ALI JADBABAIE

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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   **July 2016 - present**
JR East Professor of Engineering
Associate Director, Institute for Data, Systems and Society
Director, Sociotechnical Systems Research Center
Chair, Social and Engineering Systems PhD program
Professor of Civil and Environmental Engineering

Massachusetts Institute of Technology, Cambridge, MA   **Oct. 2014 - Jan 2016**
Associate Director, Institute for Data, Systems and Society
Visiting Professor and Interim Director
Sociotechnical Systems Research Center

University of Pennsylvania, Philadelphia, PA   **July 2013-June 2016**
Alfred Fitler Moore Professor of Network Science
Director, Singh Program in Networked and Social Systems (NETS)

University of Pennsylvania, Philadelphia, PA   **July 2011-June 2016**
Professor of Electrical & Systems Engineering
Secondary Appointments in Computer & Information Sciences
Operations, Information and Decisions (Wharton)

University of Pennsylvania, Philadelphia, PA   Sep 2009-June 2013
Founding Co-director, Raj and Neera Singh Program in
Networked and Social Systems (NETS) at Penn Engineering

University of Pennsylvania, Philadelphia, PA   Feb 2009-June 2011
Skirkanich Associate Professor of Innovation in
Electrical & Systems Engineering

University of Pennsylvania, Philadelphia, PA   July 2008 - Feb 2009
Associate Professor of Electrical and Systems Engineering

University of Pennsylvania, Philadelphia, PA   July 2002 - July 2008
Assistant Professor of Electrical and Systems Engineering

Yale University, New Haven, CT   July 2001 - June 2002
Postdoctoral associate in Electrical Engineering.

California Institute of Technology, Pasadena, CA   Dec. 2000 - June 2001
Postdoctoral scholar in Control and Dynamical Systems

California Institute of Technology, Pasadena, CA   Jan. 1998 - Nov. 2000
Graduate research assistant in Control and Dynamical Systems

University of New Mexico, Albuquerque, NM   Aug. 1996 - Jan. 1998
Graduate research assistant in Electrical Engineering

Kara Systems Inc., Tehran, Iran   May 1995 - Jun. 1996
Control Engineer

Awards and Achievements

- Winner, Best Student Paper Award,(as coauthor), IEEE Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018

- Finalist, Student Best Paper Award, (as co-advisor), IEEE Conference on Decision and Control, Melbourne, Australia, December 2017

- Finalist, Student Best Paper Award, (as advisor), American Control Conference, June 2016

- Member, National Academies Intelligence Science and technology Experts group (IS-TEG), March 2017

- Vannevar Bush Faculty Fellowship, Office of Secretary of Defense, 2016

- Finalist, Student Best Paper Award (as advisor), American Control Conference, 2016

- Class of 2014 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

- Visiting Scientist, Laboratory for Information and Decision Systems, Massachusetts Institute of Technology (Jan-Dec 2014)
- Faculty member, Warren Center for Network and Data Sciences, 2013-2016
- Affiliated Faculty, Center for Technology, Innovation and Cooperation (CTIC) 2014-2016
- Faculty Member, General Robotics, Automation, Sensing and Perception Laboratory (GRASP), University of Pennsylvania. August 2002-June 2016
- Research Affiliate, Department of Electrical Engineering, Yale University. (October 2002- October 2004)

Research Interests

- Network Science
- Network Economics
- Optimization for machine learning
- 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

- MIT, Fall 2017,18
Introduction to Network Models (**new course**)
- MIT, Fall 2016, 2017
IDS.900 Doctoral Seminar in Social and Engineering Systems (co-taught with Prof. Alberto Abadie)
- University of Pennsylvania, Spring 2009, 2010, 2011, 2012, 2013, 2016
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.

Former PhD Students and Placement

- Vassilis Tzoumas (2011-2018), (coadvised with prof. G. Pappas), currently postdoctoral scholar at MIT
- Hoda Heidari (2011-2017), (co-advised with prof. M Kearns), currently postdoctoral scholar at ETH
- Rasul Tutunov (2011-2017), data scientist, Prowler, Cambridge, UK
- M Amin Rahimian, (2012-2017), IDSS postdoctoral scholar
- Shahin Shahrampour (2009-2015), Assistant professor, Department of Systems and Industrial Engineering, Texas A & M University, College Station, TX
- Chinwendu Enyioha (2008-2014), Assistant Professor, Department of Electrical and Computer Engineering, University of Central Florida, Orlando, FL
- Arastoo Fazeli (2008-2014), data scientist at YouTube
- Michael Zargham (2008-2014), Founder, Block Science, formerly, senior Data Scientist at Cross Media Works LLC, Philadelphia, PA

- 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 Staff at Johns Hopkins University Applied Physics Lab, Laurel, MD
- Ali Ahmadzadeh (2003-2008), Quantitative Strategist, Constellation Energy, Baltimore, MD

Former Masters Students and Placement

- Saad Aleem (2013-16), Oracle
- Stamatina Lamprinakou (2013-2014), PhD student at Columbia University
- Angelos Stamatakis (2008-2009), PhD student at Johns Hopkins University
- Alex Stewart (2006-2007), Willow Garage Inc.

Current PhD Students

- Jingzhao Zhang, MIT EECS, co-advised with prof. Suvrit Sra (2017-2022)
- Chulhee (Charlie) Yun, MIT EECS, co-advised with prof. Suvrit Sra (2016-2021)
- Amir Tohidi Kalorazi, MIT Social and Engineering Systems PhD (SES) , (2017-2022)
- Paolo Bertolrtti, MIT Social and Engineering Systems PhD (SES) (2017-2022)
- Chin-Chia Hsu, MIT Social and Engineering Systems PhD (SES) , (2016-2021)
- Andreea Aleksandru (co-advised with prof. George Pappas) (2015-2020)

Current Masters Students

- Manon Revel, Technology and Policy Program (TPP), (2017-19)

Postdoctoral Scholars

- Cesar Urtibe (2018-19)
- Michael Schaub (2017-18) (Marie Curie Fellow)
- Aryan Mokhtari (2018-20), jointly advised with prof. Asuman Ozdaglar
- Milad Siami (2017-19)

Past Postdoctoral Scholars and Placement

- Santiago Segarra (2016-18), Assistant Professor of Electrical and Computer Engineering, Rice University

- Amir Ajorlou (September 2013-2016) currently Research Scientist at Laboratory for Information and Decision Systems
- Ali Kakhbod (September 2012- February 2014), now PhD student a t MIT Economics
- 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

Visitors

- Henri Dellavis, visiting undergraduate student from UCL, Belgium, Fall 2018
- Phillippe Koehler, visiting PhD student from University of Stuttgart, Fall 2018
- 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

Journal Articles (working papers, and papers under review)

1. M Schaub, A. Benson, G Lippner, P. Horn, and A. Jadbabaie, "Random Walks on Simplicial Complexes and Hodge Laplacians," *submitted to SIAM Review*, June 2018
2. V Tzoumas, L Carlone, A. Jadbabaie, and GJ Pappas , "LQG sensing and control co-design," submitted to *IEEE Transactions on Automatic Control*, May 2018
3. A. Jadbabaie, A. Olshevsky, and M Siami," Deterministic and randomized actuator scheduling with guaranteed performance,"submitted to *IEEE Transactions on Automatic Control*, April 2018
4. A. Ajorlou and A. Jadbabaie, "Sales-based Aggregate Rebate Design," *working paper*
5. A. Ajorlou and A. Jadbabaie, "Information aggregation in dynamic games on networks: The role of inter/intra-community ties," *working paper*
6. A. Ajorlou, M. Dahleh, and A. Jadbabaie, "Aggregate learning in networked dynamic games," *working paper*
7. M. A Rahimian, and A. Jadbabaie, "Statistical and Decision Theoretic Foundations for Linear Opinion Dynamics" *working paper*

8. J. Hazla, A. Jadbabaie, E. Mossel, and M. A Rahimian, " Bayesian decision making in groups is hard " submitted for publication, August 2018

9. J. Hazla, A. Jadbabaie, E. Mossel, and M. A Rahimian, " Reasoning in a Bayesian network is PSPACE Hard" working paper

10. S. Segarra, R. Nielsen, A. Jadbabaie, "What Makes Jihadi texts popular?" Revise and Resubmit, *Proceedings of the National Academy of Sciences*, Jan 2018

11. A. R. Benson, R. Abebe, M. Schaub,**A. Jadbabaie** and J. Kleinberg, "Simplicial closure and higher-order link prediction," Revise and resubmit, *Proceedings of the National Academy of Sciences*, January 2018

12. R. Tutunov, H. Bou Ammar, A. Jadbabaie, "A Distributed Newton Method for Large Scale Consensus Optimization," *IEEE Transactions on Automatic Control,* conditionally accepted

13. S Sabau, I-C Morarescu, L. Bosunio, A. Jadbabaie, "Dynamics-Decoupling Control for Strings of Heterogenous Nonlinear," *IEEE Transactions on Automatic Control,* under review

14. A. Ajorlou, A. Jadbabaie, "Local Optimality of Almost Piecewise Linear Quantizers for the Witsenhausen counterexample," Revise and Resubmit *IEEE Transactions on Automatic Control,*

15. R. Tutunov, H. Bou Ammar, and A. Jadbabaie, "Fast, accurate distributed Newton methods for network flow optimization," Minor Revision, *SIAM Journal of Optimization*

16. S. Feizi, H. Quon, M. Medard, M. Kelis, and A. Jadbabaie, "Spectral alignment of networks," revise and resubmit, *IEEE Transactions on Network Science and Engineering*, September 2017

17. A. Jadbabaie, A. Kakhbod, "Optimal contracting in networks," Revision resubmitted, *Journal of Economic Theory*, 2018

Journal Articles (Accepted, Appeared or In Press)

1. A. Jadbabaie and A Olshevsky "Scaling Laws for Consensus Protocols Subject to Noise," *IEEE Transactions on Automatic Control*, forthcoming, 2018

2. A. Jadbabaie , A. Olshevsky, GJ Pappas, and V Tzoumas, " Minimal reachability is hard to approximate," *IEEE Transactions on Automatic Control*, forthcoming, 2018

3. P. Molavi, A. Tahbaz-Salehi, and A. Jadbabaie, "A New theory of Non-Bayesian Social Learning," *Econometrica*, Vol. 86, No. 2, pp. 445-490, March 2018

4. S. Shahrampour and A. Jadbabaie, "Distributed Online Optimization in Dynamic Environments Using Mirror Descent," *IEEE Transactions on Automatic Control* , Vol. 63, No.3, pp.714-725, March 2018

5. A. Ajorlou, A. Jadbabaie, and A. Kakhbod, "Dynamic Pricing in Social Networks: The Word of Mouth Effect" *Management Science*, 64(2):971-979, 2018.

6. M. Amin Rahimian and A. Jadbabaie, "Bayesian Learning without Recall," *IEEE Transactions for Signal and Information processing on Networks, Special Issue on social and Economic Networks*, Vol. 3, No. 3, pp. 592-606, September 2017

7. S. Sabau, C. Oara, S. Warnick, A Jadbabaie, "A Novel Description of Linear Time Invariant Networks via Structured Coprime Factorizations," Vol. 62, No.1, Jan 2017

8. A. Fazeli, A. Ajorlou, and A. Jadbabaie, "Competitive Diffusion in Social Networks: Quality or Seeding," *IEEE Transactions on Control of Network Systems*, Vol. 4, No. 3, pp. 565-575, September 2017

9. S. Shahrampour, A. Rakhlin, A. Jadbabaie, "Distributed Detection : Finite-time Analysis and Impact of Network Topology," *IEEE Transactions on Automatic Control*, Vol. 61, No. 11, November 2016

10. V. Tzoumas, MA Rahimian, G. J. Pappas, A. Jadbabaie, "Minimal Actuator Placement with Bounds on Control Effort," *IEEE Transactions on Control of Network Systems*, March 2016, pp. 66-78.

11. P. Molavi, C. Eksin, A. Ribeiro, and A. Jadbabaie," Learning to coordinate," *Operations Research, Operations Research*, February 2016

12. U. Khan and A. Jadbabaie, "Collaborative scalar-gain estimation with limited sensing information," *Automatica*,Vol. 50, No. 7, pp. 1909-1914, July 2014.

13. 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, April 2014

14. VM Preciado, M Zargham, C Enyioha, GJ Pappas, and 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, 2014.

15. S Martin, A Girard, A. Fazeli, and A. Jadbabaie ,"Multi-agent flocking under general communication rule, *IEEE Transactions on Control of Network Systems*, Vol. 1, No. 2, 2014

16. 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, May 2014.

17. 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

18. V. Preciado, A. Jadbabaie, and 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

19. 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

20. 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

21. 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

22. 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

23. 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

24. 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

25. 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

26. 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

27. 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

28. 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

29. N. Motee and A. Jadbabaie, "Distributed multiparametric quadratic programing," *IEEE Transactions on Automatic Control*, Vol. 54, No. 10, pp. 2279-2289, October 2009

30. 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

31. 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

32. 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.

33. 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.

34. 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.

35. 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.

36. 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.

37. 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**)

38. 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.

39. 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.

40. 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**

41. 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.

42. 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.

43. 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.

44. 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.

45. 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," Flocking in Networked Systems," in *Encyclopedia of Systems and Control*, Springer verlag, London, 2014

- 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. H-T Wai, S. Segarra, A. Scaglione, A. Ozdaglar, and A Jadbabaie, "Community Detection from Low-Rank Excitation of Graph Filters," *Proceedings of the IEEE Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018* (*winner, best student paper award*)

2. A. Jadbabaie, A. Olshevsky, M. Siami, "Limitations and Trade-offs in Input Selection Problems," *Proceedings of the 2018 American Control Conference, ACC 2018*, Milwaukee, WI, June 2018

3. V Tzoumas, L Carlone, A. Jadbabaie, and GJ Pappas , "Sensing-constrained LQG control," *Proceedings of the 2018 American Control Conference, ACC 2018*, Milwaukee, WI, June 2018

4. M Siami and A. Jadbabaie, "Deterministic Polynomial-time Actuator Scheduling with Guaranteed Performance," *Proceedings of the 2018 European Control Conference, ECCD2018*, Limassol, Cyprus, June 2018

5. C. Yun, S. Sra, A. Jadbabaie, "Global Optimality Conditions for Deep Linear Neural Networks," *Proceedings of ICLR 2018*, March 2018

6. V Tzoumas, K Gatsis,**A Jadbabaie**, GJ Pappas, "Resilient, Monotone Submudular Function Minimization," *Proceedings of the IEEE Conference on Decision and Control*, Melbourne, Australia, December 2017 (**Student Best Paper Award Finalist**).

7. S. Segarra, M. Schaub, A. Jadbabaie, "Network Inference from Consensus Dynamics," *Proceedings of the IEEE Conference on Decision and Control*, Melbourne, Australia, December 2017

8. M.A. Rahimian, E. Mossel, A. Jadbabaie, "Complexity of Bayesian Belief Exchange over a Network," *Proceedings of the IEEE Conference on Decision and Control*, Melbourne, Australia, December 2017

9. R. Tutunov, H. BouAmmar, A. Jadbabaie, "Distributed Lifelong Reinforcement Learning with Sub-Linear Regret," *Proceedings of the IEEE Conference on Decision and Control*, Melbourne, Australia, December 2017

10. A. Ajorlou, A. Jadbabaie, M. Dahleh, "Dynamic Public Learning in Networks of Strategic Agents: The Role of Inter/Intra-community Ties," *Proceedings of the IEEE Conference on Decision and Control*, Melbourne, Australia, December 2017

11. A. Alexandru, S. Pequito, GJ. Pappas, A. Jadbabaie, "On the Limited Communication Analysis and Design for Decentralized Estimation," *Proceedings of the IEEE Conference on Decision and Control*, Melbourne, Australia, December 2017

12. A. Ajorlou, A. Jadbabaie, "Price-Guarantees in Ride-Sharing Platforms," *Proceedings of the Allerton Conference on Communications, Control, and Computing*, September 2017

13. V Tzoumas, N. Atanasov, A. Jadbabaie , GJ Pappas, "Scheduling Nonlinear Sensors for Stochastic Process Estimation, " *Proceedings of the American Control Conference*, Seattle, WA, May 2017

14. S. Sabau, IC Morrescu, L Buoniuz, A. Jadbabaie "Decoupled–Dynamics Distributed Control for Strings of Nonlinear Autonomous Agents," *Proceedings of the American Control Conference*, Seattle, WA, May 2017

15. S. Shahrampour, A. Jadbabaie, "An Online Optimization Approach for Multi-Agent Tracking of Dynamic Parameters in the Presence of Adversarial Noise," *Proceedings of the American Control Conference*, Seattle, WA, May 2017

16. S. Shahrampour, S. Rakhlin, A. Jadbabaie, "Multi-armed bandits in multi-agent networks," *Proceedings of the IEEE Conference on Acoustics, Speech and Signal Processing*, ICASSP 2017, New Orleans, LA, March 2017

17. M.A. Rahimian and A. Jadbabaie, "Group decision making and social learning," *Proceedings of the 55th IEEE Conference on Decision and Control*, Las Vegas, December 2016

18. V Tzoumas, **A Jadbabaie**, GJ Pappas, "Near-optimal sensor scheduling for batch state estimation: Complexity, algorithms, and limits," *Proceedings of the 55th IEEE Conference on Decision and Control*, Las Vegas, NV, December 2016

19. R. Tutunov, H. Bouammar, A. Jadbabaie, "An exact distributed newton method for reinforcement learning," *Proceedings of the 55th IEEE Conference on Decision and Control*, Las Vegas, NV, December 2016

20. A. Mokhtari, S. Shahrampour, A. Ribeiro, and A. Jadbabaie, "Online Optimization in Dynamic Environments: Improved Regret Rates for Strongly Convex Problems," *Proceedings of the 55th IEEE Conference on Decision and Control*, Las Vegas, NV, December 2016

21. A. Ajorlou and A. Jadbabaie, "Slopey quantizers are locally optimal for the Witsenhausen counterexample," *Proceedings of the 55th IEEE Conference on Decision and Control*, Las Vegas, NV, December 2016

22. S. Shahrampour and A. Jadbabaie, "Distributed Estimation of Dynamic Parameters: Regret Analysis," *Proceedings of the 2016 American Control Conference*, Las Vegas, NV, December 2016

23. M. A. Rahimian, and A. Jadbabaie, "Learning without recall from the actions of neighbors," *Proceedings of the 2016 American Control Conference* (student best paper Award Finalist).

24. M. A. Rahimian, and A. Jadbabaie, "Naive Social Learning in Ising Networks," *Proceedings of the 2016 American Control Conference*

25. S. Shahrampour and A. Jadbabaie, "Distributed Estimation of Dynamic Parameters: Regret Analysis," *Proceedings of the 2016 American Control Conference*

26. M. A. Rahimian, and A. Jadbabaie, " Learning without recall from the actions of neighbors,"*Proceedings of the 2016 American Control Conference*

27. M. A. Rahimian, and A. Jadbabaie, " Naive Social Learning in Ising Networks,"*Proceedings of the 2016 American Control Conference*

28. S. Sabau, C. Oara, S. Warnick, and A, Jadbabaie, "Optimal distributed control for platooning via sparse coprime factorizations," *Proceedings of the 2016 American Control Conference*

29. V Tzoumas, A. Jadbabaie, GJ Pappas, "Sensor Placement for Optimal Kalman Filtering: Fundamental Limits, Submodularity, and Algorithms,"*Proceedings of the 2016 American Control Conference*

30. R. Tutunov, H. Bouammar, A. Jadbabaie, " Fast, Accurate Second Order Methods for Network Optimization," in *Proceedings of the 2015 IEEE Conference on Decision and Control*, Osaka, japan, December 2015.

31. A. Fazeli, A. Ajorlou, A. Jadbabaie, "Duopoly Budget Allocation in Social Networks: A Nash Analysis Approach," in *Proceedings of the 2015 IEEE Conference on Decision and Control*, Osaka, japan, December 2015.

32. V. Tzoumas, G. J. Pappas, and A. Jadbabaie," Minimal Reachability Problems," in *Proceedings of the 2015 IEEE Conference on Decision and Control*, Osaka, japan, December 2015.

33. M. Amin Rahimian, S. Shahrampour, A. Jadbabaie, " Learning without Recall by Random Walks on Directed Graphs," in *Proceedings of the 2015 IEEE Conference on Decision and Control*, Osaka, japan, December 2015.

34. M. Amin Rahimian and A. Jadbabaie, "Learning without recall: A case for log-linear learning," *Proceedings of the IFAC Workshop on Networked Control Systems,*, Philadelphia, PA, September 2015

35. A. Jadbabaie, R. Rakhlin, S. Shahrampour, K. Sridharan, " Online optimization: competing with dynamic comparators," *Proceedings of AI Stats 2015*

36. M. Amin Rahimian, S. Shahrampour, A. Jadbabaie, "Distributed Learning with Switching Regimes: Bayesian and Non-Bayesian," *Proceedings of the American Control Conference,*, Chicago, IL, July 2015

37. V. Tzoumas, M. A. Rahimian, G. J. Pappas, A. Jadbabaie, "Minimal Actuator Placement with Optimal Control Constraints," *Proceedings of the American Control Conference,*, Chicago, IL, July 2015

38. M.A. Rahimian and A. Jadbabaie, "Memoryless Updates for Exponentially Fast Learning in Directed Circles and Rooted Trees," *Proceedings of the American Control Conference,*, Chicago, IL, July 2015

39. M. Zargham, A. Ribeiro, and A. Jadbabaie, " Discounted Integral Priority Routing For Data Networks," *Proceedings of the 2014 IEEE Global Communications Conference*, GlobeComm 2014, Austin, TX, December 2014

40. A. Ajorlou, A. Kakhbod, and A. Jadbabaie, "Strategic Information Diffusion: Spread vs. Exploit," *ACM SIGMETRICS Performance Evaluation Review*, Volume 42 Issue 3, December 2014, Pages 20-23, Austin, TX

41. A. Fazeli, A. Ajorlou, f A. Jadbabaie, "Optimal Budget Allocation in Social Networks: Quality or Seeding?," *Proceedings of the IEEE Conference on Decision and Control,* December 2014, Los Angeles, CA

42. M.A. Rahimian, P. Molavi, and A. Jadbabaie, "Non Bayesian learning without recall," *Proceedings of the IEEE Conference on Decision and Control,* December 2014

43. 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, Los Angeles, CA

44. 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, Los Angeles, CA

45. S. Shahrampour, A. Rakhlin, A. Jadbabaie, "Online learning of dynamic parameters in social networks", *Proceedings of Advances in Neural Information Processing Systems (NIPS)*, 2013

46. M. Zargham, A. Ribeiro, and A. Jadbabaie, "Accelerated BackPressure Algorithm," *Proceedings of the 2013 IEEE Global Communications Conference*, GlobeComm 2013

47. C. Eksin, P. Molavi, A. Ribeiro, and A. Jadbabaie, " Distributed Filters for Bayesian Network Games," *EUSIPCO 2013*

48. S. Shahrampour 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

49. 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

50. 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

51. 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

52. 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

53. 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

54. 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

55. 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

56. 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

57. 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

58. 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

59. M. Zargham, A. Ribeiro, A. Jadbabaie," Network Optimization Under Uncertainty," *Proceedings of the 2012 IEEE Conference on Decision and Control*, December 2012, Maui, HI

60. A. Fazeli and A. Jadbabaie, "Consensus in martingale graph processes," *Proceedings of the 2012 American Control Conference*, June 2012, Montreal, Canada

61. 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

62. 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

63. 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

64. 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

65. A. Fazeli and A. Jadbabaie, "On consensus in a correlated model of network formation," *2011 IEEE Conference on Decision and Control*, Dec 2011

66. P. Molavi and A. Jadbabaie, "On Non-Bayesian Social learning," submitted to *2011 IEEE Conference on Decision and Control*, Dec. 2011

67. 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

68. 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

69. 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

70. 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

71. 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

72. 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

73. 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

74. 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

75. 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

76. 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

77. N. Motee, A. Jadbabaie, G. Pappas, " Path planning for multiple robots using duality," *Proceedings of the 2010 American Control Conference*, Baltimore, MD, June 2010

78. 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

79. 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

80. 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

81. 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

82. 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**

83. 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

84. 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

85. 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

86. 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.

87. 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

88. 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

89. 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

90. 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

91. 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.

92. 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.

93. 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.

94. 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.

95. 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.

96. 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.

97. 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.

98. 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.

99. 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.

100. 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.

101. 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.

102. 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.

103. 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.

104. 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**.

105. 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.

106. 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.

107. 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.

108. 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.

109. 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.

110. 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.

111. 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.

112. 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.

113. 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.

114. 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.

115. 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.

116. 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.*

117. 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.

118. 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.

119. 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.

120. 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.

121. 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.

122. 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.

123. 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.*

124. 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.

125. 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.

126. A. Jadbabaie, "On Geographic routing without location information," *Proceedings of the IEEE Conference on Decision and Control*, The Bahamas, December 2004.

127. 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.

128. 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.

129. 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.

130. 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.

131. H. Tanner, A. Jadbabaie, and G. Pappas, "Coordination of multiple autonomous vehicles," *proceedings of Mediterranean Control Conference*, Rhodes, Greece, June 2003.

132. A. Jadbabaie, "Distributed coordination strategies for mobile autonomous agents," *proceedings of Mediterranean Control Conference,* Rhodes, Greece, June 2003.

133. 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.

134. 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.

135. 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.

136. 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.

137. 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.

138. 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.

139. 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.

140. 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.

141. 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.

142. 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.

143. 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.

144. 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.

145. Y. Huang and A. Jadbabaie, "Nonlinear H_∞ control: an enhanced quasi-LPV approach," *proceedings of the IFAC World congress*, Beijing, China, July 1999.

146. 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.

147. 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.

148. 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.

149. 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.

150. 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.

151. 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.

152. 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.

Plenary Presentations and Distinguished Seminars

- Distinguished Speaker, Haliburton LIFE Conference, August 2018
- Distinguished Seminar, CornellTech, October 2018
- Distinguished Seminar, University of Delaware, November 2018
- Distinguished Seminar, Department of Industrial Engineering, Purdue University
- Plenary Speaker, Indian Control Conference, January 2018
- Distinguished Seminar, Northwestern University, May 2016
- Plenary Speaker, GE Annual Symposium, GE Research, Schenectady, NY, September 2015
- Plenary speaker, IEEE System of Systems Conference 2015, San Antonio TX, May 2015
- Keynote Speaker, Workshop on Paradigms for Control in Social Systems, ICCS 2015, Iceland

- 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

- Distinguished Seminar, Purdue University, March 2018
- Seminar, University of Southern California, March 2018
- Panelist, Data West Conference, UCSD, December 2016
- Moderator, IDSS Launch Workshop, Panel on Social Networks, September 2016
- Johns Hopkins Carey School of Business, September 2016
- Northwestern University Distinguished Seminar, IE Department, May 2016
- Stanford Research in Algorithms and Incentives on Networks Seminar, April 2016
- Distinguished Seminar, IEEE Philadelphia Section, March 2016
- Tsukuba University Workshop on Management Science and Control
- Applied Mathematics Seminar, Princeton University, November 2015
- Controls Seminar, Coordinated Science Lab, UIUC, October 2015
- IMA Annual Program Year Workshop on Analysis and Control of Network Dynamics, IMA, University of Minnesota
- Yale Institute for Network Science Distinguished Seminar, January 2015
- Control, Instrumentation, and Robotics Seminar, Department of Mechanical Engineering, MIT, September 2015
- Boston University, Center for Information and Systems Engineering, May 2015
- 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

- genral Chair, IFAC Workshop on Networked Control systems, September 2016
- Inaugural Editor-in-Chief, IEEE Transactions on Network Science and Engineering 2014-2017
- 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
- 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, IDSS Search committee on Networked Systems and Connection Science
- Chair, Social and Engineering Systems PhD Program
- Member undergraduate Education Committee, CEE, MIT 2016- present
- Member, CEE Faculty Search Committee, MIT 2016 - present

- Chair, SoE Committee on NAE Grand Scholars Program
- Member, IDSS Launch planning committee, MIT
- Member, committee for the new PhD program in Social and Engineering Systems, MIT
- 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 (CIS), Subrajit Battacharya(MEAM), Benjamin Gojman (CIS), Michael Brautbar (CIS), Jennifer Gillenwater (CIS), Konstantinos Gatsis (ESE), Mahyar Fazlyab (ESE), Aryan Mokhtari (ESE),
- Advisee of more than 20 undergraduate students in Electrical and Systems Engineering at Penn and 5 students at MIT
- 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), Ishan Nerurkar (NETS)

Research Funding

- *MURI Addendum: Topics in Dynamic Games over Networks*, Army Research Office, 2018-19, $500,00

- *Foundations of Scalable Nonconvex Optimization,* DARPA DSO's Lagrange Program, $750,000. PI: A. Jadbabaie CoPIs: Suvrit Sra, Stefanie Jegelka, Sasha Rakhlin

- *Foundations of Scalable Statistical Learning,* DARPA DSO : Fundamental Limits on learning (FunLoL Program, $999,739. PI: A. Jadbabaie. CoPIs: Asu Ozdaglar, Suvrit Sra, Philippe Rigollet, Caroline Uhler, Devavrat Shah, Guy Bresler, Sasha Rakhlin.

- Workshop for the Launch of the Institute for Data, Systems, and Society, Army Research Office, PI: A. Jadbabaie $ 15,000. September 2016

- Workshop for the Launch of the Institute for Data, Systems, and Society, NSF, PI: A. Jadbabaie $ 45,000, September 2016.

- *A New Paradigm for Analysis of Complex, Social and Engineering systems*, 2016-2021, Vannevar Bush (formerlyNSSEFF) Fellowship, Office of Secretary of Defense, 2016-2021, $3,000,000. PI: A. Jadbabaie

- *New Paradigms for Scalable, Online, Distributed Optimization*, 2012-2018, 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, 2013-2018, $1,950,000. PI: A. Jadbabaie. CoPIs: Fan Chung Graham (UCSD), Shing-Tung Yau (Harvard)

Completed Grants

- *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)

- AM^3: *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

- *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.

- 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 Defense 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

- RAND Workshop on Social-Behavioral Modeling and Simulation, April 2017
- 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

- Married to Nikroo Hashemi M.D., MPH

Extracurricular Activities

- Classical Guitar (recordings available at `http://web.mit.edu/∼jadbabai/www/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`