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APPOINTMENTS

Assistant Research Professor

May 2011 -

Dept. of Electrical and Computer Engineering
Carnegie Mellon University

Visiting Research Collaborator

May 2011 - April 2012

Electrical Engineering Dept.
Princeton University

Postdoctoral Research Fellow

July 2010 - April 2011

Electrical Engineering Dept.
Princeton University

Graduate Researcher

August 2005 - May 2010

Dept. of Electrical and Computer Engineering
Carnegie Mellon University

Research Intern

April 2003 - May 2003

Motorola Inc., Bangalore, India

EDUCATION

PhD in Electrical and Computer Engineering

2010

Carnegie Mellon University
Thesis: Large Scale Networked Dynamical Systems: Distributed Inference
Advisor: Prof. J.M.F. Moura

BTech in Electronics and Electrical Communication Engineering

2005

Indian Institute of Technology, Kharagpur

ACADEMIC HONORS

- 2011 A.G. Milnes Award for the Ph.D. thesis of exceptional quality that is likely to have a significant impact in the field of electrical and computer engineering
- 2010 Bertucci Fellowship, College of Engineering, Carnegie Mellon University
- A Best Student Paper award in the 40th Asilomar Conference on Signals, Systems and Computers, Oct. 2006, Monterey, California
- JBNSTS Fellow, May 2001 -

PROFESSIONAL ACTIVITIES

- Session co-chair: 52nd Annual Allerton Conference on Communication, Control, and Computing, Oct. 1 - 3, 2014, Monticello, IL, USA
- TPC member: *Network Theory* symposium, 2nd IEEE Global Conference on Signal and Information Processing, Dec. 3 - 5, 2014, Atlanta, GA, USA

- TPC member: *Network Theory* symposium, 1st IEEE Global Conference on Signal and Information Processing, Dec. 3 - 5, 2013, Austin, TX, USA
- Symposium (Wide-Area Monitoring, Protection & Control) co-chair: IEEE International Conference on Smart Grid Communications, Oct. 21 - 24, 2013, Vancouver, Canada
- TPC member: IEEE International Conference on Smart Grid Communications, Nov. 5 - 8, 2012, Tainan City, Taiwan
- Session chair: Asilomar Conference on Signals, Systems, and Computers, Nov. 6 - 9, 2011, Monterey, CA, USA
- Regular reviewer: IEEE Transactions on Signal Processing, IEEE Transactions on Automatic Control, IEEE Transactions on Information Theory, SIAM Journal on Control and Optimization, Annals of Applied Probability, Automatica, IEEE Transactions on Networked Control Systems, IEEE Transactions on Network Science and Management, IEEE Transactions on Smart Grid, IEEE Transactions on Power Systems

CMU COMMITTEES SERVED

- Graduate Studies Committee, ECE (Fall 2014 –)
- Faculty Senate, ECE Representative (Spring 2014 –)
- ECE Graduate Seminar Committee (Fall 2012 – Spring 2014)

INVITED LECTURES, SEMINARS, TALKS

- Invited seminar speaker: Energy Systems Seminar, Dept. of Mech. Eng. and Dept. of EECS, UC Berkeley, Oct. 11, 2014, Berkeley, CA, USA
- Invited talk: INFORMS Annual Meeting, Nov. 9 - 12, 2014, San Francisco, CA, USA
- Invited paper: 53rd IEEE Conference on Decision and Control, Dec. 15 - 17, 2014, Los Angeles, CA, USA
- Invited paper: Asilomar Conference on Signals, Systems and Computers, Nov. 2 - 5, 2014, Monterey, CA, USA
- Invited paper: 2nd IEEE Global Conference on Signal and Information Processing, Dec. 3 - 5, 2014, Atlanta, GA, USA
- Invited paper: 1st IEEE Global Conference on Signal and Information Processing, Dec. 3 - 5, 2013, Austin, TX, USA
- Invited paper: 21st European Signal Processing Conference, Sept. 9 - 13, 2013, Marrakech, Morocco
- Invited paper: Asilomar Conference on Signals, Systems and Computers, Nov. 3 - 6, 2012, Monterey, CA, USA
- Invited seminar speaker: Electrical Engineering Departmental Seminar, Texas A&M University, Nov. 16, 2010, College Station, TX, USA
- Invited seminar speaker: Probability and Mathematical Finances Seminar, Dept. of Mathematical Sciences, Carnegie Mellon University, Apr. 20, 2009, Pittsburgh, PA, USA
- Invited talk: 15th INFORMS Applied Probability Society Conference, July 12-15, 2009, Cornell University, Ithaca, NY, USA

TEACHING

Instructor (CMU-ECE) 18-799R: Special Topics in Signal Processing: Large Scale Stochastic Adaptive Systems	Fall 2012
Teaching Assistant (CMU-ECE) 18752: Detection, Estimation and Identification	Spring 2008
Teaching Assistant (CMU-ECE) 18-202: Mathematical Foundations of Electrical Engineering	Fall 2007

STUDENTS SUPERVISED

CURRENT PHD STUDENTS

- Joao Saude (CMU-Portugal program. Coadvised by Diogo Gomes and Joao Pedro Gomes)
Current Research (Fall 2013 –): Large scale stochastic interacting systems, mean-field games
- Anit Sahu
Current Research (Fall 2013 –): Distributed inference in multi-agent networks
- Yaoqing Yang (Coadvised by Pulkit Grover)
Current Research (Fall 2013 –): Noisy computing in networks
- Yuan Chen (Coadvised by José M. F. Moura)
Current Research (Fall 2013 –): Secure and resilient estimation and control in cyber-physical systems
- Javad Mohammadi (Coadvised by Gabriela Hug)
Current Research (Spring 2012 –): Distributed energy management in power systems
- Brian Swenson (CMU-Portugal program. Coadvised by Joao Xavier)
Current Research (Fall 2011 –): Game-theoretic learning and optimization: non-classical information

GRADUATED PHD STUDENTS

- Sergio Pequito (Currently postdoctoral researcher at UPenn, Graduated May 2014, Coadvised by Antonio Pedro Aguiar and Diogo Gomes)
Dissertation: A Structural Approach to Design, Analysis and Optimization of Large-Scale Dynamical Systems.

MS STUDENTS (CURRENT AND FORMER)

- Hao Ming (Spring 2013 – Fall 2013)
Research topic: Distributed algorithms for power flow control in electric power systems
- Nicolas Huynh Thien (Spring 2012 – Spring 2013)
Research topic: Secure sensor fusion for high assurance vehicular systems

POSTDOCTORAL RESEARCHERS (CURRENT AND FORMER)

- Chenye Wu (Fall 2013 – Fall 2014, Cosupervised by Gabriela Hug, Currently postdoctoral researcher at UC Berkeley)

PHD COMMITTEES SERVED

- Augusto Santos (CMU, Defended 2014)
- June Zhang (CMU, Prospectus 2014)
- Dusan Jakovetic (CMU, Defended 2013)
- Andrew Hsu (CMU, Prospectus 2013)
- Yilin Mo (CMU, Defended 2013)
- Sohail Bahmani (CMU, Defended 2013)

PUBLICATIONS

BOOK CHAPTERS

- [B1] A. Tajer, S. Kar, and H.V. Poor, “Distributed state estimation: a learning-based framework”, in *Smart Grid Communications and Networking*, E. Hossain, Z. Han, and H. V. Poor, Eds. Cambridge University Press, 2012.
- [B2] L. Xie, D.H. Choi, S. Kar, and H.V. Poor, “Bad data detection in smart grid: a distributed approach”, in *Smart Grid Communications and Networking*, E. Hossain, Z. Han, and H. V. Poor, Eds. Cambridge University Press, 2012.
- [B3] U. Khan, S. Kar, and J.M.F. Moura, “Distributed algorithms in sensor networks”, in *Handbook on Sensor and Array Processing*, S. Haykin and K. J. R. Liu, Eds. John Wiley & Sons, Inc., 2009.

JOURNALS (SUBMITTED AND PREPRINTS)

- [J1] A.K. Sahu and S. Kar, “Distributed sequential detection for Gaussian binary hypothesis testing”, *IEEE Transactions on Signal Processing*. Submitted. Initial Submission: Nov. 2014. [Online]. Available: <http://arxiv.org/pdf/1411.7716v1.pdf>.
- [J2] J. Mohammadi, S. Kar, and G. Hug, “Distributed approach for DC optimal power flow calculations”, *IEEE Transactions on Power Systems*. Submitted. Initial Submission: Oct. 2014. [Online]. Available: <http://arxiv.org/pdf/1410.4236v1.pdf>.
- [J3] C. Wu, G. Hug, and S. Kar, “Minimal distortion cost energy dispatch for electricity markets with flexible ramping products”, *IEEE Transactions on Power Systems*. Submitted. Initial Submission: Oct. 2014. Revised: Dec. 2014. [Online]. Available: <http://arxiv.org/pdf/1409.5173v1.pdf>.
- [J4] C. Wu, S. Kar, and G. Hug, “Enhanced secondary frequency control via distributed peer-to-peer communication”, *IEEE Transactions on Power Systems*. Submitted. Initial Submission: Aug. 2014. Revised: Nov. 2014. [Online]. Available: <http://arxiv.org/pdf/1403.1868v2.pdf>.
- [J5] S. Pequito, S. Kar, and A.P. Aguiar, “On the complexity of the constrained input selection problem for structural linear systems”, *Automatica*. Submitted. Initial Submission: Apr. 2014. Revised: Nov. 2014. [Online]. Available: <http://arxiv.org/pdf/1404.0072v2.pdf>.
- [J6] S. Pequito, S. Kar, and A.P. Aguiar, “A framework for structural input/output and control configuration selection in large-scale systems”, *IEEE Transactions on Automatic Control*. Conditionally Accepted as a Regular Paper, Nov. 2014. Initial Submission: Sept. 2013. Revised: Sept. 2014. [Online]. Available: <http://arxiv.org/pdf/1309.5868v3.pdf>.
- [J7] B. Swenson, S. Kar, and J. Xavier, “Empirical centroid fictitious play: an approach for distributed learning in multi-agent games”, *IEEE Transactions on Signal Processing*. Submitted. Initial Submission: Apr. 2013. Revised: Oct. 2014. [Online]. Available: <http://arxiv.org/pdf/1304.4577v2.pdf>.
- [J8] G. Hug, S. Kar, and C. Wu, “Consensus+Innovations approach for distributed multi-agent coordination in a microgrid”, *IEEE Transactions on Smart Grid*. Submitted. Initial Submission: Apr. 2013. Last Revised: Dec. 2014. [Online]. Available: <http://users.ece.cmu.edu/~soumyak/MicrogridFullPaper.pdf>.

JOURNALS (PUBLISHED OR IN PRESS)

- [J9] D. Li, S. Kar, J.M.F. Moura, H.V. Poor, and S. Cui, “Distributed Kalman filtering over massive data sets: analysis through large deviations of random Riccati equations”, *IEEE Transactions on Information Theory*. To appear. Initial Submission: Feb. 2014. Accepted: Dec. 2014. [Online]. Available: <http://arxiv.org/pdf/1402.0246v2.pdf>.
- [J10] S. Kar, G. Hug, J. Mohammadi, and J.M.F. Moura, “Distributed state estimation and energy management in smart grids: a consensus+innovations approach”, *IEEE Journal of Selected Topics in Signal Processing*, vol. 8, no. 6, pp. 1022 - 1038, Dec. 2014.
- [J11] Y. Xu, W. Zhang, G. Hug, S. Kar, and Z. Li, “Cooperative control of distributed energy storage systems in a microgrid”, *IEEE Transactions on Smart Grid*, vol. PP, no. 99, pp. 1-1, 2014, DOI:10.1109/TSG.2014.2354033.
- [J12] S. Kar and J.M.F. Moura, “Asymptotically efficient distributed estimation with exponential family statistics”, *IEEE Transactions on Information Theory*, vol. 60, no. 8, pp. 4811 - 4831, Aug. 2014. Initial Submission: Jan. 2013.
- [J13] C. Wu, Y. Shi, and S. Kar, “Exploring demand flexibility in heterogeneous aggregators: an LMP-based pricing scheme”, *ACM Transactions on Embedded Systems - Special Issue on Embedded Systems for Energy-Efficient, Reliable, and Secure Smart Homes*, vol. 13, no. 2s, article no. 57, Jan. 2014.

- [J14] S. Kar, J.M.F. Moura, and H.V. Poor, "Distributed linear parameter estimation: asymptotically efficient adaptive strategies", *SIAM Journal on Control and Optimization*, vol. 51, no. 3, pp. 2200 - 2229, May 2013.
- [J15] S. Kar, J.M.F. Moura, and H.V. Poor, "QD-learning: a collaborative distributed strategy for multi-agent reinforcement learning through consensus+innovations", *IEEE Transactions on Signal Processing*, vol. 61, no. 7, pp. 1848 - 1862, Apr. 2013.
- [J16] S. Kar and J.M.F. Moura, "Consensus + Innovations distributed inference over networks", *IEEE Signal Processing Magazine - Special Issue on Adaptation and Learning over Complex Networks*, vol. 30, no. 3, pp. 99 - 109, May 2013.
- [J17] L. Xie, D.H. Choi, S. Kar, and H.V. Poor, "Fully distributed state estimation for wide-area monitoring systems", *IEEE Transactions on Smart Grid*, vol. 3, no. 3, pp. 1154 - 1169, Sept. 2012.
- [J18] S. Kar, J.M.F. Moura, and K. Ramanan, "Distributed parameter estimation in sensor networks: nonlinear observation models and imperfect communication", *IEEE Transactions on Information Theory*, vol. 58, no. 6, pp. 3575 - 3605, June 2012. Initial Submission: Aug. 2008.
- [J19] S. Kar and J.M.F. Moura, "Moderate deviations of a random Riccati equation", *IEEE Transactions on Automatic Control*, vol. 57, no. 3, pp. 2250 - 2265, Sept. 2012. Initial Submission: Oct. 2009.
- [J20] S. Cui, Z. Han, S. Kar, T. Kim, H.V. Poor, and A. Tajer, "Coordinated data-injection attack and detection in the smart grid: a detailed look at enriching detection solutions", *IEEE Signal Processing Magazine*, vol. 29, no. 5, pp. 106 - 115, Sept. 2012.
- [J21] S. Kar, B. Sinopoli, and J.M.F. Moura, "Kalman filtering with intermittent observations: weak convergence to a stationary distribution", *IEEE Transactions on Automatic Control*, vol. 57, no. 2, pp. 405 - 420, Feb. 2012, Initial Submission: Mar. 2009.
- [J22] A.G. Dimakis, S. Kar, J.M.F. Moura, M.G. Rabbat, and A. Scaglione, "Gossip algorithms for distributed signal processing", *Proceedings of the IEEE*, vol. 98, no. 11, pp. 1847 - 1864, Nov. 2010.
- [J23] S. Kar and J.M.F. Moura, "Convergence rate analysis of distributed gossip (linear parameter) estimation: fundamental limits and tradeoffs", *IEEE Journal of Selected Topics in Signal Processing: Signal Processing in Gossiping Algorithms Design and Applications*, vol. 5, no. 4, pp. 674 - 690, Aug. 2011.
- [J24] S. Kar and J.M.F. Moura, "Gossip and distributed Kalman filtering: weak consensus under weak detectability", *IEEE Transactions on Signal Processing*, vol. 59, no. 4, p. 1766 - 1784, Apr. 2011.
- [J25] U.A. Khan, S. Kar, and J.M.F. Moura, "DILAND: An algorithm for distributed sensor localization with noisy distance measurements", *IEEE Transactions on Signal Processing*, vol. 58, no. 3, pp. 1940 - 1947, Mar. 2010.
- [J26] S. Kar and J.M.F. Moura, "Distributed consensus algorithms in sensor networks: quantized data and random link failures" *IEEE Transactions on Signal Processing*, vol. 58, no. 3, pp. 1383 - 1400, March 2010, Initial Submission: Dec. 2007.
- [J27] U. Khan, S. Kar, and J.M.F. Moura, "Higher dimensional consensus: learning in large-scale networks", *IEEE Transactions on Signal Processing*, vol. 58, no. 5, pp. 2836 - 2849, Feb. 2010.
- [J28] U.A. Khan, S. Kar, and J.M.F. Moura, "Distributed sensor localization in random environments using minimal number of anchor nodes", *IEEE Transactions on Signal Processing*, vol. 57, no. 5, pp. 2000 - 2016, May 2009.
- [J29] S. Kar and J.M.F. Moura, "Distributed consensus algorithms in sensor networks with imperfect communication: link failures and channel noise", *IEEE Transactions on Signal Processing*, vol. 57, no. 1, pp. 355 - 369, Jan. 2009.
- [J30] S. Kar and J.M.F. Moura, "Sensor networks with random links: topology design for distributed consensus", *IEEE Transactions on Signal Processing*, vol. 56, no. 7, pp. 3315 - 3326, Jul. 2008.
- [J31] S. Kar, S. Aldosari, and J.M.F. Moura, "Topology for distributed inference on graphs", *IEEE Transactions on Signal Processing*, vol. 56, no. 6, pp. 2609 - 2613, June 2008.

CONFERENCE PROCEEDINGS

- [C1] J. Mohammadi, G. Hug, and S. Kar, "Fully distributed DC-OPF approach for power flow control", submitted to the *2015 IEEE Power & Energy Society General Meeting*. Initial submission: Nov. 2014.
- [C2] G. Ramos, S. Pequito, A.P. Aguiar, and S. Kar, "Analysis and design of power electric grids with p-robustness guarantees using a structural hybrid system approach", submitted to the *14th annual European Control Conference*. Initial submission: Oct. 2014.
- [C3] S. Pequito, S. Kar, and G.J. Pappas, "Minimum cost constrained input-output and control configuration co-design problem: a structural systems approach", submitted to the *2015 American Control Conference*. Initial submission: Sept. 2014.

- [C4] Y. Chen, S. Kar, and J.M.F. Moura, "Cyber-physical systems: dynamic sensor attacks and strong observability", submitted to the *40th IEEE International Conference on Acoustics, Speech and Signal Processing*. Initial submission: Oct. 2014.
- [C5] D. Li, S. Kar, and S. Cui, "Distributed Kalman filtering with quantized sensing state", submitted to the *40th IEEE International Conference on Acoustics, Speech and Signal Processing*. Initial submission: Oct. 2014.
- [C6] C. Wu, G. Hug, and S. Kar, "A functional approach to assessing flexible ramping products impact on electricity market", in *IEEE PES Conference on Innovative Smart Grid Technologies*. Feb. 17 - 20, 2015, Washington, D.C.
- [C7] S. Pequito, S. Kar, S. Sundaram, and A.P. Aguiar, "Design of communication networks for distributed computation with privacy guarantees", in *53rd IEEE Conference on Decision and Control*, Los Angeles, USA, Dec. 2014. **[Invited]**.
- [C8] S. Pequito, S. Kar, and A.P. Aguiar, "Minimum number of information gatherers to ensure full observability of a dynamic social network: a structural systems approach", in *IEEE Global Conference on Signal and Information Processing*, Dec. 3 - 5, 2014, Atlanta, Georgia, USA. **[Invited]**
- [C9] P. Rocha, S. Pequito, A.P. Aguiar, P. Rocha, and S. Kar, "Sensor placement for real-time dynamic state estimation in power systems: a structural systems approach", in *48th Annual Asilomar Conference on Signals, Systems, and Computers*, Nov. 2 - 5, 2014, Asilomar, Pacific Grove, CA. **[Invited]**
- [C10] B. Swenson, S. Kar, and J. Xavier, "Game-theoretic learning in A distributed-information setting: distributed convergence to mean-centric equilibria", in *48th Annual Asilomar Conference on Signals, Systems, and Computers*, Nov. 2 - 5, 2014, Asilomar, Pacific Grove, CA. **[Invited]**
- [C11] A.K. Sahu and S. Kar, "Distributed sequential detection for Gaussian binary hypothesis testing: heterogeneous networks", in *48th Annual Asilomar Conference on Signals, Systems, and Computers*, Nov. 2 - 5, 2014, Asilomar, Pacific Grove, CA. **[Invited]**
- [C12] S. Pequito, F. Rego, S. Kar, A.P. Aguiar, A.P. Pascoal, and C. Jones, "Optimal design of observable multi-agent networks: a structural system approach", in *13th European Control Conference*, Jun. 24 - 27, 2014, Strasbourg, France.
- [C13] Y. Yang, P. Grover and S. Kar, "Can a noisy encoder be used to communicate reliably?", in *52nd Annual Allerton Conference on Communication, Control, and Computing*, Oct. 1 - 3, 2014, Monticello, IL, USA.
- [C14] J. Mohammadi, G. Hug, and S. Kar, "Role of communication on the convergence rate of fully distributed DC optimal power flow", in *5th IEEE International Conference on Smart Grid Communications*, Nov. 3 - 6, 2014, Venice, Italy.
- [C15] A. Sandryhaila, S. Kar, and J.M.F. Moura, "Finite-time distributed consensus through graph filters", in *39th IEEE International Conference on Acoustics, Speech, and Signal Processing*, May 4 - 9, 2014, Florence, Italy.
- [C16] B. Swenson, S. Kar and J. Xavier, "Strong convergence to mixed equilibria in fictitious play", in *48th annual Conference on Information Sciences and Systems*, Mar. 19 - 21, 2014, Princeton, NJ, USA.
- [C17] S. Pequito, N. Popli, S. Kar, M.D. Ilic, and A.P. Aguiar, "A framework for actuator placement in large scale power systems: minimal strong structural controllability", in *5th IEEE workshop on Computational Advances in Multi-Sensor Adaptive Processing*, Dec. 15 - 18, 2013, Saint Martin. **[Invited]**.
- [C18] S. Kar, J.M.F. Moura, and H.V. Poor, "Distributed reinforcement learning in multi-agent networks", in *5th IEEE workshop on Computational Advances in Multi-Sensor Adaptive Processing*, Dec. 15 - 18, 2013, Saint Martin. **[Invited]**.
- [C19] S. Pequito, S. Kar, and A.P. Aguiar, "Minimum cost input-output and control configuration selection: a structural systems approach", in *52nd IEEE Conference on Decision and Control*, Dec. 10 - 13, 2013, Florence, Italy.
- [C20] B. Swenson, S. Kar, and J. Xavier, "Game-Theoretic Learning In A Distributed-Information Setting: Distributed Convergence To Mean-Centric Equilibria", *1st IEEE Global Conference on Signal and Information Processing*, Dec. 3 - 5, 2013, Austin, TX, USA. **[Invited]**.
- [C21] S. Kar, J.M.F. Moura, and H.V. Poor, "On a consistent procedure for distributed recursive nonlinear least-squares estimation", in *1st IEEE Global Conference on Signal and Information Processing*, Dec. 3 - 5, 2013, Austin, TX, USA. **[Invited]**.
- [C22] G. Ramos, S. Pequito, A.P. Aguiar, J. Ramos, and S. Kar, "A Model Checking Framework for Linear Time Invariant Switching Systems using Structural Systems Analysis", in *Proc. of the 51st Annual Allerton Conference on Communication, Control, and Computing*, Oct. 2 - 4, 2013, Monticello, IL, USA.

- [C23] X. Liu, S. Pequito, S. Kar, Y. Mo, B. Sinopoli, and A.P. Aguiar, "Minimum robust sensor placement for large scale linear time-invariant systems: a structured systems approach", in *4th IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Koblenz, Germany, Sept. 25 - 26, 2013.
- [C24] S. Pequito, C. Agbi, N. Popli, S. Kar, A.P. Aguiar, and M.D. Ilic, "Designing decentralized control systems without structural fixed modes: a multilayer approach", in *4th IFAC Workshop on Distributed Estimation and Control in Networked Systems*, Koblenz, Germany, Sept. 25 - 26, 2013.
- [C25] J.A. Deri, S. Pequito, S. Kar, and J.M.F. Moura, "Identifying small subsets of agents for behavior tracking and abnormal event detection in dynamic networks", in *1st ACM SIGMOD Workshop on Dynamic Networks Management and Mining*, Jun. 23, 2013, New York, NY, USA.
- [C26] S. Pequito, S. Kruzick, S. Kar, J.M.F. Moura, and A. Aguiar, "Optimal design of observable distributed sensor networks", in *21st European Signal Processing Conference*, Sept. 9 - 13, 2013, Marrakech, Morocco.
- [C27] J. Mohammadi, G. Hug, and S. Kar, "A Benders decomposition approach to corrective security constrained OPF with power flow control devices", in *IEEE Power and Energy Society General Meeting*, July 21 - 23, 2013, Vancouver, British Columbia, Canada.
- [C28] U. Khan and S. Kar, "A decentralized algorithm for the preferred assignment problem in multi-agent systems", in *European Control Conference*, Jul. 17 - 19, 2013, Zurich, Switzerland.
- [C29] S. Pequito, S. Kar, and A.P. Aguiar, "Optimal cost actuator/sensor placement for large scale linear time invariant systems: a structured systems approach", in *European Control Conference*, Jul. 17 - 19, 2013, Zurich, Switzerland.
- [C30] S. Pequito, S. Kar, and A.P. Aguiar, "A structured systems approach for optimal actuator-sensor placement in linear time-invariant systems", in *2013 American Control Conference*, Jun. 17 - 19, 2013, Washington, D.C.
- [C31] S. Pequito, Q. Liu, S. Kar, and M.D. Ilic, "PMU placement to ensure observable frequency and voltage dynamics: a structured system approach", in *46th Hawaii International Conference on System Sciences*, Manoa, Hawaii, Jan. 7 - 10, 2013.
- [C32] E.C. Kara, M. Berges, B.H. Krogh, and S. Kar, "Using smart devices for system-level management and control in the smart grid: a reinforcement learning framework", in *3rd International Conference on Smart Grid Communications*, Tainan City, Taiwan, Nov. 5 - 8 2012.
- [C33] C. Wu and S. Kar, "LMP based real time pricing for optimal capacity planning with maximal wind power integration", in *3rd International Conference on Smart Grid Communications*, Tainan City, Taiwan, Nov. 5 - 8 2012.
- [C34] L. Sankar, S. Kar, and H.V. Poor, "Competitive privacy in the smart grid", in *46th Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 4 - 7 2012.
- [C35] B. Swenson, S. Kar, and J. Xavier, "Distributed learning in large-scale multi-agent games: a modified fictitious play approach", in *46th Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 4 - 7 2012. [Online]. Available: <http://users.isr.ist.utl.pt/~jxavier/asilomar2012b.pdf>.
- [C36] J. Mohammadi, G. Hug, and S. Kar, "On the behavior of responsive loads in the presence of DFACTS devices", in *North American Power Symposium*, University of Illinois at Urbana-Champaign, IL., Sept. 9 - 11 2012.
- [C37] S. Kar and G. Hug, "Distributed robust economic dispatch in power systems: a consensus + innovations approach", in *IEEE Power and Energy Society General Meeting*, San Diego, CA, July 22 - 26 2012.
- [C38] J. Weimer, S. Kar, and K.H. Johansson, "Distributed detection and isolation of topology attacks in power networks", in *1st international conference on High Confidence Networked Systems*, Beijing, China, April 17 - 18 2012.
- [C39] Q. Zhou, S. Kar, L. Huie, and S. Cui, "Distributed estimation in sensor networks with imperfect model information: an adaptive learning based approach", in *IEEE International Conference on Acoustics, Speech and Signal Processing*, Kyoto, Japan, March 25 - 30 2012.
- [C40] S. Pequito, Q. Liu, S. Kar, and M.D. Ilic, "PMU placement to ensure observable frequency and voltage dynamics: a structured system approach", in *8th CMU Electricity Conference*, Carnegie Mellon University, Pittsburgh, PA, March 12-14 2012.
- [C41] S. Kar, H.V. Poor, and S. Cui, "Bandit problems in networks: asymptotically efficient distributed allocation rules", in *50th IEEE Conference on Decision and Control and European Control Conference*, Orlando, FL, Dec. 12-15 2011.
- [C42] Q. Zhou, S. Kar, L. Huie, H.V. Poor, and S. Cui, "Robust distributed least-squares estimation in sensor networks with node failures", in *IEEE Global Telecommunications Conference*, Houston, TX, Dec. 5 - 9 2011.

- [C43] A. Tajer, S. Kar, H.V. Poor, and S. Cui, "Distributed joint cyber attack detection and state recovery in smart grids", in *IEEE International Conference on Smart Grid Communications*, Brussels, Belgium, Oct. 17 - 20 2011.
- [C44] L. Sankar, S. Kar, R. Tandon, and H.V. Poor, "Competitive privacy in the smart grid: an information-theoretic approach", in *IEEE International Conference on Smart Grid Communications*, Brussels, Belgium, Oct. 17 - 20 2011.
- [C45] S. Kar, R. Tandon, H.V. Poor, and S. Cui, "Distributed detection in noisy sensor networks", in *IEEE International Symposium on Information Theory*, Saint Petersburg, Russia, July 31 - Aug. 5 2011.
- [C46] L. Xie, D.H. Choi, and S. Kar, "Cooperative distributed state estimation: local observability relaxed", in *IEEE Power and Energy Society General Meeting*, Detroit, MI, Jul. 24 - 28 2011.
- [C47] S. Kar, S. Cui, H.V. Poor, and J.M.F. Moura, "Convergence results in distributed Kalman filtering", in *IEEE International Conference on Acoustics, Speech and Signal Processing*, Prague, Czech Republic, May 22 - 27 2011.
- [C48] S. Kar and J.M.F. Moura, "Global emergent behaviors in clouds of agents", in *IEEE International Conference on Acoustics, Speech and Signal Processing*, Prague, Czech Republic, May 22 - 27 2011.
- [C49] S. Kar, J.M.F. Moura, and K. Ramanan, "Sample path large deviations for the randomly sampled continuous-discrete Kalman filter", in *49th IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 15 - 17 2010.
- [C50] U. Khan, S. Kar, A. Jadbabaie, and J.M.F. Moura, "On connectivity, observability, and stability in distributed estimation", in *49th IEEE Conference on Decision and Control*, Atlanta, GA, Dec. 15 - 17 2010.
- [C51] S. Kar, B. Sinopoli, and J.M.F. Moura, "A random dynamical systems approach to filtering in large-scale networks", in *American Control Conference*, Baltimore, MD, June 30-July 2 2010.
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