveillance and coverage with Unmanned Aerial Vehicles,” *Proceedings of the International Symposium on Experimental Robotics*, July 2006, Rio De Janeiro, Brazil.

77. N. Motee and **A. Jadbabaie**, "Distributed receding horizon control of spatially invariant systems," *Proceedings of the American Control Conference*, Minneapolis, MN, June 2006. *Finalist, Best Student Paper Award.*
78. M. C. DeGennaro and **A. Jadbabaie**, "Formation control for a cooperative multiagent system with a decentralized navigation function," *Proceedings of the American Control Conference*, Minneapolis, MN, June 2006.
79. G. Notarstefano, K. Savla, F. Bullo, and **A. Jadbabaie**, "Maintaining limited-range connectivity among second-order agents," *Proceedings of the American Control Conference*, Minneapolis, MN, June 2006.
80. N. Moshtagh, **A. Jadbabaie**, K. Daniilidis, "Distributed, geodesic control laws for vision-based flocking of nonholonomic agents," *Proceedings of the IEEE Conference on Robotics and Automation*, Orlando, FL, May 2006.
81. N. Moshtagh, **A. Jadbabaie**, K. Daniilidis, "Vision-based distributed control laws for flocking in 2 dimensions," *Proceedings of the 13th Yale Workshop on System Science*, New Haven, CT, June 2005.
82. N. Moshtagh, **A. Jadbabaie**, K. Daniilidis, "Distributed, geodesic control laws for flocking of nonholonomic agents," *Proceedings of the Joint IEEE Conference on Decision and Control and the European Control Conference*, Seville, Spain, December 2005.
83. A. Ahmadzadeh, A. Halasz, S. Prajna, **A. Jadbabaie** and Vijay Kumar, "Analysis of Lactose metabolism in *E. Coli* using sum of squares decomposition," *Joint IEEE Conference on Decision and Control and the European Control Conference*, Seville, Spain, December 2005.
84. S. Prajna and **A. Jadbabaie**, "Methods for safety verification of time delay systems," *Joint IEEE Conference on Decision and Control and the European Control Conference*, Seville, Spain, December 2005. *Finalist, Best Student Paper Award.*
85. A. Papachristodoulou and **A. Jadbabaie**, "Synchronization in Oscillator Networks: Switching topologies and presence of nonhomogeneous delays" *Joint IEEE Conference on Decision and Control and the European Control Conference*, December 2005.
86. S. Prajna, **A. Jadbabaie**, and G. J. Pappas, "stochastic Safety verification using barrier certificates," *Proceedings of IEEE Conference on Decision and Control*, The Bahamas, December 2004.
87. **A. Jadbabaie**, "On Geographic routing without location information," *Proceedings of the IEEE Conference on Decision and Control*, The Bahamas, December 2004.
88. J-S Kim, T-W Yoon, **A. Jadbabaie**, C. De Persis, "Input-To-State stabilizing MPC for neutrally stable linear systems subject to input constraints," *Proceedings of IEEE Conference on Decision and Control*, The Bahamas, December 2004, to appear.
89. **A. Jadbabaie**, N. Motee, and M. Barahona, "On the Kuramoto model of coupled nonlinear oscillators," *Proceedings of the American Control Conference*, Boston, MA, June 2004.
90. H. Tanner, **A. Jadbabaie**, and G. Pappas, "Stable flocking of mobile agents, Part I: Fixed topology," *Proceedings of IEEE Conference on Decision and Control*, Maui, HI, December 2003.
91. H. Tanner, **A. Jadbabaie**, and G. Pappas, "Stable flocking of mobile agents, Part II: Dynamic topology," *proceedings of IEEE Conference on Decision and Control*, Maui, HI, December 2003.

92. H. Tanner, **A. Jadbabaie**, and G. Pappas, "Coordination of multiple autonomous vehicles," *proceedings of Mediterranean Control Conference*, Rhodes, Greece, June 2003.
93. **A. Jadbabaie**, "Distributed coordination strategies for mobile autonomous agents," *proceedings of Mediterranean Control Conference*, Rhodes, Greece, June 2003.
94. **A. Jadbabaie**, J. Lin, and A. S. Morse, "Coordination of groups of mobile autonomous agents using nearest neighbor rules," *Proceedings of IEEE Conference on Decision and Control*, Las Vegas, NV, December 2002.
95. **A. Jadbabaie**, C. DePersis, and T. W. Yun, "A globally stabilizing receding horizon controller for input constrained, neutrally stable linear systems," *proceedings of IEEE Conference on Decision and Control*, Las Vegas, NV, December 2002.
96. **A. Jadbabaie** and A. S. Morse, "On the input-to-state stability property for receding horizon control of constrained linear systems," *proceedings of IFAC World Congress*, Barcelona, Spain, July 2002.
97. **A. Jadbabaie** and J. Hauser, "On the stability of unconstrained receding horizon control with a general terminal cost," *proceedings of IEEE Conference on Decision and Control CDC 2001*, Orlando, FL, December 2001.
98. **A. Jadbabaie**, J. Primbs and J. Hauser, "Receding horizon control with no terminal cost," *proceedings of the American Control Conference ACC 2001*, Arlington, VA, June 2001.
99. **A. Jadbabaie** and J. Hauser, "Control of the Caltech ducted fan in forward flight: A receding horizon-LPV approach," *proceedings of the American Control Conference, ACC 2001*, Arlington, VA, June 2001.
100. **A. Jadbabaie** and J. Hauser, "Relaxing the optimality condition in receding horizon control," in *proceedings of IEEE Conference on Decision and Control, CDC 2000*, Sydney, Australia, December 2000.
101. J. Hauser and **A. Jadbabaie**, "Aggressive maneuvering of a thrust vectored flying wing: A receding horizon approach," *proceedings of IEEE Conference on Decision and Control, CDC 2000*, Sydney, Australia, December 2000.
102. **A. Jadbabaie**, J. Yu, and J. Hauser, "Unconstrained receding horizon control of nonlinear systems," *proceedings of IEEE Conference on Decision and Control, CDC '99*, Phoenix, Arizona, December 1999.
103. **A. Jadbabaie**, J. Yu, and J. Hauser, "Receding horizon control of the Caltech ducted fan: A control Lyapunov function approach," *proceedings of IEEE CCA '99*, Big Island, HI, August 1999.
104. **A. Jadbabaie**, "A reduction in conservatism in stability and L_2 gain analysis of Takagi-Sugeno fuzzy systems," *proceedings of the IFAC World congress*, Beijing, China, July 1999.
105. J. Yu, **A. Jadbabaie**, J. Primbs and Y. Huang "Comparison of nonlinear control designs for a ducted fan model," *proceedings of the IFAC World congress*, Beijing, China, July 1999.
106. Y. Huang and **A. Jadbabaie**, "Nonlinear H_∞ control: an enhanced quasi-LPV approach," *proceedings of the IFAC World congress*, Beijing, China, July 1999.
107. **A. Jadbabaie**, J. Yu and J. Hauser, "Stabilizing receding horizon control of nonlinear systems: A control Lyapunov function approach," *proceedings of the American Control Conference, ACC'99*, San Diego, CA, June 1999.

108. **A. Jadbabaie**, C. Abdallah, and P. Dorato, "Guaranteed-cost control of polynomial nonlinear systems," *proceedings of IEEE Conference on Decision and Control, CDC '98*, Tampa, FL, December 1998.
109. **A. Jadbabaie**, C. Abdallah, P. Dorato and M. Jamshidi "Guaranteed-cost control of the nonlinear benchmark problem," *proceedings of IEEE Conference on Control Applications, CCA '98*, Trieste, Italy, September 1998.
110. **A. Jadbabaie**, C. Abdallah, and P. Dorato, "Robust, non-fragile and optimal controller synthesis via LMIs," *proceedings of the American Control Conference, ACC '98*, Philadelphia, PA, June 1998.
111. **A. Jadbabaie**, M. Jamshidi, and A. Titli, "Guaranteed-cost design of Takagi-Sugeno fuzzy controllers via LMIs," in *proceedings of IEEE International Conference on Fuzzy Systems, Fuzz IEEE'98*, Anchorage, Alaska, May 1998.
112. **A. Jadbabaie**, A. Titli, and M. Jamshidi, "Fuzzy observer-based control of nonlinear systems," *proceedings of IEEE Conference on Decision and Control, CDC '97*, San Diego, CA, December 1997.
113. **A. Jadbabaie**, A. Titli, and M. Jamshidi, "A Separation Property of Observer/Controller for Continuous-Time Fuzzy Systems," *Proceedings of 35th Allerton National Conference on Communications, Control and Computing*, Monticello, IL, October 1997.

Patent

- E. Wei, A. Ozdaglar, and **A. Jadbabaie**, "Distributed Newton Method and Apparatus for Network Utility Maximization," US Patent filing number 13/717,473, December 18, 2012

Plenary Presentations and Distinguished Seminars

- Keynote Speaker, FMOC MObiHOC Workshop, Philadelphia, August 2014
- Keynote Speaker, LIDS Student Conference, MIT, January 2014
- Keynote speaker, Southern California Network Economics and Game theory Conference, 2013
- Plenary speaker, Network Mapping and Measurement Conference (NMMC 2013), Sundance, UT, May 2013
- SemiPlenary Speaker at the 2011 Chinese Control Conference (CCDC 2011)
- Distinguished Colloquium Speaker, North Carolina State University, October 2010
- semi-plenary speaker at First IFAC Workshop on Networked Control Systems, Venice, Italy, September 2009
- Semi-plenary speaker at the IEEE Conference on Decision and Control, Shanghai, China, December 2009
- Plenary Speaker, Georgia Tech Student Conference, April 2010
- Plenary Speaker, Belgian Bi-annual Conference on Dynamics, Control and Optimization, Ghent, Belgium

Invited Seminars and Presentations

- Electrical Engineering Seminar, Harvard University, November 2014
- Microeconomics Workshop, Department of Economics, Cambridge University, October 2014
- Boston University Symposium on Network Control Systems, October 2014
- INET Seminar, Cambridge University, Department of Economics, October 2014
- Microeconomics Seminar, Cambridge University, October 2014
- ECE Seminar, Tufts University, September 2014
- Automatic Control Department Seminar, KTH, Stockholm, Sweden, May 2014
- Seminar, Department of Automatic Control, Lund University, Sweden, May 2014
- Seminar, Institute of Advanced Studies IMT, Lucca, Italy
- IMA Workshop on Topological Systems: Communication, Sensing, and Actuation, March 2014
- OR and Financial Engineering Department, Princeton University, October 2013
- UIUC Summer school in Multiagent Systems, August 2013
- SILO Workshop, Madison, Wisconsin, June 2013
- SIAM Conference on Control, July 2013
- Penn MicroEconomics Theory Seminar, September 2012
- MIT symposium on Emerging Topics in Interconnected Systems, June 2012
- Invited Seminar, United Technologies Research Center, October 2011
- ECE Seminar, University of Maryland, September 2011
- ECE Seminar, Cornell University, March 2011
- University of Maryland Baltimore County Math Seminar, March 2011
- Invited Speaker and Symposium Co-organizer, Foundations of Computational Math, FOCM 2011
- Workshop on Topology: Identifying order in Complex Systems. Penn, IAS
- UT Austin EE Seminar, September 2010
- Invited Speaker, WIOPT 2010, Avignon, France, June 2010
- Lund LCCC Workshop on Distributed Estimation, Feb 2010
- Harvard-Air Force Workshop on Complex networks, November 2009
- Princeton Workshop on Natural Algorithms, November 2009
- Princeton CS Theory Seminar, November 2009
- IEEE CDC Workshop on Network Science December 2009
- Concordia University ECE Seminar, October 2009
- NSF-Yale Workshop on Cooperative Control and Estimation, Yale University, November 2008
- IPAM Workshop on Multi-resolution Analysis of Networks, Institute for Pure and Applied Mathematics, UCLA, November 2008
- NSF workshop on Network Science, Marina Del Ray, CA, July 2008
- Caltech CDS Seminar, May 2008

- ICRA workshop on cooperative control of multiple heterogeneous agents, May 2008
- SIAM Conference on Optimization, invited session on distributed optimization, May 2008
- UCSB Center for Control Engineering and Computation, May 2008
- IPSN special workshop on Signal and Information processing, April 2008
- EU STARFLAG Workshop on patterns of animal group movements, Budapest, Hungary, November 2007.
- Center for Information and Systems Engineering, Boston University, September 2007.
- MIT LIDS Seminar, September 2007.
- Engineering Seminar, Oxford University, June 2007.
- Institute for Mathematical Sciences Seminar, Imperial College, London, June 2007.
- Workshop on Modeling and Control of Physical Networks, University of Pisa, Italy, April 2007.
- Decision and Control Seminar, University of Illinois at Urbana Champaign, March 2007.
- Connections II: workshop on fundamentals of network science, California Institute of Technology, August 2006.
- Workshop on Topology and Robotics, ETH Zurich, July 2006.
- Honeywell workshop on Coordination and Control of UAVs for Urban Operations, ACC 2006, Minneapolis, MN, June 2006.
- University of Maryland, College Park, Center for Satellite and Hybrid Communication Networks, February 2006.
- Princeton University, Mechanical and Aerospace Engineering Seminar, July 2005.
- Hamilton Institute, National University of Ireland, Maynooth, June 2005.
- Information Technology Department, National University of Ireland, Galway, June 2005.
- Yale workshop on Systems Science, May 2005.
- SIAM working group on dynamical systems, mini-symposium on distributed motion coordination, Snow Bird, Utah, May 2005.
- SIAM working Group on Dynamical Systems, Mini-symposium on Synchronization in Complex Networks, Snow Bird, UT, May 2005.
- University of Washington, Robotics, Control and Mechatronics Colloquium, May 2005.
- Honeywell workshop on UAV autonomy and multi-vehicle coordinated operations, IEEE CDC 2004, Bahamas.
- GRASP Seminar, November 2004.
- Massachusetts Institute of Technology, LIDS Colloquium, November 2004.
- Stanford University, Aeronautics and Astronautics Seminar, October 2004.
- University of Maryland Baltimore County, Differential Equations Seminar, October 2004
- Yale University, Electrical Engineering Seminar, October 2004.
- Lockheed Martin, Advanced Technology Labs, July 2004.
- Cambridge University, Control Seminar, June 2003.
- Imperial College London, Bioengineering seminar, June 2003.

- ONR Workshop on Adaptive Intelligent Networks and Systems (AINS), Menlo Park, CA, June 2003.
- Block Island Workshop on Cooperative Control, Block Island, RI, June 2003.
- Drexel University, Electrical Engineering Seminar, April 2003.
- Harvard University, Electrical Engineering Seminar, February 2003.
- Massachusetts Institute of Technology, Aeronautics and Astronautics Seminar, November 2002.
- University of Pennsylvania, GRASP Seminar, September 2002.
- California Institute of Technology, Control and Dynamical Systems Seminar, April 2002.
- University of Illinois, Urbana Champagne, Aeronautics Seminar, March 2002.
- Yale University, Electrical Engineering Seminar, March 2002.
- United Technologies Research Center, Systems and Controls Seminar, March 2001.

Professional Activities

- Inaugural Editor-in-Chief, IEEE Transactions on Network Science and Engineering
- Associate Editor for *Operations Research*
- Associate Editor for the new IEEE Transactions on Control of Network Systems
- Co-organizer of the 2007 and 2008 Northeast Control Workshop for postdoctoral scholars and PhD students, March 2007, April 2008.
- Co-organizer of the CDS@20 Workshop, August 2014
- Co-organizer of workshop on *Swarming in Natural and Engineered Systems*, Napa valley, CA, August 2005, and Philadelphia, PA, March 2007.
- Member of the Conference Editorial Board, IEEE CDC 2003
- Member of Programing Committee, ACC 2007, ACC 2008, and ACC 2009, CDC 2008, CDC 2009 Conferences.
- Reviewer for various journals including Nature, Physical Review Letters, *IEEE Transactions on Automatic Control*, *Automatica*, *International Journal of Robust and Nonlinear Control*, *International Journal of Control*, *IEEE Transactions on Fuzzy Systems*, *IEEE Transactions on Mechatronics*, *IEEE Transactions on Circuits and Systems*, *SIAM Journal on Control and Optimization*, *Systems Control Letters*.
- Reviewer for IEEE Conference on Decision and Control, IEEE Conference on Control Applications, IFAC Congress, American Control Conference.
- Chaired and co-chaired sessions in IEEE CDC, ACC, and other IEEE conferences.
- Fellow of IEEE and IEEE Control Systems Society
- Organizer and chair of an invited session on coordinated motion control of mobile autonomous agents at IEEE Conference on Decision and Control, 2002.

University Activities

- Chair, Search committee for selection of chair of the Computer and Information Science Department (March-April 2013)

- Director, Singh Program in Networked and Social Systems Engineering (2013-)
- Chair, Pender Award Committee
- Founding co-director, Singh Program in Networked and Social Systems Engineering 2009-2013
- Chair, ESE Faculty Search Committee in Networked and Social Systems Engineering
- Chair, ESE faculty Search Committee in Information and Decision Systems
- Member, SEAS faculty Council, 2009-2012
- Member, SEAS academic performance committee (2009-present)
- Member, ESE Department Chair search committee, 2010
- Faculty search committee chair for Market and Social Systems Engineering 2009-2010
- Member, Systems Engineering curriculum review Committee 2006-2007
- Member, Electrical and Systems Engineering departmental strategic plan committee 2003-2004
- Member, Electrical and Systems Engineering undergraduate affairs committee 2005

Advising

- PhD proposal/Defense Committee member for Rahul Rao (MEAM October 2004), John Spletzer (CIS July 2003), Yi-Rong Yi (August 2007), Michael Brautbar (March 2013), Ani Hsieh (August 2007).
- PhD Dissertation Proposal Defense committee member for Rahul Rao (MEAM June 2004), Hui Zhao (MEAM May 2004), Ani Hsieh (MEAM 2003), Nathan Michael (MEAM, 2005), Yi Rong Zhu (ESE), Ji Hun Ham (ESE), Michael Zavlanos (ESE), Ethan Stump (MEAM), Timouthee Cour (CIS), Spring Berman (MEAM), Jeanie T Moulton (ESE), Jinsong Tan, (CIS) Daniel Mellinger (MEAM), Alex Kulecza, Subrajit Battacharya, Benjamin Gojman (CIS), Michael Brautbar (CIS), Jennifer Gillenwater
- Advisee of more than 20 undergraduate students in Electrical and Systems Engineering.
- Senior design supervisor for Melissa Rudofsky (ESE, 2012), Robert Feigenberg, Carolina Lee, Daniela Savoia, Ella Kim, (ESE, 2010), David Wang (ESE, 2009), Ai Jing, (CSE 2005).
- Senior capstone project supervisor for Christine Hommes (ESE, 2006)

Research Funding

- *New Paradigms for Scalable, Online, Distributed Optimization*, 2012-2015, ONR Basic Research Challenge Award, \$1,500,000, PI: Ali Jadbabaie. CoPIs : Alejandro Ribeiro (Penn), Sasha Rakhlin (Penn), Asu Ozdaglar (MIT)
- *Evolution of Cultural Norms and Dynamics of Sociopolitical Change*, 2012-2017, ARO MURI Award \$6,250,000, PI: Ali Jadbabaie. Other Institutions: MIT, Cornell, Stanford, GeorgiaTech
- *Geometry and Topology of Complex Networks*, AFOSR Complex Networks Program, 2013-2017, \$1,950,000. PI: A. Jadbabaie. CoPIs: Fan Chung Graham (UCSD), Shing-Tung Yau (Harvard)

- *Topological And Geometric Tools For Analysis of Complex Networks*, AFOSR Complex Networks Program, 2009-2013, \$1,800,000 PI: A. Jadbabaie. CoPIs: Fan Chung Graham (UCSD), Shing-Tung Yau (Harvard)
- *Control Science for Next Generation Sensing*, AFOSR MURI Award, 2010-2015, \$7,500,000. PI: D. E. Koditschek. Penn CoPIs A. Jadbabaie, V. Kumar, A. Ribeiro. Other institutions: Berkeley, Minnesota.
- AM³: *Autonomous Multifunctional, Mobile Micro Systems*, Army Research Laboratory, Collaborative Technology Alliance on Micro Autonomous Systems Technology (MAST), 2008-2018, \$22,000,000. Lead by Penn, including a total of 17 PIs. Penn PIs: V. Kumar, A. Jadbabaie, K. Daniilidis, G.J. Pappas, D. Koditschek, and D. D. Lee

Completed Grants

- HUNT: *Heterogeneous, Unmanned Networked Teams*, ONR MURI Award, 2008-2013. Approximately \$7,500,000 (Penn Share \$3,400,000). Penn PIs: G.J. Pappas, A. Jadbabaie and V. Kumar. Other institutions: Berkeley, GeorgiaTech, MIT
- *Next Generation Network Science*, ONR MURI Award, 2008–2013, Approximately \$7,500,000 (Penn share 2,700,000). PIs: A. Jadbabaie and M. Kearns Other institutions: Caltech, UC San Diego, UC Santa Barbara, Naval Postgraduate School
- *Topological Methods for Distributed Coverage Problems in Mobile Sensing Networks*, NSF Power, Control, and Adaptive Networks (PCAN) program. PI: A. Jadbabaie, \$ 270,000. September 2007-September 2010
- *Sensor Topology and Minimalist Planning (SToMP), Phase I and Phase II*. DARPA Defence Sciences Office (DSO). Program PI: R. Ghrist (UIUC). Penn PI: G. J. Pappas. Penn Co-PIs: A. Jadbabaie, D. Koditschek, and V. Kumar. Total \$ 8,000,000. Penn share \$1,100,000. Oct 2006-Sep 2010
- *SWARMS: Scalable sWarms of Autonomous Robots and Mobile Sensors*. ARO MURI Award. PI: V. Kumar, Penn Co-PIs: A. Jadbabaie, G. J. Pappas, and D. Koditschek. Other institutions, Yale, Berkeley, MIT, UCSB. \$5,000,000 Sep 2005- Sep 2010
- *Workshop Proposal: Swarming in Natural and Engineered Systems*. ARO. PIs: A. Jadbabaie, V. Kumar, and G. J. Pappas. \$30,000 June 2005
- *Distributed Coordination Strategies for Mobile Autonomous Agents*, NSF CAREER Award. PI: A. Jadbabaie. \$ 400,000. Jan 2004-Jan 2009. No Cost Extension till April 2010
- *Vision-based Coordination of Multi-Vehicle Systems*, ONR Math, Computer and Information Sciences Division. PI: A. Jadbabaie, \$345,000. May 2006-May 2009
- *Distributed Coordination and Cooperative Surveillance in Multi-Vehicle Systems*, Office of Naval Research (ONR) DURIP Program. PI : A. Jadbabaie, co-PI(s): V. Kumar, G. J. Pappas \$ 280,877, May 2007
- *Scalable algorithms for reachability analysis and safety verification of hybrid systems*. NSF Embedded and Hybrid Systems Program. PI: Calin Belta. Co-PIs: A. Jadbabaie and V. Kumar. \$ 300,000. Sep. 2004-Sep 2008
- *An Optimization-Based Approach to Distributed Coordination of Unmanned Aerial Vehicles (UAVs)*, ONR Young Investigator Award (YIP). PI: A. Jadbabaie. \$ 300,000. June 2004-June 2007

- *Heterogeneous Urban RSTA Teams (HURT) - Planning and Control*. DARPA Information Exploitation Office, Subcontract to Honeywell Laboratories. PI : George J. Pappas, co-PI(s): Ali Jadbabaie and V. Kumar, \$749,000, June 2004- June 2005
- *Multiple Agents in Groups for Networked, Unmanned Missions (MAGNUM)*. Army Research Office (ARO) DURIP Program PI : George J. Pappas, co-PI(s) : K. Daniilidis, A. Jadbabaie, V. Kumar, C.J. Taylor \$ 282,008, May 2004-May 2005
- *Adaptive Coordinated Control in the Multi-Agent 3D Dynamic Battlefield (ACCLIMATE)* Army Research Office MURI (UC Berkeley, Penn, CMU) PI : S. Sastry, Penn co-PI(s): K. Daniilidis, A. Jadbabaie V. Kumar, G. J. Pappas, C.J. Taylor. \$5,000,000, June 2002-June 2007

Government Panels and Reviews

- Panelist and invited participant NITRD Workshop on Engineered Complex Networks
- Panelist, NSF Expeditions Program, Reverse Site Visit panel
- Panelist and reviewer for NSF Program on Control, Networks and Computational intelligence and PCAN (Jan. 2004, Jan. 2005, May 2006, 2009, 2010, 2011, 2012), NSF Program on Dynamics and Control (May 2006), NSF Program on Cyber Systems, (February 2006), NSF Control Systems Program (February 2007, 2009), Sensor Networks (2012)
- Reviewer for European Research Council
- Reviewer for National Security faculty fellows program
- Reviewer for the Dutch National Science Foundation.
- Reviewer for Canadian Research Council
- Reviewer for Petro Canada Young Innovator Award Program
- Reviewer for Army research Office
- Reviewer for Air Force Office of Scientific Research
- Reviewers for Qatar Science Foundation
- Invited participant, DoD/University of Maryland workshop on adaptive behavior of complex network centric systems
- Panelist, NSF workshop on writing an NSF CAREER proposal, Dec. 2003 and Dec. 2004

Media/Web Coverage

- Philadelphia Inquirer article, "A lifesaving chain, from Hollywood to Philadelphia," http://articles.philly.com/2014-05-25/news/50085669_1_cold-chain-sean-penn-haiti
- Science News Interview, May 2011
- Featured on NSF's website on Knowledge and Distributed Intelligence (KDI) initiative. <http://www.cise.nsf.gov/kdi/people/coord.html>
- Science News magazine feature. May 2007

Citizenship

- US Citizen

Personal Data

- Born in Tehran, Iran. Married to Nikroo Hashemi M.D., MPH

Extracurricular Activities

- Classical Guitar (recordings available at <http://www.seas.upenn.edu/~jadbabai/guitar.html>)
- Advisor to Energize The Chain, a non-profit organization focused on using cellphone towers to power vaccine freezers in off-grid parts of the developing world.
<http://energizethechain.org>