Jason R. Marden

Professor
Department of Electrical and Computer Engineering
University of California, Santa Barbara
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Area of Interest

Feedback control and systems theory. Game theoretic methods for coordination of large scale distributed systems. Application to distributed traffic routing, dynamic resource allocation, and sensor networks.

Education

2007	Doctor of Philosophy in Mechanical and Aerospace Engineering Dissertation: *Learning in Large-Scale Games and Cooperative Control.* *University of California Los Angeles* Advisor: Jeff S. Shamma
2004	Master of Science in Mechanical and Aerospace Engineering Thesis: *Coordination of Multiple Agents Using Neuro-Dynamic Programming.* *University of California Los Angeles*
2001	Bachelor of Science in Mechanical Engineering (Cum Laude) *University of California Los Angeles*

Academic Appointments

2020–present	***Professor***. Department of Electrical and Computer Engineering, University of California, Santa Barbara.
2016–2020	***Associate Professor***. Department of Electrical and Computer Engineering, University of California, Santa Barbara.
2015–2016	***Assistant Professor***. Department of Electrical and Computer Engineering, University of California, Santa Barbara.
2010–2015	***Assistant Professor***. Department of Electrical, Computer and Energy Engineering, University of Colorado at Boulder.
2007–2009	***Junior Fellow***. Social and Information Sciences Laboratory, California Institute of Technology.

Awards and Honors

2023	Fellow, Industry Academy of the International Artificial Intelligence Industry Alliance (AIIA).
2023	Fellow, Institute of Electrical and Electronics Engineers (IEEE).
2023	Fellow, Asia-Pacific Artificial Intelligence Association (AAIA).
2022	Plenary Speaker, European Control Conference.
2021	Plenary Speaker, International Conference on NETwork Games, Control and Optimisation.
2020	Best Student Paper Finalist (Advisor for B. Ferguson), American Control Conference

2017	Best Student Paper Finalist (Advisor for P. Brown, co-Advisor for J. Poveda), Conference on Decision and Control
2016	Best Student Paper Finalist (Advisor for P. Brown), Conference on Decision and Control
2015	SIAG/CST Best SICON Paper Prize. *Awarded once every two years to best paper in the SIAM Journal on Control and Optimization.*
2015	Office of Naval Research Young Investigator Award.
2015	Outstanding Junior Faculty Award, University of Colorado.
2014	Career Award, National Science Foundation.
2013	Semi-Plenary speaker, American Control Conference.
2013	Dean's Faculty Fellowship, University of Colorado.
2012	Donald P. Eckman Award given by the American Automatic Control Council. *Awarded annually to the top researcher under the age of 35 in the field of automatic control.*
2012	Air Force Young Investigator Award.
2011	Best Student Paper Finalist (Advisor for Na Li), Conference on Decision and Control.
2009	Keynote Speaker, ALADDIN Game Theory Workshop, University of Bristol.
2007	Outstanding Graduating PhD Student in Mechanical Engineering, UCLA.
2007	Post-Doctoral Fellowship, Caltech. Social and Information Sciences Laboratory.
2001	Graduate Fellowship, UCLA. Department of Mechanical and Aerospace Engineering.
2001	Raytheon Excellent Achievement Award.

Funded Research Projects

1. "Harnessing the Potential of AI in Industrial Refrigeration Systems PI: Jason R. Marden, co-PI: Mahnoosh Alizadeh (UCSB), Jesse Crossno (CrossnoKaye), and Alex Woolf (Lineage Solutions), California Energy Commission, 9/1/24–3/31/27, $2,420,982.

2. "Resource Allocation in Complex Adversarial Environment PI: Jason R. Marden, co-PI: Francesco Bullo, Air Force Office of Scientific Research, 5/1/21–9/31/24, $750,000.

3. "Strategic Mechanism Design for Multiagent Coordination PI: Jason R. Marden, Distributed and Collaborative Intelligent Systems and Technology (DCIST) Collaborative Research Alliance (through Univ. of Pennsylvania) no Co-PIs, 3/1/21–2/28/23, $200,000.

4. "Multiagent Systems: The Interplay Between Architecture and Performance" PI: Jason R. Marden, no Co-PIs, Air Force Office of Scientific Research, 6/1/20–5/31/23, $510,000.

5. "A Theory for Allocating Autonomous Systems" PI: Jason R. Marden, no Co-PIs, Office of Naval Research, 5/5/20–5/4/23, $482,822.

6. "Mortarium Fluidum" PI: Jason R. Marden, no Co-PIs, DARPA through Synoptic Engineering, 12/2/19–10/1/21, $157,740.

7. "ONR YIP: Inherent Trade-offs in Multiagent Coordination" PI: Jason R. Marden, no Co-PIs, Office of Naval Research Young Investigator Award, 4/1/16–12/31/19, $510,000.

8. "NSF CAREER: Game Theoretic Methods for Multiagent Coordination," PI: Jason R. Marden, no Co-PIs, National Science Foundation, 4/1/14–12/31/19, $400,000.

9. "CU14-01 Information and Distributed Optimization," PI: Jason R. Marden, Co-PIs Eric W. Frew, Industry Advisory Board for the Center for Unmanned Aircraft Systems (CUAS), 9/1/14–8/31/15, $60,000.

10. "CU13-06A Guidance and Control for a UAS Providing Communication Services," PI: Eric Frew, Co-PIs Timothy Brown and Jason R. Marden, Industry Advisory Board for the Center for Unmanned Aircraft Systems (CUAS), 9/1/13–8/31/14, $80,000.

11. "The Role of Information in Distributed Control," PI: Jason R. Marden, no Co-PIs, Office of Naval Research, 4/1/12–3/31/15, $510,000.

12. "AFOSR YIP: Game Engineering – A Multiagent Systems Perspective," PI: Jason R. Marden, no Co-PIs, AFOSR Young Investigator Award, 7/1/12–6/31/15, $382,000.

13. "An Innovative Approach to the Design and Control of Wind Farms," PI: Jason R. Marden, Co-PI Lucy Y. Pao, Center for Research and Education in Wind (CREW), 6/1/11–5/31/12, $25,000.

14. "Distributed learning and information dynamics in networked autonomous systems," PI: Jason R. Marden, AFOSR/MURI, subcontract through Johns Hopkins, 6/1/10 – 9/30/11, $75,846.

Book Chapters

1. D. Paccagnan, R. Chandan, and J.R. Marden, "Utility and Mechanism Design in Multiagent Systems: an Overview," *Annual Reviews in Control*, Volume 53, Pages 315-328, 2022. [PDF]

2. J.R. Marden and J.S. Shamma, "Game Theory and Control," *Annual Review of Control, Robotics, and Autonomous Systems*, Volume 1, 2018. [PDF]

3. J.R. Marden and J.S. Shamma, "Game Theoretic Learning in Distributed Control," *Handbook of Dynamic Game Theory*, Pages 1-36, 2017. [PDF]

4. J.R. Marden and J.S. Shamma, "Game Theory and Distributed Control," *Handbook of Game Theory*, Volume IV, edited by Peyton Young and Shmuel Zamir, Elsevier Science, Volume 4, Pages 861-899, 2015. [PDF]

Journal Publications

1. R. Chandan, D. Paccagnan, and J.R. Marden, "The Anarchy-Stability Tradeoff in Congestion Games," 2024 (under review). [PDF]

2. K. Paarporn, R.Chandan, M. Alizadeh, and J.R. Marden, "Incomplete and asymmetric information in General Lotto games," 2024 (under review).

3. R. Chandan, D. Paccagnan, and J.R. Marden, "Methodologies for Quantifying and Optimizing the Price of Anarchy," IEEE Transactions on Automatic Control, 2024 (to appear). [PDF]

4. R. Konda, R. Chandan, D. Grimsman, and J.R. Marden , "Optimal Design of Best Response Dynamics in Resource Allocation Games," IEEE Transactions on Automatic Control, 2024 (to appear). [PDF]

5. K. Paarporn, R. Chandan, D. Kovenock, M. Alizadeh, and J.R. Marden, "Strategically Revealing Intentions in General Lotto Games," IEEE Transactions on Automatic Control, 2024 (to appear). [PDF]

6. A. Aghajan, K. Paarporn, and, J.R. Marden, "Extension Theorems for General Lotto Games With Applications to Network Security," IEEE Transactions on Control of Networked Systems, Volume 11, Issue 1, Pages 185-196, March 2024. [PDF]

7. B.L. Ferguson, P.N. Brown, and J.R. Marden , "Information Signalling with Concurrent Monetary Incentives in Bayesian Congestion Games," IEEE Transactions on Intelligent Transportation Systems, Volume 25, Issue 7, Pages 8028-8041, 2024. [PDF]

8. B.L. Ferguson and J.R. Marden , "Robust Utility Design in Distributed Resource Allocation Problems with Defective Agents," Dynamic Games and Applications (DGAA), Volume 13, Pages 208-230, 2023. [PDF]

9. P.N. Brown, J. Seaston, and J.R. Marden , "Robust Networked Multiagent Optimization: Designing Agents to Repair Their Own Utility Functions," Dynamic Games and Applications (DGAA), Volume 13, Pages 187-207, March 2023. [PDF]

10. B.L. Ferguson, P.N. Brown, and J.R. Marden , "Value of Information in Incentive Design: A Case Study in Simple Congestion Networks," IEEE Transactions on Computational Social Systems, Volume 10, Issue 6, Pages 3077-3088, 2023. [PDF]

11. D. Grimsman, M. Kirchner, J.P. Hespanha, and J.R. Marden, "The Impact of Measurement Passing in Sensor Network Measurement Selection," IEEE Transactions on Control of Network Systems, Volume 10, Issue 1, March 2023. [PDF]

12. B. Ferguson, D. Paccagnan, and J.R. Marden, "The Cost of Informing Decision-Makers in Multi-Agent Maximum Coverage Problems with Random Resource Value," IEEE Control Systems Letters, Volume 7, Pages 2928-2933, 2023. [PDF]

13. G. Diaz-Garcia, F. Bullo, and J.R. Marden, "Distributed Markov Chain-based Strategies for Multi-Agent Robotic Surveillance," IEEE Control Systems Letters, Volume 7, Pages 2527-2532, 2023. [PDF]

14. R. Yan, X. Duan, Z. Shi, Y. Zhong, J.R. Marden, and F. Bullo , Policy Evaluation and Seeking for Multi-Agent Reinforcement Learning based on Strict Best Response Dynamics, *IEEE Transactions on Automatic Control*, Volume 67, Issue 4, Pages 1898-1913, 2022. [PDF]

15. V. Ramaswamy, D. Paccagnan and J.R. Marden, "Multiagent Maximum Coverage Problems: The Tradeoff Between Anarchy and Stability," *IEEE Transactions on Automatic Control*, Volume 67, Issue 4, Pages 1698-1712, 2022. [PDF]

16. B.L. Ferguson, P.N. Brown, and J.R. Marden , The Effectiveness of Subsidies and Tolls in Congestion Games, *IEEE Transactions on Automatic Control*, Volume 67, Issue 6, Pages 2729-2742, 2022. [PDF]

17. S. Wang, L. Diang, and J.R. Marden, Learning in Potential Games for Electric Power Grids: Models, Dynamics, and Outlook, *IEEE Systems Journal*, Volume 16, Issue 3, Pages 5079-5091, 2022. [PDF]

18. K. Paarporn, R. Chandan, M. Alizadeh, J.R. Marden, "Asymmetric battlefield uncertainty in General Lotto games," IEEE Control Systems Letters, Volume 6, Pages 2822-2827, 2022. [PDF]

19. D. Paccagnan and J.R. Marden, "Utility Design for Distributed Resource AllocationPart II: Applications to Submodular, Covering, and Supermodular Problems," *IEEE Transactions on Automatic Control*, Volume 67, Issue 2, Pages 618-632, 2022. [PDF]

20. B.L. Ferguson, P.N. Brown, and J.R. Marden, The Effectiveness of Subsidies and Tolls in Atomic Congestion Games, IEEE Control Systems Letters, Pages 614-619, 2021. [PDF]

21. D. Paccagnan, R. Chandan, B.L. Ferguson, and J.R. Marden, Optimal Taxes in Atomic congestion games, ACM Transactions on Economics and Computation (TAEC), Volume 9, Issue 3, Pages 1-33, 2021. [PDF]

22. K. Paarporn, B. Canty, P.N. Brown, M. Alizadeh, and J.R. Marden, "The impact of complex and informed adversarial behavior in graphical coordination games," *IEEE Transactions on Control of Networked Systems*, Volume 8, Issue 1, Pages 200-211, 2021. [PDF]

23. K. Paarporn, M. Alizadeh and J.R. Marden, "A risk-security tradeoff in graphical coordination games," *IEEE Transactions on Automatic Control*, Volume 66, Issue 5, Pages 1973-1985, 2021. [PDF]

24. P.N. Brown and J R. Marden, "Can Taxes Improve Congestion on all Networks?", *IEEE Transactions on Control of Networked Systems*, Volume 7, Issue 4, Pages 1643-1653, 2020. [PDF]

25. D. Paccagnan, R. Chandan, J.R. Marden, "Utility Design for Distributed Resource AllocationPart I: Characterizing and Optimizing the Exact Price of Anarchy," *IEEE Transactions on Automatic Control*, Volume 65, Issue 11, Pages 4616-4631, 2020. [PDF]

26. D. Grimsman, M.S. Ali, J.P. Hespanha, and J.R. Marden, "The Impact of Information in Distributed Submodular Maximization," *IEEE Transactions on Control of Networked Systems*, Volume 6, Issue 4, Pages 1334-1343, 2019. [PDF]

27. D. Paccagnan and J.R. Marden, "The Importance of System-Level Information in Multiagent Systems Design: Cardinality and Covering Problems," *IEEE Transactions on Automatic Control*, Volume 64, Issue 8, Pages 3253-3267, 2019. [PDF]

28. P.N. Brown, H. Borowski and J.R. Marden, "Security Against Impersonation Attacks in Distributed Systems," *IEEE Transactions of Networked Control Systems*, Volume 6, Issue 1, Pages 440-450, 2019. [PDF]

29. H. Borowski, J.R. Marden, and J.S. Shamma, "Learning Efficient Correlated Equilibrium," *Dynamic Games and Applications*, Volume 9, Pages 24-46, 2019. [PDF]

30. M. Phillips and J.R. Marden, "Design Tradeoffs in Concave Cost-Sharing Games," *IEEE Transactions on Automatic Control*, Volume 63, Issue 7, Pages 2242-2247, 2018. [PDF]

31. P.N. Brown and J.R. Marden, "Optimal Mechanisms for Robust Coordination in Congestion Games," *IEEE Transactions on Automatic Control*, Volume 63, Issue 8, Pages 2437-2448, 2018. [PDF]

32. P.N. Brown and J.R. Marden, "Studies on Robust Social Influence Mechanisms, Incentives for Efficient Network Routing in Uncertain Settings," *IEEE Control Systems Magazine*, Volume 37, Issue 1, Pages 98-115, 2017. [PDF]

33. J.R. Marden, "Selecting Efficient Correlated Equilibria Through Distributed Learning," *Games and Economic Behavior*, Volume 106, Pages 114-133, 2017. [PDF]

34. P.N. Brown and J.R. Marden, "The Robustness of Marginal-Cost Taxes in Affine Congestion Games," *IEEE Transactions on Automatic Control*, Volume 62, Issue 8, Pages 3999-4004, 2017. [PDF]

35. J.R. Marden, "The Role of Information in Distributed Resource Allocation," *IEEE Transactions on Control of Networked Systems*, Volume 4, Issue 3, Pages 654-664, 2017. [PDF]

36. H. Borowski and J.R. Marden, "Fast Convergence in Semianonymous Potential Games," *IEEE Transactions on Control of Networked Systems*, Volume 4, Issue 2, Pages 246-258, 2017. [PDF]

37. P. Gebraad, F. W. Teeuwisse, J.W. van Wingerden, P.A. Fleming, S.D. Ruben, J.R. Marden, L.Y. Pao, "Wind plant power optimization through yaw control using a parametric model for wake effects – a CFD simulation study," *Wind Energy*, Volume 19, Issue 1, Pages 95-114, 2016. [PDF]

38. J.R. Marden, H.P. Young, and L.Y. Pao, "Achieving Pareto Optimality Through Distributed Learning," *SIAM Journal on Control and Optimization*, Volume 52, Issue 2, Pages 2753-2770, 2014. [PDF] **[SIAM/CST Best Sicon Paper Prize]**

39. R. Gopalakrishnan, J.R. Marden, and A. Wierman, "Potential Games are Necessary to Ensure Pure Nash Equilibria in Cost Sharing Games," *Mathematics of Operations Research*, Volume 39, Number 4, Pages 1252-1296, 2014. [PDF]

40. N. Li and J.R. Marden, "Decoupling Coupled Constraints Through Utility Design," *IEEE Transactions on Automatic Control*, Volume 59, Issue 8, Pages 2289-2294, 2014. [PDF]

41. J.R. Marden and T. Roughgarden, "Generalized Efficiency Bounds in Distributed Resource Allocation," *IEEE Transactions on Automatic Control*, Volume 59, Number 3, Pages 571-584, 2014. [PDF]

42. N. Li and J.R. Marden, "Designing Games for Distributed Optimization," *IEEE Journal of Selected Topics in Signal Processing*, special issue on Adaptation and Learning over Complex Networks, Volume 7, Number 2, Pages 230-242, 2013. [PDF]

43. J.R. Marden, S. Ruben, and L.Y. Pao, "A Model-Free Approach to Wind Farm Control Using Game Theoretic Methods," *IEEE Transactions on Control Systems Technology* special issue "to tame the wind: advanced control applications in wind energy," Volume 21, Number 4, Pages 1207-1214, 2013. [PDF]

44. J.R. Marden and A. Wierman, "Distributed Welfare Games," *Operations Research*, Volume 61, Issue 1, Pages 155-168, 2013. [PDF]

45. J.R. Marden and A. Wierman, "Overcoming The Limitations of Utility Design for Multiagent Systems," *IEEE Transactions on Automatic Control*, Volume 58, Number 6, Pages 1402-1415, 2013. [PDF]

46. J.R. Marden, "State Based Potential Games," *Automatica*, Volume 48, Pages 3075-3088, 2012. [PDF]

47. J.R. Marden and J.S. Shamma, "Revisiting Log-Linear Learning: Asynchrony, Completeness and a Payoff-based Implementation," *Games and Economic Behavior*, Volume 75, Issue 2, Pages 788-808, 2012. [PDF]

48. J.R. Marden and M. Effros, "The Price of Selfishness in Network Coding," *IEEE Transactions on Information Theory*, Volume 58, Issue 4, Pages 2349-2361, 2012. [PDF]

49. R. Gopalakrishnan, J.R. Marden, and A. Wierman, "An architectural view of game theoretic control," *ACM Sigmetrics Performance Evaluation Review*, Volume 38, Number 3, Pages 31-36, 2011. [PDF]

50. J.R. Marden, G. Arslan and J.S. Shamma, "Cooperative Control and Potential Games," *IEEE Transactions on Systems, Man and Cybernetics. Part B: Cybernetics*, Volume 39, Issue 6, Pages 1393-1407, 2009. [PDF]

51. J.R. Marden, H.P. Young, G. Arslan, and J.S. Shamma, "Payoff Based Dynamics for Multi-Player Weakly Acyclic Games," *SIAM Journal on Control and Optimization*, special issue on "Control and Optimization in Cooperative Networks," Volume 48, Issue 1, Pages 373-396, 2009. [PDF]

52. J.R. Marden, G. Arslan and J.S. Shamma, "Joint Strategy Fictitious Play with Inertia for Potential Games," *IEEE Transactions on Automatic Control*, Volume 54, Issue 2, Pages 208-220, 2009. [PDF]

53. G. Arslan, J.R. Marden and J.S. Shamma, "Autonomous Vehicle-Target Assignment: A Game Theoretical Formulation," *ASME Journal of Dynamic Systems, Measurement and Control*, Volume 129, Issue 5, Pages 584-596, 2007. [PDF]

Proceedings of Refereed Conferences

1. V. Shah, B.L. Ferguson, and J.R. Marden, "Learning Optimal Stable Matches in Decentralized Markets with Unknown Preferences," IEEE Conference on Decision and Control, 2024. [PDF]

2. B.L. Ferguson, D. Paccagnan, B, Pradelski, and J.R. Marden, "Bridging the Gap Between Central and Local Decision-Making: The Efficacy of Collaborative Equilibria in Altruistic Congestion Games," IEEE Conference on Decision and Control, 2024. [PDF]

3. R. Konda, V. Chandan, J. Crossno, B. Pollard, D. Walsh, R. Bohonek, and J.R. Marden, "Utilizing Load Shifting for Optimal Compressor Sequencing in Industrial Refrigeration," American Control Conference, 2024. [PDF]

4. T. Iwase, D. Paccagnan, A. Beynier, N. Bredeche, N. Maudet, and J.R. Marden, "Is Limited Information Enough? An Approximate Multi-agent Coverage Control in Non-Convex Discrete Environments," 23rd International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), 2024. [PDF] [25% acceptance rate]

5. V. Shah and J.R. Marden, "Battlefield transfers in coalitional Blotto games," 23rd International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), 2024. [PDF] [25% acceptance rate]

6. R. Chandan, K. Paarporn, D. Kovenock, M. Alizadeh, and J.R. Marden, "The Art of Concession in General Lotto Games," International Conference on Game Theory for Networks (GameNets), 2023. [PDF]

7. B.L. Ferguson, D. Paccagnan, B.S.Pradelski, and J.R. Marden, "Collaborative Coalitions in Multi-Agent Systems: Quantifying the Strong Price of Anarchy for Resource Allocation Games," IEEE Conference on Decision and Control, 2023. [PDF]

8. R. Konda, R. Chandan, and J.R. Marden, "Quality of Non-Convergent Best Response Processes in Multi-Agent Systems through Sink Equilibrium," IEEE Conference on Decision and Control, 2023. [PDF]

9. R. Zhang, Y. Zhang, R. Konda, B.L. Ferguson, J.R. Marden, and N. Li, "Markov Games with Decoupled Dynamics: Price of Anarchy and Sample Complexity," IEEE Conference on Decision and Control, 2023. [PDF]

10. G. Diaz-Garcia, F. Bullo, and J.R. Marden, "Beyond the 'Enemy-of-my-Enemy' Alliances: Coalitions in Networked Contest Games," IEEE Conference on Decision and Control, 2023. [PDF]

11. A. Aghajan, K. Paarporn, and J. R. Marden, "Equilibrium characterizations of asymmetric Majoritarian contests," IFAC-PapersOnLine (IFAC World Congress), Volume 56, Issue 2, Pages 2811-2816, 2023. [PDF]

12. A. Aghajan, K. Paarporn, and J. R. Marden, "Equilibrium characterizations of multi-resource Lotto games," IFAC-PapersOnLine (IFAC World Congress), Volume 56, Issue 2, Pages 2805-2810, 2023. [PDF]

13. A. Chen, B.L. Ferguson, D. Shishika, M. Dorothy, J.R. Marden, G.J. Pappas, V. Kumar, "Path Defense in Dynamic Defender-Attacker Blotto Games (dDAB) with Limited Information," *American Control Conference*, 2023. [PDF]

14. A. Aghajan, K. Paarporn, and J.R. Marden, "A Weakest-link Extension Theorem for General Lotto Games," *American Control Conference*, 2023. [PDF]

15. K. Paarporn, R. Chandan, D. Kovenock, M. Alizadeh, and J.R. Marden, "Analyzing pre-commitment strategies in General Lotto games," *American Control Conference*, 2023. [PDF]

16. Y. Chen, D.E. Ochoa, J.R. Marden, and J.I. Poveda, "High-Order Decentralized Pricing Dynamics for Congestion Games: Harnessing Coordination to Achieve Acceleration," *American Control Conference*, 2023. [PDF]

17. M. Kirchner, D. Grimsman, J. Hespanha, and J.R. Marden, "Trajectories for the Optimal Collection of Information," *IEEE Aerospace Conference*, 2023. [PDF]

18. B.L. Ferguson, P.N. Brown, and J.R. Marden, "Avoiding Unintended Consequences: How Incentives Aid Information Provisioning in Bayesian Congestion Games," *IEEE Conference on Decision and Control*, 2022. [PDF]

19. R. Chandan, K Paarporn, M. Alizadeh, and J.R. Marden, "Strategic investments in multi-stage General Lotto games," *IEEE Conference on Decision and Control*, 2022. [PDF]

20. A. Aghajan, K Paarporn, and J.R. Marden, "A General Lotto Game over Networked Target," *IEEE Conference on Decision and Control*, 2022. [PDF]

21. D. Grimsman, P.N. Brown, and J.R. Marden, "Valid Utility Games with Information Sharing Constraints," *IEEE Conference on Decision and Control*, 2022. [PDF]

22. B. Ferguson, D. Shishika, and J.R. Marden, "Ensuring the Defense of Paths and Perimeters in Dynamic Defender-Attacker Blotto Games (dDAB) on Graphs," *Allerton Conference on Communication, Control, and Computing*, 2022. [PDF]

23. A. Aghajan, K Paarporn, and J.R. Marden, "Managing Resources in Multi-resource General Lotto Games," *Allerton Conference*, 2022. [PDF]

24. R. Konda, R. Chandan, D. Grimsman, and J.R. Marden, "Balancing Asymptotic and Transient Efficiency Guarantees in Set Covering Games," *American Control Conference*, 2022. [PDF]

25. K. Paarporn, R. Chandan, M. Alizadeh, and J.R. Marden, "The importance of randomization in resource assignment problems," *American Control Conference*, 2022. [PDF]

26. R. Konda, D. Grimsman, and J.R. Marden, "Execution Order Matters in Greedy Algorithms with Limited Information," *American Control Conference*, 2022. [PDF]

27. R. Chandan, D. Paccagnan, and J.R. Marden, "The Tension Between Anarchy and Stability in Congestion Games," *American Control Conference*, 2022. [PDF]

28. B.L. Ferguson and J.R. Marden, "Robust Utility Design in Distributed Resource Allocation Problems with Defective Agents," *IEEE Conference on Decision and Control*, 2021. [PDF]

29. R. Konda, R. Chandan, and J.R. Marden, "Mission Level Uncertainty in Multi-Agent Resource Allocation," *IEEE Conference on Decision and Control*, 2021. [PDF]

30. K. Paarporn, R. Chandan, M. Alizadeh, and J.R. Marden, "The Division of Assets in Multiagent Systems: A Case Study in Team Blotto Games," *IEEE Conference on Decision and Control*, 2021. [PDF]

31. Y. Yue, B.L. Ferguson, and J.R. Marden, "Incentive Design for Congestion Games with Unincentivizable Users," *IEEE Conference on Decision and Control*, 2021. [PDF]

32. R. Chandan, K. Paarporn, and J.R. Marden. "When showing your hand pays off: Announcing strategic intentions in Colonel Blotto games," *American Control Conference*, 2021. [PDF]

33. B.L. Ferguson, and J.R. Marden, "The Impact of Fairness on Performance in Congestion Networks," *American Control Conference*, 2021. [PDF]

34. R. Chandan, D. Paccagnan, and J.R. Marden. "Tractable mechanisms for computing near-optimal utility functions," *20th International Conference on Autonomous Agents and Multiagent Systems*, 2021. [PDF]

35. D. Grimsman, J. Seaton, J.R. Marden, and P.N. Brown, "The Cost of Denied Observation in Multiagent Submodular Optimization," *IEEE Conference on Decision and Control*, 2020. [PDF]

36. D. Grimsman, M. Kirchner, J.P. Hespanha, and J.R. Marden, "The Impact of Message Passing in Agent-Based Submodular Maximization," *IEEE Conference on Decision and Control*, 2020. [PDF]

37. R. Chandan, K. Paarporn, and J.R. Marden. "When showing your hand pays off: Announcing strategic intentions in Colonel Blotto games," *American Control Conference*, 2020. [PDF]

38. B.L. Ferguson, P.N. Brown, and J.R. Marden. "Carrots or Sticks? The Effectiveness of Subsidies and Tolls in Congestion Games," *American Control Conference*, 2020. **[Best Student Paper Finalist]** [PDF]

39. H. Sun, D. Grimsman, and J.R. Marden, "Distributed Submodular Maximization with Parallel Execution," *American Control Conference*, 2020. [PDF]

40. D. Grimsman, J.P. Hespanha, and J.R. Marden, "Stackelberg Equilibria for Two-Player Network Routing Games on Parallel Networks," *American Control Conference*, 2020. [PDF]

41. R. Chandan, D. Paccagnan and J.R. Marden, "When Smoothness is Not Enough: Toward Exact Quantification and Optimization of the Price-of-Anarchy," *IEEE Conference on Decision and Control*, 2019. [PDF]

42. B.L. Ferguson, P.N. Brown and J.R. Marden, "Utilizing Information Optimally to Influence Distributed Network Routing," *IEEE Conference on Decision and Control*, 2019. [PDF]

43. K. Paarporn, R. Chandan, M. Alizadeh and J.R. Marden, "Characterizing the interplay between information and strength in Blotto games," *IEEE Conference on Decision and Control*, 2019. [PDF]

44. K. Paarporn, M. Alizadeh and J.R. Marden, "Risk and security tradeoffs in graphical coordination games," *IEEE Conference on Decision and Control*, 2019. [PDF]

45. R. Chandan, D. Paccagnan, B.L. Ferguson, and J.R. Marden, "Computing Optimal Taxes in Atomic Congestion Games," *14th Workshop on the Economics of Networks, Systems and Computation (NetEcon)*, 2019. [PDF]

46. V. Ramaswamy, D. Paccagnan, and J.R. Marden, "Multiagent Maximum Coverage Problems: The Trade-Off between Anarchy and Stability," *European Control Conference*, 2019. [PDF]

47. P.N. Brown and J.R. Marden, "On the Feasibility of Local Utility Redesign for Multiagent Optimization," *European Control Conference*, 2019. [PDF]

48. R. Chandan, D. Paccagnan, and J.R. Marden, "Optimal Price of Anarchy in Cost-Sharing Games," *American Control Conference*, 2019. [PDF]

49. P.N. Brown and J.R. Marden, "Projecting Network Games Onto Spare Graphs," *Asilomar Conference on Signals, Systems, and Computers*, 2018. [PDF]

50. D. Grimsman, J.R. Marden, J.P. Hespanha, "Strategic Information Sharing in Greedy Submodular Maximization," *IEEE Conference on Decision and Control*, 2018. [PDF]

51. B. Canty, P.N. Brown, M. Alizadeh, and J.R. Marden, "The Impact of Informed Adversarial Behavior in Graphical Coordination Games," *IEEE Conference on Decision and Control*, 2018. [PDF]

52. E. Jensen and J.R. Marden, "Optimal Utility Design in Convex Distributed Welfare Games," *American Control Conference*, 2018. [PDF]

53. D. Paccagnan and J.R. Marden, "The risks and rewards of conditioning noncooperative designs to additional information", *Allerton Conference*, 2018. [PDF]

54. P.N. Brown and J.R. Marden, "Studies on Mechanisms for Robust Social Influence," *IEEE Conference on Control Technology and Applications (CCTA)*, 2017. [PDF]

55. P.N. Brown and J.R. Marden, "The Benefit of Perversity in Taxation Mechanisms for Distributed Routing," *IEEE Conference on Decision and Control*, 2017. [PDF]

56. D. Grimsman, M.S. Ali, J.P. Hespanha, and J.R. Marden, "Impact of Information in Greedy Submodular Maximization," *IEEE Conference on Decision and Control*, 2017. [PDF]

57. J.I. Poveda, P.N. Brown, J.R. Marden, and A. Teel, "A Class of Distributed Adaptive Pricing Mechanisms for Societal Systems with Limited Information," *IEEE Conference on Decision and Control*, 2017. **[Best Student Paper Finalist]** [PDF]

58. C. Possieri and J.R. Marden, "Population Games on 2-simplex: existence and efficiency of Nash equilibria," *20th IFAC World Congress*, 2017. [PDF]

59. P.N. Brown and J.R. Marden, "Fundamental Limits of Locally-Computed Incentives in Network Routing,"*American Control Conference*, 2017. [PDF]

60. J.R. Marden and M. Philips, "Optimizing the Price of Anarchy in Concave Cost Sharing Games," *American Control Conference*, 2017. [PDF]

61. P.N. Brown and J.R. Marden, "Avoiding Perverse Incentives in Affine Congestion Games," *Conference on Decision and Control*, 2016. **[Best Student Paper Finalist]** [PDF]

62. M. Philips, Y. Shalaby, and J.R. Marden, "The Importance of Budget in Efficient Utility Design," *Conference on Decision and Control*, 2016. [PDF]

63. P. Brown and J.R. Marden, "A Study on Price Discrimination for Robust Social Coordination," *American Control Conference*, 2016. [PDF]

64. V. Ramaswamy and J.R. Marden, "A Sensor Coverage Game with Improved Efficiency Guarantees," *American Control Conference*, 2016. [PDF]

65. J.R. Marden, B. Touri, R. Gopalakrishnan, and J.P. O'Brien, "The impact of information in a simple multiagent collaborative task," *Conference on Decision and Control*, 2015. [PDF]

66. H. Borowski and J.R. Marden, "Understanding the Influence of Adversaries in Distributed Systems," *Conference on Decision and Control*, 2015. [PDF]

67. P.N. Brown and J.R. Marden, "Optimal Mechanisms for Robust Coordination in Congestion Games," *Conference on Decision and Control*, 2015. [PDF]

68. J.R. Marden, "Selecting Efficient Correlated Equilibria Through Distributed Learning," *American Control Conference*, 2015. [PDF]

69. J.R. Marden, "The Role of Information in Multiagent Coordination," *Conference on Decision and Control*, 2014. [PDF]

70. H. Borowski, J.R. Marden, and J.S. Shamma, "Learning Efficient Correlated Equilibria," *Conference on Decision and Control*, 2014. [PDF]

71. R. Gopalakrishnan, S. Nixon, J.R. Marden, "Stable Utility Design for Distributed Resource Allocation," *Conference on Decision and Control*, 2014. [PDF]

72. H. Borowski and J.R. Marden, "Fast Convergence for Time-Varying Semi-Anonymous Potential Games," *American Control Conference*, 2014. [PDF]

73. P. Gebraad, F. Teeuwisse, J.W. van Wingerden, P. Fleming, S. Ruben, J.R. Marden, L.Y. Pao, "A Data-Driven Model for Wind Plant Power Optimization by Yaw Control", *American Control Conference*, 2014. [PDF]

74. P.N. Brown and J.R. Marden, "Social Coordination in Unknown Price-Sensitive Populations," *Conference on Decision and Control*, 2013. [PDF]

75. H. Borowski, J.R. Marden, and E.W. Frew, "Fast Convergence in Semi-Anonymous Potential Games," *Conference on Decision and Control*, 2013. [PDF]

76. H. Borowski, J.R. Marden, D.S. Leslie and E.W. Frew, "Coarse Resistance Tree Methods For Stochastic Stability Analysis," *Conference on Decision and Control*, 2013. [PDF]

77. R. Gopalakrishnan, J.R. Marden, and A. Wierman, "Potential Games are Necessary to Ensure Pure Nash Equilibria in Cost Sharing Games," *ACM Conference on Economics and Computation*, 2013.

78. J. R. Marden, H. P. Young, and L. Pao, "Achieving Pareto optimality through distributed learning," *Conference on Decision and Control*, 2012. [PDF]

79. L. Na and J.R. Marden, "Designing games for distributed optimization with a time varying communication graph," *Conference on Decision and Control*, 2012. [PDF]

80. R. Gopalakrishnan, J.R. Marden, and A. Wierman, "Characterizing Distribution Rules for Cost Sharing Games," *International Conference on NETwork Games, Control and Optimization*, 2011. [PDF]

81. D. Leslie and J.R. Marden, "Equilibrium Selection in Potential Games with Noisy Rewards," *International Conference on NETwork Games, Control and Optimization*, 2011. [PDF]

82. J.R. Marden, S. Ruben, and L.Y. Pao, "Surveying Game Theoretic Approaches for Wind Farm Optimization," *AIAA Aerospace Sciences Meeting*, 2011. [PDF]

83. L. Na and J.R. Marden, "Designing games for distributed optimization," *Proceedings of the 50th IEEE Conference on Decision and Control*, 2011. **[Best Student Paper Finalist]** [PDF]

84. J.R. Marden and J.S. Shamma, "Revisiting Log-Linear Learning: Asynchrony, Completeness and a Payoff-based Implementation," Allerton, 2010 (invited paper). [PDF]

85. J.R. Marden and T. Roughgarden, "Generalized Efficiency Bounds in Distributed Resource Allocation," *Proceedings of the 49th IEEE Conference on Decision and Control*, 2010. [PDF]

86. N. Li and J.R. Marden, "Designing Games to Handle Coupled Constraints," *Proceedings of the 49th IEEE Conference on Decision and Control*, 2010. [PDF]

87. J.R. Marden and A. Wierman, "Overcoming Limitations of Game-Theoretic Distributed Control," *Proceedings of the 48th IEEE Conference on Decision and Control*, 2009. [PDF]

88. N. Li, J.R. Marden, and J.S. Shamma, "Learning Approaches to the Witsenhausen Counterexample from a View of Potential Games," *Proceedings of the 48th IEEE Conference on Decision and Control*, 2009. [PDF]

89. J.R. Marden and M. Effros, "The Price of Selfishness in Network Coding," *5th Workshop on Network Coding Theory and Applications*, 2009. [PDF]

90. J.R. Marden and M. Effros, "A Game Theoretic Approach to Network Coding," *Information Theory Workshop on Networking and Information Theory*, June, 2009. [PDF]

91. H. Chen, J.R. Marden, and A. Wierman, "On the Impact of Heterogeneity and Back-end Scheduling in Load Balancing Designs," *Proceedings of the IEEE Conference on Computer Communications (INFOCOM)*, 2008. (acceptance rate 19%) [PDF]

92. J.R. Marden and A. Wierman, "Distributed welfare games with applications to sensor coverage," *Proceedings of the 47th IEEE Conference on Decision and Control*, 2008. [PDF]

93. J.R. Marden, H.P. Young, G. Arslan, and J.S. Shamma, "Payoff Based Dynamics for Multi-Player Weakly Acyclic Games," *Proceedings of the 46th IEEE Conference on Decision and Control*, 2007. [PDF]

94. J.R. Marden, G. Arslan and J.S. Shamma, "Connections Between Cooperative Control and Potential Games Illustrated on the Consensus Problem," *Proceedings of the European Control Conference*, 2007. [PDF]

95. J.R. Marden, G. Arslan and J.S. Shamma, "Regret Based Dynamics: Convergence in Weakly Acyclic Games," *Proceedings of the 2007 International Conference on Autonomous Agents and Multiagent Systems*, 2007. (acceptance rate for full papers $< 25\%$) [PDF]

96. J.R. Marden, G. Arslan and J.S. Shamma, "Joint Strategy Fictitious Play with Inertia for Potential Games," *Proceedings of the 44th IEEE Conference on Decision and Control*, 2005. [PDF]

Lectures and Workshop Presentations

2021	Synoptic Engineering. Department of Electrical and Computer Engineering, Temple University. University of California, Berkeley. Army Research Laboratory.
2020	Office of Naval Research, Program Review. DARPA, Program Review. Information Theory Workshop, San Diego, CA. Office of Naval Research, New Program Highlights.
2019	University of Washington, Electrical and Computer Engineering. University of Southern California, Electrical Engineering. University of Colorado, Boulder, Electrical, Computer, and Energy Engineering. Information Theory Workshop, University of California, San Diego. Special Workshop on Game Theory and Congestion Games, Paris, France. EDF, Saclay France.
2017	Information Theory Workshop, UCSD. The Institute for Mathematics and Behavioral Sciences, University of California, Irvine. Special workshop on Game Theory at Stony Brook University. Best paper lecture, 2017 SIAM Conference on Control and its Applications. UCSB Summer GRIT Series.
2016	Allerton Conference on Communication, Control, and Computing, UIUC. Information Theory Workshop, UCSD. Center for Control Dynamical Systems and Computation, UCSB. Department of Statistics and Applied Probability, UCSB. Department of Aerospace and Mechanical Engineering, USC. CANDY Workshop, UCSB.
2015	Colorado State University – Fort Collins, University of California, Santa Barbara, University of Pennsylvania, SoCal Network Economics and Game Theory Workshop – USC
2014	RECUV - University of Colorado, Leeds School of Business - University of Colorado, Boulder, (2) Workshop on Control and Game Theory, Ohio State University, University of Hawaii, Department of Electrical Engineering, Control and Dynamical Systems Seminar - University of Colorado, Banff Workshop on Optimal Cooperation, Communication, and Learning in Decentralized Systems
2013	Center for Control, Dynamical-Systems, and Computation - UCSB, Decision and Control Lecture Series - UIUC, Georgia Tech - ISyE , China Lake Naval Research Base
2012	Computer Engineering and Systems Group,Texas A&M. National Renewable Energy Laboratory. GAMES 2012 – Fourth World Congress of the Game Theory Society, Istanbul, Turkey. Center for Engineering Economics, Learning, and Networks, UCLA. Information Theory and Applications Workshop, UCSD.
2011	*Socal NEGT*, Caltech. Department of Economics, University of Colorado. Allerton Conference on Communication, Control, and Computing, UIUC. Department of Applied Mathematics, University of Colorado. *21st International Conference on Game Theory*, Stony Brook University. Department of Economics, University of Oxford, UK.
2010	*SISL/Yahoo! Research Microeconomics Workshop*, Huntington Beach, CA. LCCC Workshop on Distributed Decisions via Games and Price Mechanisms, Lund University, Sweden. Allerton Conference on Communication, Control, and Computing, UIUC.
2009	Keynote speaker at the *ALADDIN Game Theory Workshop*, University of Bristol. Cymer Center for Control Systems and Dynamics, UCSD. Department of Electrical Engineering, USC. Department of Computer Science, Stanford. Center for Control Dynamical Systems and Computation, UCSB. Center for Systems, Dynamics and Control, UCLA. *INFORMS*, San Diego, CA. *From Game Theory to Game Engineering Workshop*, University of Oxford. *19th International Conference on Game Theory*, Stony Brook University. Department of Mechanical Engineering, National Taiwan University. Department of Electrical and Computer Engineering, University of Colorado at Boulder. Department of Computer Science and Economics, Caltech. *2009 SISL/Yahoo! Research Microeconomics Workshop*, Huntington Beach, CA. Information Theory and Applications Workshop, UCSD. Decision and Control Laboratory, Georgia Tech.

2008	*Workshop on Frontiers in Game Theory and Networked Control Systems*, MIT. Social and Information Sciences Laboratory, Caltech. Department of Computer Science, Stanford. Department of Economics, University of Wisconsin–Madison. GAMES 2008 – Third World Congress of the Game Theory Society, Northwestern. Center for Control, Dynamical Systems and Computation, UCSB. Information Science and Technology Seminar, Caltech.
2007	*2007 SISL/Yahoo! Theory Workshop*, Huntington Beach, CA. Social and Information Sciences Laboratory Seminar Series, Caltech. *18th International Conference on Game Theory*, Stony Brook University. Department of Electrical Engineering, UCLA. *7th International Conference on Cooperative Control and Optimization*, Gainesville, Florida. Center for Neuromorphic Systems Engineering, Caltech.
2006	*17th International Conference on Game Theory*, Stony Brook University.
2005	*11th Southern California Nonlinear Control Workshop*, UCSD. ″*4th Annual UCLA Systems & Controls Symposium 2005*, UCLA.

Teaching Experience

Spring 2021	*Instructor.* Dynamic Programming and Optimal Control, UCSB.
Winter 2020	*Instructor.* Signals and Systems, UCSB.
Fall 2020	*Instructor.* Game Theory and Multiagent System, UCSB.
Spring 2020	*Instructor.* Dynamic Programming and Optimal Control, UCSB.
Winter 2020	*Instructor.* Mechanism Design, UCSB.
Fall 2019	*Instructor.* Game Theory and Multiagent System, UCSB.
Spring 2019	*Instructor.* Game Theory and Multiagent Systems, UCSB.
Winter 2019	*Instructor.* Dynamic Programming, UCSB.
Fall 2018	*Instructor.* Mechanism Design, UCSB.
Spring 2018	*Instructor.* Game Theory and Multiagent Systems, UCSB.
Fall 2017	*Instructor.* Dynamic Programming, UCSB.
Spring 2017	*Instructor.* Mechanism Design, UCSB.
Winter 2017	*Instructor.* Game Theory and Multiagent Systems, UCSB.
Spring 2016	*Instructor.* Dynamic Programming and Optimal Control, UCSB.
Winter 2016	*Instructor.* Game Theory and Multiagent Systems, UCSB.
Spring 2015	*Instructor.* Dynamic Programming, UCB.
Fall 2014	*Instructor.* Discrete Mathematics, UCB.
Spring 2014	*Instructor.* Game Theory and Multiagent Systems, UCB.
Fall 2013	*Instructor.* Discrete Mathematics, UCB.
Spring 2013	*Instructor.* Social and Economic Networks, UCB.
Fall 2012	*Instructor.* Discrete Mathematics, UCB.
Spring 2012	*Instructor.* Game Theory and Multiagent Systems, UCB.
Fall 2011	*Instructor.* Dynamic Programming, UCB.
Spring 2011	*Instructor.* Game Theory and Multiagent Systems, UCB.
Spring 2010	*Instructor.* Game Theory and Multiagent Systems, UCB.
Winter 2008	*Co-Instructor.* Topics in Algorithmic Game Theory, Caltech.
Fall 2007	*Co-Instructor.* Queueing Network Games, Caltech.
Winter 2006	*Teaching assistant.* MAE174 Probability and Statistics, UCLA.
Winter 2005	*Teaching assistant.* MAE174 Probability and Statistics, UCLA.
Fall 2002	*Teaching assistant.* MAE171A Introduction to Feedback and Control Systems, UCLA.

Advising Experience

2021–present	*Graduate advisor* for Vade Shah, University of California, Santa Barbara.
2020–present	*Graduate advisor* for Gilberto Diaz-Garcia, University of California, Santa Barbara.
2019–2024	*Graduate advisor* for Rohit Konda, University of California, Santa Barbara.
2018–2024	*Graduate advisor* for Bryce Ferguson, University of California, Santa Barbara.
2022–2023	*Postdoctoral advisor* for Adel Aghajan, University of California, Santa Barbara.
2011–2022	*Graduate advisor* for Yilan Chen, University of Colorado at Boulder, on game theory and cooperative control.
2017–2022	*Graduate advisor* for Rahul Chandan, University of California, Santa Barbara.
2016–2021	*Graduate advisor* for David Grimsman, University of California, Santa Barbara, on the role of information in submodular optimization.
2018–2022	*Postdoctoral advisor* for Keith Paarporn, University of California, Santa Barbara. Co-advised with Prof. Mahnoosh Alizadeh.
2017–2019	*Graduate advisor* for Brian Canty, University of California, Santa Barbara. Co-advised with Prof. Mahnoosh Alizadeh. Completed MS Thesis.
2012–2018	*Graduate advisor* for Philip Brown, University of California, Santa Barbara, on robust mechanisms for social coordination. Completed PhD thesis.
2012–2016	*Graduate advisor* for Holly Borowski, University of Colorado at Boulder, on characterizing mixing times in Markov chains. Completed PhD thesis.
2015–2016	*Postdoctoral advisor* for Vinod Ramaswamy, University of Colorado at Boulder, on information in distributed engineering systems.
2013–2015	*Postdoctoral advisor* for Ragavendran Gopalakrishnan, University of Colorado at Boulder, on utility design for distributed engineering systems.
2014–2015	*Graduate advisor* for Matthew Philips, University of Colorado at Boulder, on the importance of budget in multiagent systems. Completed MS thesis.
2011–2014	*Graduate advisor* for Yassmin Shalaby, University of Colorado at Boulder, on game theoretic control. Completed MS thesis.
2009–2013	*Graduate advisor* for Ragavendran Gopalakrishnan, Caltech, on utility design for distributed engineering systems.
2007–2013	*Graduate advisor* for Na Li, Caltech, on game theoretic control of sensor networks.
2012–2013	*Undergraduate advisor* for David Johnson, on matching problems.
2011–2012	*Undergraduate advisor* for James Patrick O'brien, on the impact of local information in multiagent coordination.
2011–2012	*Postdoctoral advisor* for Shalom Ruben, University of Colorado at Boulder, on wind farm optimization.
2010–2012	*Graduate advisor* for Matthew Kirchner, University of Colorado at Boulder, on efficiency bounds for distributed sensor allocation. Completed MS thesis.
2008–2010	*Graduate advisor* for Kenneth McKell, University of Hawaii at Manoa, on distributed resource allocation.
2008	*Undergraduate mentor* for Sherwin Doroudi, Caltech, 2008 SURF. A game theoretic approach to the sensor coverage problem.
2007	*Undergraduate mentor* for Na Li, UCLA and Zhejiang University, on a game theoretic approach to the team decision problem.

Industrial Work Experience

2004–2008   ***Engineering Consultant***. InfoLenz Corporation.

    Project: Optimization of Manufacturing Plan for Jet Engine Maintenance. Optimized part supply plan for a five year overhaul plan of a fleet of over 500 jet engines by minimizing the number of stocked parts while adhering to a maximum probability of missing a part using neuro-dynamic programming and reinforcement learning. The designed supply plan is currently in the process of being implemented.

    Project: Optimization of JEM-EF Maintenance by Neuro-Dynamic Programming. Optimized maintenance policy for the exposure facility of a space station while adhering to system availability requirements and monetary constraints using dynamic and neuro-dynamic programming.

2005–2007   ***Cofounder and Instructor***. SoCal Test Prep. Los Angeles, CA.

    Cofounded a test preparation company to help students prepare for graduate school entrance exams. Focused on developing students analytical and problem solving skills. SoCal Test Prep instructed approximately 20 students with a high success rate.

1998–2007   ***Controls Analyst***. Raytheon Systems Corporation, Space and Airborne Systems. El Segundo, CA.

    Developed and implemented a procedure for dynamically balancing a beam steering mirror. Designed and developed an optical analysis program, HexMat, to aid in visualization and sensitivity calculation of any optical system. Received Raytheon Excellent Achievement Award for development of HexMat.

Professional Services

External Appointments and Committees:

    Assocaite Editor for Invited Papers, American Control Conference, 2020-2021
    AACC, Award Selection Committee for Donald P. Eckman Award, 2019
    TPC Chair, International Conference on Game Theory for Networks (GameNets), 2018-2019, 2024
    Associate Editor, IEEE Transactions on Control of Networked Systems, 2017–present
    TPC, Workshop on Estimation and Control in Networked Systems, 2012–2015, 2018
    TPC, 10th Workshop on the Economics of Networks, Systems and Computation, 2015
    TPC, IEEE Conference on Decision and Control, 2014–2017
    Selection Committee Best Student Paper, 49th Conference on Decision and Control, 2012
    TPC, International Conference on Computer Communications and Networks, 2010

Internal Committees:

    College Wide Diversity and Equity Committee, 2019–current
    Graduate Committee, 2010–current
    Junior Faculty Member of Executive Committee, 2012–2015
    Faculty Search Committee, 2013–2014

Workshop/Tutorial Sessions:

    Workshop organizer: "Game Theory and Distributed Control," Institute for Mathematical Behavioral Sciences at UC Irvine, 2019
    Tutorial Contributor: NSF Career Panel, American Control Conference, 2018
    Tutorial Contributor: NSF Career Panel, IEEE Conf. on Control Technology and Application, 2017
    Special session organizer: "What you need to know about the academic job market," ACC, 2015
    Workshop contributor: "Game Theory: Models and Applications to Networked Systems," ACC, 2015
    Tutorial organizer: "Game Theory and Multiagent Systems," CDC, 2014

Referee for Journals and Conferences:

Conference on Decision and Control (CDC), American Control Conference (ACC), Gamesnet, AA-MAS, ACM Conference on Economics and Computation, Sigmetrics, Infocom, Machine Learning Journal, IEEE Transactions on Control Systems Technology, IEEE Transactions on Automatic Control, Automatica, SIAM Journal on Control and Optimization, ASME Journal of Dynamic Systems, Measurement and Control, International Journal on Game Theory, Games and Economic Behavior, Operations Research, IEEE Journal on Scheduling, IEEE Letters, Wind Energy