



## Sanjay Lall

Professor of Electrical Engineering

### Bio

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#### BIO

Sanjay Lall is Professor of Electrical Engineering in the Information Systems Laboratory and Professor of Aeronautics and Astronautics at Stanford University. He received a B.A. degree in Mathematics with first-class honors in 1990 and a Ph.D. degree in Engineering in 1995, both from the University of Cambridge, England. His research group focuses on algorithms for control, optimization, and machine learning. Before joining Stanford he was a Research Fellow at the California Institute of Technology in the Department of Control and Dynamical Systems, and prior to that he was a NATO Research Fellow at Massachusetts Institute of Technology, in the Laboratory for Information and Decision Systems. He was also a visiting scholar at Lund Institute of Technology in the Department of Automatic Control. He has significant industrial experience applying advanced algorithms to problems including satellite systems, advanced audio systems, Formula 1 racing, the America's cup, cloud services monitoring, and integrated circuit diagnostic systems, in addition to several startup companies. Professor Lall has served as Associate Editor for the journal *Automatica*, on the steering and program committees of several international conferences, and as a reviewer for the National Science Foundation, DARPA, and the Air Force Office of Scientific Research. He is the author of over 130 peer-refereed publications.

#### ACADEMIC APPOINTMENTS

- Professor, Electrical Engineering
- Member, Bio-X
- Affiliate, Precourt Institute for Energy
- Associated Faculty, Institute for Computational and Mathematical Engineering (ICME)

#### HONORS AND AWARDS

- Fellow, IEEE (2015)
- O. Hugo Schuck Best Paper Award, American Control Conference (2013)
- George S. Axelby Outstanding Paper Award, IEEE (2007)
- Presidential Early Career Award for Scientists and Engineers, National Science Foundation (2007)
- CAREER Award, National Science Foundation (2006)

#### PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

#### PROFESSIONAL EDUCATION

- PhD, Cambridge (1995)

## LINKS

- <http://lall.stanford.edu>: <http://lall.stanford.edu>

## Teaching

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### COURSES

#### 2025-26

- Linear Dynamical Systems: EE 363 (Spr)
- Matrix Methods: Singular Value Decomposition: CME 263, EE 263 (Aut)

#### 2024-25

- Introduction to Machine Learning: CME 107, EE 104 (Spr)

#### 2023-24

- Introduction to Linear Dynamical Systems: CME 263, EE 263 (Aut)

#### 2022-23

- Introduction to Linear Dynamical Systems: CME 263, EE 263 (Aut)
- Introduction to Machine Learning: CME 107, EE 104 (Spr)

### STANFORD ADVISEES

#### Doctoral Dissertation Advisor (AC)

Amirhossein Afsharrad, Andrei Kanavalau

#### Master's Program Advisor

Manolo Alvarez, Silin Du, Sahil Jain, Naomi Park

#### Doctoral (Program)

Daniel Kuelbs, Naomi Sagan

## Publications

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### PUBLICATIONS

- **I can't believe it can't count: Vision-language models fail at basic enumeration beyond the subitizing range.** *ICBINB Workshop at ICLR*  
Afsharrad, A., Mousavi, S., Lall, S.  
2026
- **bittide: Control time, not flows.** *IEEE Micro*  
Bastiaan, M., Baajj, C., Izzard, M., Klein, F., Lall, S., Spalink, T.  
2026
- **What makes a good response? learning personal preferences from interpretable features.** *ICNLP*  
Afsharrad, A., Soroka, E., Oneill, D., Lall, S.  
2026
- **Multi-agent stage-wise conservative linear bandits** *American Control Conference*  
Afsharrad, A., Moradipari, A., Lall, S.  
2026
- **Beyond binary preferences: A principled framework for reward modeling with ordinal feedback.** *ICLR*  
Afsharrad, A., Zhou, R., Viano, L., Lall, S., Ghazamzadeh, M.  
2026

- **Learning Temporal Logic Predicates from Data with Statistical Guarantees**  
Soroka, E., Sinha, R., Lall, S.  
edited by Ozay, N., Balzano, L., Panagou, D., Abate, A.  
JMLR-JOURNAL MACHINE LEARNING RESEARCH.2025: 86-98
- **Modeling Buffer Occupancy in Bittide Systems**  
Lall, S., Spalink, T., IEEE  
IEEE.2025: 4157-4163
- **Cooperative Multi-Agent Constrained Stochastic Linear Bandits**  
Afsharrad, A., Oftadeh, P., Moradipari, A., Lall, S., IEEE  
IEEE.2025: 3614-3621
- **Generalizable Spacecraft Trajectory Generation via Multimodal Learning with Transformers**  
Celestini, D., Afsharrad, A., Gammelli, D., Guffanti, T., Zardini, G., Lall, S., Capello, E., D'Amico, S., Pavone, M., IEEE  
IEEE.2025: 3558-3565
- **One goal, many challenges: Robust preference optimization amid content-aware and multi-source noise. *ICLR Workshop on Spurious Correlation and Shortcut Learning***  
Afzali, A., Afsharrad, A., Mousavi, S., Lall, S.  
2025
- **e goal, many challenges: Robust preference optimization amid content-aware, multi-source noise *Reinforcement Learning Conference***  
Afzali, A., Afsharrad, A., Mousavi, S., Lall, S.  
2025
- **Multi-level evaluation with llm-based integrated self-scrutiny and auditing. *NEURIPS Workshop on Multi-Turn Interactions in Large Language Models***  
Afsharrad, A., Jaladi, S., Yazdani, N., Ansari, A., Mousavi, S., Lall, S.  
2025
- **LORE: Lagrangian-optimized robust embeddings for visual encoders. *Neurips***  
Khodabandeh, B., Afzali, A., Afsharrad, A., Mousavi, S., Lall, S., Amini, S., Moosavi-Dezfooli, S.  
2025
- **Control time, not flows *Hot Interconnects***  
Bastiaan, M., Baaij, C., Izzard, M., Klein, F., Lall, S., Spalink, T.  
2025
- **Distributed computing on bittide systems**  
Lall, S., ACM  
ASSOC COMPUTING MACHINERY.2025: 1
- **Logical Synchrony and the Bittide Mechanism *IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS***  
Lall, S., Cascaval, C., Izzard, M., Spalink, T.  
2024; 35 (11): 1936-1948
- **Safe Explicit MPC by Training Neural Networks Through Constrained Optimization**  
Kanavalau, A., Lall, S., IEEE  
IEEE.2024: 183-188
- **Convex Methods for Constrained Linear Bandits**  
Afsharrad, A., Moradipari, A., Lall, S., IEEE  
IEEE.2024: 2111-2118
- **Analysis and Local Convergence Proof of a Constrained Optimization Algorithm for Training Neural Networks**  
Kanavalau, A., Lall, S., IEEE  
IEEE.2024: 839-844
- **Optimal Dorfman Group Testing for Symmetric Distributions***SIAM JOURNAL ON MATHEMATICS OF DATA SCIENCE*

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- Landolfi, N. C., Lall, S.  
2024; 6 (3): 731-760
- **Logical Synchrony Networks: A Formal Model for Deterministic Distribution** *IEEE ACCESS*  
Kenwright, L., Roop, P., Allen, N., Lall, S., Cascaval, C., Spalink, T., Izzard, M.  
2024; 12: 80872-80883
  - **On buffer centering for bittide synchronization** *International Conference on Control, Decision, and Information Technologies*  
Lall, S., Cascaval, C., Izzard, M., Spalink, t.  
2023
  - **Resistance Distance and Control Performance for bittide Synchronization**  
Lall, S., Cascaval, C., Izzard, M., Spalink, T., IEEE  
IEEE.2022: 1850-1857
  - **Modeling and Control of bittide Synchronization**  
Lall, S., Cascaval, C., Izzard, M., Spalink, T., IEEE  
IEEE.2022: 5185-5192
  - **Probabilistic Modeling Using Tree Linear Cascades**  
Landolfi, N. C., Lall, S., IEEE  
IEEE.2022: 2617-2622
  - **Thermal runaway avoidance using Hamilton-Jacobi reachability and model predictive control** *COMPUTERS & CHEMICAL ENGINEERING*  
Kanavalau, A., Lall, S.  
2022; 157
  - **Cloud Telemetry Modeling via Residual Gauss-Markov Random Fields**  
Landolfi, N. C., O'Neill, D. C., Lall, S., IEEE  
IEEE.2021
  - **Shape-Based Approach to Household Electric Load Curve Clustering and Prediction** *IEEE TRANSACTIONS ON SMART GRID*  
Teeraratkul, T., O'Neill, D., Lall, S.  
2018; 9 (5): 5196–5206
  - **Sufficient Statistics for Optimal Decentralized Control in System of Systems**  
Nigam, N., Lall, S., Hovareshti, P., Ezra, K., Mockus, L., Tolani, D., Sloan, S., IEEE  
IEEE.2018: 92–95
  - **Convexity of Decentralized Controller Synthesis** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Lessard, L., Lall, S.  
2016; 61 (10): 3122-3127
  - **Stability Analysis of Distributed Power Generation With Droop Inverters** *IEEE TRANSACTIONS ON POWER SYSTEMS*  
Chang, C., Gorinevsky, D., Lall, S.  
2015; 30 (6): 3295-3303
  - **Optimal Control of Two-Player Systems With Output Feedback** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Lessard, L., Lall, S.  
2015; 60 (8): 2129-2144
  - **Explicit Solutions to Separable Problems in Optimal Cooperative Control** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Kim, J., Lall, S.  
2015; 60 (5): 1304-1319
  - **Sufficient Statistics for Dynamic Teams**  
Wu, J., Lall, S., IEEE  
IEEE.2015: 5465–70
  - **Weak Sufficient Statistics for Team Decision Problems**  
Lemon, A., Lall, S., IEEE

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IEEE.2015: 5290-5295

- **An Algebraic Approach to the Control of Decentralized Systems** *IEEE TRANSACTIONS ON CONTROL OF NETWORK SYSTEMS*  
Lessard, L., Lall, S.  
2014; 1 (4): 308-317
- **Optimal Controller Synthesis for Decentralized Systems Over Graphs via Spectral Factorization** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Swigart, J., Lall, S.  
2014; 59 (9): 2311-2323
- **Dynamical and Voltage Profile Stability of Inverter-Connected Distributed Power Generation** *IEEE TRANSACTIONS ON SMART GRID*  
Chang, C., Gorinevsky, D., Lall, S.  
2014; 5 (4): 2093-2105
- **A Theory of Sufficient Statistics for Teams**  
Wu, J., Lall, S., IEEE  
IEEE.2014: 2628–35
- **Sufficient Statistics for Multi-Agent Decision Problems**  
Wu, J., Lall, S., IEEE  
IEEE.2014: 467–74
- **Polynomial Level-Set Method for Polynomial System Reachable Set Estimation** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Wang, T., Lall, S., West, M.  
2013; 58 (10): 2508-2521
- **Polynomial level-set method for attractor estimation** *JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS*  
Wang, T., Lall, S., West, M.  
2012; 349 (9): 2783-2798
- **Networked Markov Decision Processes With Delays** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Adlakha, S., Lall, S., Goldsmith, A.  
2012; 57 (4): 1013-1018
- **Decentralized Control via Grbner Bases and Variable Elimination** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Shin, H. S., Lall, S.  
2012; 57 (4): 1030-1035
- **Optimal Controller Synthesis for the Decentralized Two-Player Problem with Output Feedback** *American Control Conference (ACC)*  
Lessard, L., Lall, S.  
IEEE COMPUTER SOC.2012: 6314–6321
- **Optimal Cooperative Control of Dynamically Decoupled Systems** *51st IEEE Annual Conference on Decision and Control (CDC)*  
Kim, J., Lall, S., Ryoo, C.  
IEEE.2012: 4852–4857
- **Frequency Stability for Distributed Generation Connected through Grid-Tie Inverter** *IEEE International Conference on Power System Technology (POWERCON)*  
Glover, E., Chang, C., Gorinevsky, D., Lall, S.  
IEEE.2012
- **Optimal Cooperative Control of Dynamically Decoupled Systems.**  
Kim, J., H., Lall, S., Ryoo, C., K.  
2012
- **Frequency Stability for Distributed Generation Connected through Grid-Tie Inverter.**  
Glover, E., Chang, C., C., Gorinevsky, D., Lall, S.  
2012

- **Separable Optimal Cooperative Control Problems** *American Control Conference (ACC)*  
Kim, J., Lall, S.  
IEEE COMPUTER SOC.2012: 5868–5873
- **Polynomial Method for PLL Controller Optimization** *SENSORS*  
Wang, T., Lall, S., Chiou, T.  
2011; 11 (7): 6575-6592
- **Synthesis for Optimal Two-Player Decentralized Control over TCP Erasure Channels with State Feedback** *50th IEEE Conference of Decision and Control (CDC)/European Control Conference (ECC)*  
Chang, C., Lall, S.  
IEEE.2011: 3824–3829
- **A State-Space Solution to the Two-Player Decentralized Optimal Control Problem.**  
Lessard, L., Lall, S.  
2011
- **Decentralized Control.** *Networked Control Systems. Lecture Notes in Control and Information Sciences*  
Swigart, J., Lall, S.  
2011; 406: 179–201
- **Optimal Controller Synthesis for a Decentralized Two-Player System with Partial Output Feedback** *American Control Conference (ACC)*  
Swigart, J., Lall, S.  
IEEE.2011: 317–323
- **An Explicit Solution for Optimal Two-Player Decentralized Control over TCP Erasure Channels with State Feedback** *American Control Conference (ACC)*  
Chang, C., Lall, S.  
IEEE.2011: 4717–4722
- **Decentralized Robust Control via Quadratically Invariant Model Projection** *American Control Conference (ACC)*  
Kim, J., Lall, S., Merrill, W., Behbahani, A.  
IEEE.2011: 527–532
- **Quadratic Invariance is Necessary and Sufficient for Convexity** *American Control Conference (ACC)*  
Lessard, L., Lall, S.  
IEEE.2011: 5360–5362
- **A Unifying Condition for Separable Two Player Optimal Control Problems** *50th IEEE Conference of Decision and Control (CDC)/European Control Conference (ECC)*  
Kim, J., Lall, S.  
IEEE.2011: 3818–3823
- **Coding Strategies for a Class of Decentralized Control Problems with Limited Communication** *50th IEEE Conference of Decision and Control (CDC)/European Control Conference (ECC)*  
Mirghaderi, R., Lall, S., Goldsmith, A.  
IEEE.2011: 4809–4816
- **Fast Algorithms for Resource Allocation in Wireless Cellular Networks** *IEEE-ACM TRANSACTIONS ON NETWORKING*  
Madan, R., Boyd, S. P., Lall, S.  
2010; 18 (3): 973-984
- **Optimal Synthesis and Explicit State-Space Solution for a Decentralized Two-Player Linear-Quadratic Regulator** *49th IEEE Conference on Decision and Control (CDC)*  
Swigart, J., Lall, S.  
IEEE.2010: 132–137
- **Decentralized Control** *NETWORKED CONTROL SYSTEMS*  
Swigart, J., Lall, S., Bemporad, A., Heemels, M., Johansson, M.  
2010; 406: 179-201

- **Distributed Engine Control Design Considerations.**  
Merrill, W., Kim, J., H., Lall, S., Majerus, S., Howe, D., Behbahani, A.  
2010
- **Convexity of Optimal Control over Networks with Delays and Arbitrary Topology.** *International Journal of Systems, Control and Communications*  
Rotkowitz, M., Cogill, R., Lall, S.  
2010; 2 (1-3): 30--54
- **An Exact Dynamic Programming Solution for a Decentralized Two-Player Markov Decision Process.**  
Wu, J., Lall, S.  
2010
- **An Explicit Dynamic Programming Solution for a Decentralized Two-Player Optimal Linear-Quadratic Regulator.**  
Swigart, J., Lall, S.  
2010
- **An Explicit State-Space Solution for a Decentralized Two-Player Optimal Linear-Quadratic Regulator** *American Control Conference*  
Swigart, J., Lall, S.  
IEEE.2010: 6385–6390
- **Optimal Decentralized Control of Linear Systems via Groebner Bases and Variable Elimination** *American Control Conference*  
Shin, H. S., Lall, S.  
IEEE.2010: 5608–5613
- **A Constant Factor Approximation Algorithm for Event-Based Sampling** *Symposium on Systems, Control and Signal Processing held in Honor of Yutaka Yamamoto*  
Cogill, R., Lall, S., Hespanha, J. P.  
SPRINGER-VERLAG BERLIN.2010: 51–60
- **An Algebraic Framework for Quadratic Invariance** *49th IEEE Conference on Decision and Control (CDC)*  
Lessard, L., Lall, S.  
IEEE.2010: 2698–2703
- **Nonlinear Youla Parametrization and Information Constraints for Decentralized Control** *American Control Conference*  
Wu, J., Lall, S.  
IEEE.2010: 5614–5619
- **An Approximate Dynamic Programming Approach to the Dynamic Traveling Repairperson Problem** *49th IEEE Conference on Decision and Control (CDC)*  
Shin, H. S., Lall, S.  
IEEE.2010: 2286–2291
- **A Dynamic Programming Algorithm for Decentralized Markov Decision Processes with a Broadcast Structure** *49th IEEE Conference on Decision and Control (CDC)*  
Wu, J., Lall, S.  
IEEE.2010: 6143–6148
- **Internal Quadratic Invariance and Decentralized Control** *American Control Conference*  
Lessard, L., Lall, S.  
IEEE.2010: 5596–5601
- **Hat Guessing Games and the Use of Coding for Decentralized Control** *49th IEEE Conference on Decision and Control (CDC)*  
Mirghaderi, R., Adlakha, S., Lall, S., Goldsmith, A.  
IEEE.2010: 979–985
- **A Computational Approach for Decentralized Control of Turbine Engines** *49th IEEE Conference on Decision and Control (CDC)*  
Kim, J., Lall, S., Merrill, W., Behbahani, A.  
IEEE.2010: 346–351

- **Analysis of Polynomial Systems With Time Delays via the Sum of Squares Decomposition** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Papachristodoulou, A., Peet, M. M., Lall, S.  
2009; 54 (5): 1058-1064
- **Spectral Factorization of Non-Classical Information Structures Under Feedback** *American Control Conference 2009*  
Swigart, J., Lall, S.  
IEEE.2009: 457-462
- **Model reduction, optimal prediction, and the Mori-Zwanzig representation of Markov chains** *Joint 48th IEEE Conference on Decision and Control (CDC) / 28th Chinese Control Conference (CCC)*  
Beck, C. L., Lall, S., Liang, T., West, M.  
IEEE.2009: 3282-3287
- **Reduction of Decentralized Control Problems to Tractable Representations** *Joint 48th IEEE Conference on Decision and Control (CDC) / 28th Chinese Control Conference (CCC)*  
Lessard, L., Lall, S.  
IEEE.2009: 1621-1626
- **A Graph-Theoretic Approach to Distributed Control over Networks** *Joint 48th IEEE Conference on Decision and Control (CDC) / 28th Chinese Control Conference (CCC)*  
Swigart, J., Lall, S.  
IEEE.2009: 5409-5414
- **Reduction of Decentralized Control Problems to Tractable Representations.**  
Lessard, L., Lall, S.  
2009
- **Model reduction, optimal prediction, and the Mori-Zwanzig representation of Markov chains.**  
Beck, C., L., Lall, S., Liang, T., West, M.  
2009
- **A Graph-Theoretic Approach to Distributed Control over Networks.**  
Swigart, J., Lall, S.  
2009
- **Time-delayed Decentralized H-infinity Controller Design for Civil Structures: a Homotopy Method through Linear Matrix Inequalities** *American Control Conference 2009*  
Wang, Y., Law, K. H., Lall, S.  
IEEE.2009: 4549-4556
- **POSITIVE FORMS AND STABILITY OF LINEAR TIME-DELAY SYSTEMS** *SIAM JOURNAL ON CONTROL AND OPTIMIZATION*  
Peet, M. M., Papachristodoulou, A., Lall, S.  
2009; 47 (6): 3237-3258
- **Decentralized Team Decision Via Coding** *47th Annual Allerton Conference on Communication, Control, and Computing*  
Adlakha, S., Mirghaderi, S. R., Lall, S., Goldsmith, A.  
IEEE.2009: 151-151
- **Experimental validation of single-iteration multigrid wavefront reconstruction at the Palomar Observatory** *OPTICS LETTERS*  
Lessard, L., MacMynowski, D., West, M., Bouchez, A., Lall, S.  
2008; 33 (18): 2047-2049
- **Testing static equilibrium for legged robots** *IEEE TRANSACTIONS ON ROBOTICS*  
Bretl, T., Lall, S.  
2008; 24 (4): 794-807
- **Structured semidefinite programs for the control of symmetric systems** *AUTOMATICA*  
Cogill, R., Lall, S., Parrilo, P. A.  
2008; 44 (5): 1411-1417

- **Warm-started wavefront reconstruction for adaptive optics** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION*  
Lessard, L., West, M., MacMynowski, D., Lall, S.  
2008; 25 (5): 1147-1155
- **Information State for Markov Decision Processes with Network Delays** *47th IEEE Conference on Decision and Control*  
Adlakha, S., Lall, S., Goldsmith, A.  
IEEE.2008: 3840–3847
- **Dynamic Programming with Non-Classical Information Structures.** *Mathematical Theory of Networks and Systems*  
Swigart, J., Lall, S.  
2008
- **POSITIVE FORMS AND STABILITY OF LINEAR TIME-DELAY SYSTEMS** *SIAM JOURNAL ON CONTROL AND OPTIMIZATION*  
Peet, M. M., Papachristodoulou, A., Lall, S.  
2008; 47 (6): 3237-3258
- **Stochastic Multiscale Approaches to Consensus Problems** *47th IEEE Conference on Decision and Control*  
Kim, J., West, M., Lall, S., Scholte, E., Banaszuk, A.  
IEEE.2008: 5551–5557
- **Nonlinear Phase-Locked Loop Design using Semidefinite Programming** *16th Mediterranean Conference on Control and Automation*  
Wang, T., Chiou, T., Lall, S.  
IEEE.2008: 1047–1052
- **A Bayesian Network Approach to Control of Networked Markov Decision Processes** *46th Annual Allerton Conference on Communication, Control and Computing*  
Adlakha, S., Lall, S., Goldsmith, A.  
IEEE.2008: 446–451
- **Modeling and optimization of transmission schemes in energy-constrained wireless sensor networks** *IEEE-ACM TRANSACTIONS ON NETWORKING*  
Madan, R., Cui, S., Lall, S., Goldsmith, A. J.  
2007; 15 (6): 1359-1372
- **Cross-layer energy and delay optimization in. small-scale sensor networks** *IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS*  
Cui, S., Madan, R., Goldsmith, A. J., Lall, S.  
2007; 6 (10): 3688-3699
- **Global stability analysis of a nonlinear model of Internet congestion control with delay** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Peet, M., Lall, S.  
2007; 52 (3): 553-559
- **Optimal control of distributed Markov decision processes with network delays** *46th IEEE Conference on Decision and Control*  
Adlakha, S., Madan, R., Lall, S., Goldsmith, A.  
IEEE.2007: 4804–4810
- **A Constant Factor Approximation Algorithm for Event-Based Sampling.**  
Cogill, R., Lall, S., Hespanha, J.  
2007
- **Affine controller parameterization for decentralized control over Banach spaces** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Rotkowitz, M., Lall, S.  
2006; 51 (9): 1497-1500
- **Distributed algorithms for maximum lifetime routing in wireless sensor networks** *IEEE GLOBECOM 2004*  
Madan, R., Lall, S.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2006: 2185–93
- **An energy-optimal algorithm for neighbor discovery in wireless sensor networks** *2nd Workshop on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks*

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- Madan, R., Lall, S.  
SPRINGER.2006: 317–26
- **Discrete variational Hamiltonian mechanics** *JOURNAL OF PHYSICS A-MATHEMATICAL AND GENERAL*  
Lall, S., West, M.  
2006; 39 (19): 5509-5519
  - **A characterization of convex problems in decentralized control** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Rotkowitz, M., Lall, S.  
2006; 51 (2): 274-286
  - **An approximation algorithm for the discrete team decision problem** *SIAM JOURNAL ON CONTROL AND OPTIMIZATION*  
Cogill, R., Lall, S.  
2006; 45 (4): 1359-1368
  - **Convexification of Optimal Decentralized Control Without a Stabilizing Controller.**  
Rotkowitz, M., Lall, S.  
2006
  - **A Constant Factor Approximation Algorithm for Event-Based Sampling.**  
Cogill, R., Lall, S., Hespanha, J.  
2006
  - **A space-time diffusion scheme for peer-to-peer least-squares estimation** *5th International Conference on Informational Processing in Sensor Networks*  
Xiao, L., Boyd, S., Lall, S.  
ASSOC COMPUTING MACHINERY.2006: 168–176
  - **An approximate dynamic programming approach to decentralized control of stochastic systems** *Workshop on Control of Uncertain Systems*  
Cogill, R., Rotkowitz, M., Van Roy, B., Lall, S.  
SPRINGER-VERLAG BERLIN.2006: 243–256
  - **Backlog analysis of maximal matching switching with speedup** *45th IEEE Conference on Decision and Control*  
Cogill, R., Lall, S.  
IEEE.2006: 1876–1881
  - **Suboptimality bounds in stochastic control: A queueing example** *American Control Conference 2006*  
Cogill, R., Lall, S.  
IEEE.2006: 1642–1647
  - **Positive forms and stability of linear time-delay systems** *45th IEEE Conference on Decision and Control*  
Peet, M., Papachristodoulou, A., Lall, S.  
IEEE.2006: 187–193
  - **A fast and adaptive test of static equilibrium for legged robots** *IEEE International Conference on Robotics and Automation (ICRA)*  
Brett, T., Lall, S.  
IEEE.2006: 1109–1116
  - **Degree bounds for polynomial verification of the matrix cube problem** *45th IEEE Conference on Decision and Control*  
Chen, B., Lall, S.  
IEEE.2006: 4405–4410
  - **A characterization of convex problems in decentralized control** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*  
Rotkowitz, M., Lall, S.  
2005; 50 (12): 1984-1996
  - **A simple condition for the convexity of optimal control over networks with delays** *44th IEEE Conference on Decision Control/European Control Conference (CCD-ECC)*  
Rotkowitz, M., Cogill, R., Lall, S.  
IEEE.2005: 6686–6691

- **Cross-Layer Design for Lifetime Maximization in Interference-Limited Wireless Sensor Networks.**  
Madan, R., Cui, S., Lall, S., Goldsmith, A.  
2005
- **A Distributed Algorithm with Linear Convergence for Maximum Lifetime Routing in Wireless Networks.**  
Madan, R., Luo, Z.-Q., Lall, S.  
2005
- **Mixed Integer-Linear Programming for Link Scheduling in Interference-Limited Networks.**  
Madan, R., Cui, S., Lall, S., Goldsmith, A., J.  
2005
- **Polynomial level-set methods for nonlinear dynamical systems analysis.**  
Wang, T., Lall, S., West, M.  
2005
- **Multi-step motion planning for free-climbing robots** *6th International Workshop on Algorithmic Foundations of Robotics*  
Bretl, T., Lall, S., Latombe, J. C., Rock, S.  
SPRINGER-VERLAG BERLIN.2005: 59–74
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