

Ali Tajer

Curriculum Vitæ

Electrical, Computer, and Systems Engineering
Jonsson Engineering Center 6040
Rensselaer Polytechnic Institute
110 8th Street, Troy, NY 12180

Phone: (518) 276-8237
tajer@ecse.rpi.edu
URL: <https://www.isg-rpi.com>
U.S. Citizen

Education

- | | |
|-------------|--|
| 2007-2010 | Columbia University , New York City, NY
Ph.D., Electrical Engineering, (May 2010)
M.A., Statistics (May 2009)
M.Phil., Electrical Engineering (May 2009) |
| 1998 - 2004 | Sharif University of Technology
M.Sc., Electrical Engineering (June 2004)
B.Sc., Electrical Engineering, (June 2002) |

Academic Employment

- | | |
|--------------|--|
| 2019-present | Rensselaer Polytechnic Institute , Troy, NY
Associate Professor
Electrical, Computer, and Systems Engineering |
| 2014-2018 | Rensselaer Polytechnic Institute , Troy, NY
Assistant Professor
Electrical, Computer, and Systems Engineering |
| 2012-2014 | Wayne State University , Detroit, MI
Assistant Professor
Electrical and Computer Engineering |
| 2010-2012 | Princeton University , Princeton, NJ
Postdoctoral Research Associate
Electrical Engineering Department |
| 2010-2012 | Columbia University , New York City, NY
Adjunct Assistant Professor
Electrical Engineering Department |

Editorial Boards

2019-present	Associate Editor, <i>IEEE Transactions on Signal Processing</i>
2013-2020	Editor, <i>IEEE Transactions on Communications</i>
2014-2020	Editor, <i>IEEE Transactions on Smart Grid</i>
2018-2019	Associate Editor, <i>IET Transactions on Smart Grid</i>
2018-2019	Associate Editor, <i>Springer Journal of Modern Power Systems and Clean Energy</i>
2016-2017	Guest Editor, <i>IEEE Signal Processing Magazine</i>
2014-2016	Guest Editor-in-Chief, <i>IEEE Transactions on Smart Grid</i>

Awards

External Honors and Awards

2019	Summer Faculty Fellowship, AFRL
2016	Faculty Early Career Development Award (CAREER), NSF
2015	Elevated to <i>Senior Member</i> , IEEE
2012	Nominated for the IEEE Signal Processing Best Paper Award <i>Selected from the papers appeared in the society's 7 Transactions (5-year window).</i>
2011	Nominated for the IEEE Signal Processing Young Author Best Paper Award <i>Selected from the papers appeared in the society's 7 Transactions (5-year window).</i>
2011	Jury Award – School of Engineering and Applied Sciences, Columbia University
2010	Ph.D. Thesis Distinction, Columbia University <i>Awarded Annually to at most 1% of all the Ph.D. graduates in Engineering, Arts, and Sciences</i>

Rensselaer Honors and Awards

2018	School of Engineering Classroom Excellence Award, Rensselaer Polytechnic Institute
2017	School of Engineering Research Excellence Award, Rensselaer Polytechnic Institute
2014-2019	Board of Trustees Faculty Achievement Award

Student Research Advising

2019-present	Arpan Mukherjee (M.Tech., IIT-Kharagpur)
2019-present	Anmol Dwivedi (B. Tech., National Institute of Technology, Tiruchirappalli)
2020-present	Burak Varıcı (B.Sc., Bogazici University)
2020-present	Kamron Fazel (B.Sc., Rensselaer Polytechnic Institute, M.Sc., Pennsylvania State University)
2021-present	Zirui Yan (B.A., University of Science and Technology of China)
2021-present	Sihui Wang (B.A., Nanjing University (Mathematics))
2016-2020	Saurabh Sihag (B.Tech./M.Tech, IIT-Kharagpur) <i>Research Associate at the University of Pennsylvania</i>
2016-2020	Maha Zohdy (B.Sc., Cairo University and M.Sc., Nile University) <i>Research Scientist at Mathworks, Natick, MA</i>
2014-2018	Javad Heydari, Ph.D. (B.Sc./M.Sc. Sharif University of Technology) <i>AI/Machine Learning research scientist at LG Electronics, Santa Clara, CA</i>
2013-2018	Saeid Balaneshin, Ph.D. <i>Applied Scientist, Zillow, Seattle, WA</i>
2015-2016	Samia Kazemi <i>Ph.D student in Computer Science at Rensselaer</i>
2015-2016	Mengheng Xue
2014-2015	Mateo Mengis, M.Sc. <i>Control Systems Section Chief at U.S. Army Corps of Engineers, Portland, OR</i>
2011-2014	Zhe Wang (B.Sc./M.Sc. Shanghai Jiao Tong University) <i>Researcher in China</i>
2013-2014	İslam Şafak Bayram (postdoc, Ph.D. from North Carolina State University) <i>Assistant Professor, Hamad Bin Khalifa University, Doha, Qatar</i>

Doctoral Thesis Committee Membership

TBD	Hongtao Guo (BME) – Advisor Pingkun Yan
TBD	Yu Wang (ECSE) – Advisor Alhussein Abouzeid
TBD	Zaid Bin Tariq (ECSE) – Advisor Bülent Yener
TBD	Shuai Zhang (ECSE) – Advisor: Meng Wang
2020	Bariscan Yonel (ECSE) – Advisor: Birsen Yazıcı
2020	Meng Zheng (ECSE) – Advisor: Richard J. Radke
2018	Il-Young Son (ECSE) – Advisor: Birsen Yazıcı
2018	Yingshuai Hao (ECSE) – Advisor: Meng Wang
2018	Yuan Liu (ECSE) – Advisor: John Woods
2018	Gourav Saha (ECSE) – Advisor: Alhussein A. Abouzeid
2017	Eric Mason (ECSE) – Advisor: Birsen Yazıcı
2017	Hanchao Liu, (ECSE) – Advisor: Jian Sun
2015	Zhe Wang (Columbia University, EE) – Advisor: Xiaodong Wang
2015	Ning Zheng (ECSE) – Advisor: Tong Zhang

Publications

A Patent Applications and Disclosures

4. A. Tajer, N. Prasad, and X. Wang, “Robust Linear Precoder Designs for Multi-Cell Downlink Transmission”, U.S. Patent 8,520,762
3. A. Tajer, N. Prasad, and X. Wang, “Robust Linear Precoder Designs for Multi-Cell Downlink Transmission”, U.S. Patent 8,520,763

2. A. Tajer, N. Prasad, and X. Wang, "Robust Linear Precoder Designs for Multi-Cell Downlink Transmission", U.S. Patent 8,385,454
1. A. Tajer, N. Prasad, X. Wang, "Distributed Beamforming and Rate Allocation in Multi-antenna Cognitive Radio Networks", U.S. Patent, Application 2009/0323619 A1.

B Books

2. A. Tajer, S. M. Perlaza, and H. V. Poor, editors. *Advanced Data Analytics for Power Systems*. Cambridge University Press, Cambridge, UK, February 2021. ISBN-13: 9781108859806 (615 pages).
1. I. S. Bayram and A. Tajer. *Plug-in Electric Vehicle Grid Integration*. Artech House, Cambridge, MA, July 2017. ISBN-13: 978-1630810511 (276 pages).

C Book Chapters

3. J. Heydari and A. Tajer. *Data Analytics for Power Systems*, chapter Controlled Sensing Theory and Applications to Anomaly Detection in Power Systems. Cambridge University Press, Cambridge, UK, 2021.
2. A. Tajer and X. Wang. *Spectrum Sharing in Wireless Networks: Fairness, Efficiency, and Security*, chapter Capacity Scaling of MIMO Broadcast Channels with Finite-rate Feedback, pages 191–201. CRC Press, 2016.
1. A. Tajer, S. Kar, and H. V. Poor. *Smart Grid Communications and Networking*, chapter Distributed State Estimation: A Learning-based Framework, pages 191–201. Cambridge University Press, Cambridge, UK, 2012.

D Peer-Reviewed Journal Articles

Under Review

10. M. Zohdy, A. Tajer, and S. Shamaï (Shitz). Queuing Delay in Multi Access Channels without CSIT. *IEEE Transactions on Communications*.
9. A. Dwivedi and A. Tajer. Graph spectral analysis for quickest line outage detection in power systems. *IEEE Transactions on Power Systems*
8. A. Mukherjee, A. Tajer, P. Das, and P.-Y. Chen. Controlled sensing for sequential estimation in networks. *IEEE Transactions on Signal Processing*.
7. S. Sihag, A. Tajer, and U. Mitra. Two-stage group testing over networks. *IEEE Transactions on Signal Processing*.
6. S. Sihag and A. Tajer. Structure Learning with Side Information: Sample Complexity. *IEEE Transactions on Information Theory*. (submitted October 2020)
5. S. Sihag, J. Heydari, and A. Tajer. Controlled sequential estimation in networked data. *IEEE Transactions on Signal Processing*. (submitted August 2019)
4. J. Heydari and A. Tajer. Quickest search for a change point. *IEEE Transactions on Information Theory*. (submitted August 2019)
3. J. Heydari, A. Tajer, and H. V. Poor. Quickest detection of markov networks. *IEEE Transactions on Information Theory*. (submitted July 2019) .

Published/Accepted for Publication

47. A. Tajer, A. Steiner, and S. Shamaï (Shitz). The broadcast approach in communication networks. *Entropy*, 23(1):1–137, January 2021.
46. M. Zohdy, A. Tajer, and S. Shamaï (Shitz). Distributed Interference Management: A Broadcast Approach. *IEEE Transactions on Communications*, 69(1):149 – 163, January 2021.
45. S. Sihag and A. Tajer. Secure estimation under causative attacks. *IEEE Transactions on Information Theory*, 66(8):5145 – 5166, August 2020.

44. M. Zohdy, A. Tajer, and S. Shamai (Shitz). Broadcast Approach to Multiple Access with Partial CSIT. *IEEE Transactions on Communications*, 67(11):7483–7498, November 2019.
43. T. Allen, A. Tajer, and N. Al-Dhahir. Secure alamouti multiple access channel transmissions with multi-antenna eavesdroppers. *IEEE Wireless Communications Letters*, 8(5):1510–1513, October 2019.
42. S. Sihag and A. Tajer. Optimal network parameter estimation: Single-shot exchange of local decisions. *IEEE Signal Processing Letter*, 26(9):1280–1284, September 2019.
41. A. Tajer, S. Sihag, and K. Alnajjar. Non-linear State Recovery in Power System under Random and Structured Attacks. *Springer Journal of Modern Power Systems and Clean Energy*, 7(5):1071 – 1080, September 2019.
40. M. Zohdy and A. Tajer. Broadcast approach for the single-user energy harvesting channel. *IEEE Transactions on Communications*, 67(5):3192 – 3204, May 2019.
39. J. Heydari and A. Tajer. Quickest Search and Learning over Correlated Sequences: Theory and Application. *IEEE Transactions on Signal Processing*, 67(3):638 – 651, March 2019.
38. A. Tajer. False data injection attacks on electricity markets by limited adversaries: Stochastic robustness. *IEEE Transactions on Smart Grid*, 10(1):128–138, January 2019.
37. A. Tajer, M. Zohdy, and K. Alnajjar. Resource Allocation in Communication Systems under Sequential Resource Access. *IEEE Transactions on Communications*, 66(11):5608–5620, November 2018.
36. M. R. Mengis and A. Tajer. Data injection attacks on electricity markets by limited adversaries: Worst-case robustness. *IEEE Transactions on Smart Grid*, 9(6):5710–5720, November 2018.
35. S. Sihag and A. Tajer. Power system state estimation under model uncertainty. *Journal of Selected Topics in Signal Processing*, 12(4):593–606, August 2018.
34. S. Kazemi and A. Tajer. Multiaccess communication via a broadcast approach adapted to the multiuser channel. *IEEE Transactions on Communication*, 66(8):3341–3353, August 2018.
33. J. Heydari and A. Tajer. Quickest localization of anomalies in power grids: A stochastic graphical approach. *IEEE Transactions on Smart Grid*, 9(6):4679–4688, August 2018.
32. A. Tajer. Load prediction via diversified state prediction in multi-area power networks. *IEEE Transactions on Smart Grid*, 8(6):2675 – 2684, November 2017.
31. J. Heydari and A. Tajer. Quickest search for local structures in random graphs. *IEEE Transactions on Signal and Information Processing over Networks – Special Issue on Graph Signal Processing*, 3(3):528–538, September 2017.
30. T. Allen, A. Tajer, and N. Al-Dhahir. Secure Alamouti MAC Transmissions. *IEEE Transactions on Wireless Communication*, 16(6):3674–3687, June 2017.
29. I. S. Bayram and A. Tajer. Exploiting pev batteries for v2x applications. *IEEE Smart Grid Newsletter*, May 2017.
28. I. S. Bayram, A. Tajer, M. Abdallah, and K. Qaraqe. A Stochastic Sizing Approach for Sharing-based Energy Storage. *IEEE Transactions on Smart Grid*, 8(3):1075–1084, May 2015.
27. H. Godrich, A. Nehorai, A. Tajer, M. Sabrina Greco, and C. Zhang. Special article series on signal processing education via hands-on and design projects. *IEEE Signal Processing Magazine*, 34(1):13, January 2017.
26. J. Heydari, A. Tajer, and H. V. Poor. Quickest Linear Search over Correlated Sequences. *IEEE Transactions on Information Theory*, 62(10):5786–5808, October 2016.
25. C. Gong M. Ashraphijou, A. Tajer and X. Wang. A receiver-centric approach to interference management: Fairness and outage optimization. *IEEE Transactions on Information Theory*, 62(10):5619–5642, October 2016.
24. A. Tajer, I. Dobson, S. Kar, J. Lavaei, and L. Xie. Theory of complex systems with applications to smart grid operations. *IEEE Transactions on Smart Grid*, 7(4):1949–1950, July 2016.
23. A. Tajer and J. Heydari. Quickest Wideband Spectrum Sensing over Correlated Channels. *IEEE Transactions on Communication*, 63(9):3082–3091, September 2015.

22. I. S. Bayram, A. Tajer, M. Abdallah, and K. Qaraqe. Capacity Planning Frameworks for Electric Vehicle Charging Stations With Multiclass Customers. *IEEE Transactions on Smart Grid*, 6(4):1934–1943, July 2015.
21. A. Tajer, V. V. Veeravalli, and H. V. Poor. Outlying Sequence Detection in Large Datasets - A Data-Drive Approach. *IEEE Signal Processing Magazine - Special Issue on Signal Processing for Big Data*, 31(5):44–56, September 2014.
20. W. Xu, A. Tajer, and X. Wang. Power Allocation in MISO Interference Channels with Stochastic CSIT. *IEEE Transactions on Wireless Communications*, 13(3):1716–1727, March 2014.
19. C. Gong, A. Tajer, and X. Wang. Distributed Real-time Energy Scheduling in SmartGrid: Stochastic Model and Fast Optimization. *IEEE Transactions on Smart Grid*, 4(3):1476 – 1489, September 2013.
18. A. Tajer and H. V. Poor. Quick Search for Rare Events. *IEEE Transactions on Information Theory*, 59(7):4462 – 4481, July 2013.
17. G. H. Jajamovich, A. Tajer, and X. Wang. Minimax-Optimal Hypothesis Testing with Estimation-dependent Costs. *IEEE Transactions on Signal Processing*, 60(12):6151–6165, December 2012.
16. S. Cui, Z. Han, S. Kar, T. 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*, 29(5):106–115, September 2012.
15. A. Tajer, R. Castro, and X. Wang. Adaptive sensing of congested spectrum bands. *IEEE Transactions on Information Theory*, 58(9):6110– 6125, September 2012.
14. C. Gong, A. Tajer, and X. Wang. Group Decoding for Multi-Relay Assisted Interference Channel. *IEEE Journal of Selected Areas in Communications*, 30(8):1489 – 1499, August 2012.
13. A. Tajer and X. Wang. $(n;K)$ -user Interference Channel: Degrees of Freedom. *IEEE Transactions on Information Theory*, 58(8):5338 – 5353, August 2012.
12. G. V. Moustakides, G. H. Jajamovich, A. Tajer, and X. Wang. Joint detection and estimation: optimum tests and applications. *IEEE Transactions on Information Theory*, 58(7):4215–4229, July 2012.
11. C. Gong, O. Abu-Ella, A. Tajer, and X. Wang. Constrained Group Decoder for Interference Channels. *Journal of Communications, Special Issue on Future Directions in Computing and Networking*, 7(5):382–390, May 2012.
10. Z. Wang, A. Tajer, and X. Wang. Communication of Energy Harvesting Tags. *IEEE Transactions on Communications*, 60(4):1159 – 1166, April 2012.
9. C. Gong, A. Tajer, and X. Wang. Interference Channels with Partial Group Decoding. *IEEE Transactions on Communications*, 59(11):3059 – 3071, November 2011.
8. A. Tajer, A. Nosratinia, and N. Al-Dhahir. Diversity Order of In Finite-Length Symbol-by-Symbol Linear Equalization. *IEEE Transactions on Communications*, 59(9):2343 – 2348, September 2011.
7. A. Tajer and X. Wang. Information Exchange Limits in Multi-cell MIMO Cooperative Networks. *IEEE Transactions on Signal Processing*, 59(6):2927 – 2942, June 2011.
6. A. Tajer, N. Prasad, and X. Wang. Robust Linear Precoder Design for Multi-cell Downlink Transmission. *IEEE Transactions on Signal Processing*, 59(1):235–251, January 2011.
5. A. Tajer and X. Wang. Multiuser Diversity Gain in Cognitive Networks. *IEEE/ACM Transactions on Networking*, 18(6):1766 – 1779, December 2010.
4. A. Tajer and A. Nosratinia. Diversity Order in ISI Channels with Single-Carrier Frequency-Domain Equalizers. *IEEE Transactions on Wireless Communications*, 9(3):1022 – 1032, March 2010.
3. A. Tajer, G. H. Jajamovich, X. Wang, and G. V. Moustakides. Optimal joint target detection and parameter estimation by MIMO radar. *IEEE Journal of Selected Topics in Signal Processing*, 4(1):127–145, January 2010.
2. A. Tajer, N. Prasad, and X. Wang. Beamforming and rate allocation in miso cognitive radio networks. *IEEE Transactions on Signal Processing*, 58(1):362 – 377, January 2010.
1. Ali Tajer and Xiaodong Wang. Beacon-Assisted Spectrum Access with Cooperative Cognitive Transmitter and Receiver. *IEEE Transactions on Mobile Computing*, 9(1):112– 126, January 2010.

E Peer-reviewed Conference Papers

78. S. Sihag and A. Tajer. Approximate Recovery Of Ising Models with Side Information. In *Proc. IEEE International Symposium on Information Theory*, Los Angeles, CA, June 2020
77. M. Zohdy, A. Tajer, and S. Shamai (Shitz). Interference Management without CSIT: A Broadcast Approach. In *Proc. IEEE International Symposium on Information Theory*, Los Angeles, CA, June 2020
76. Ali Tajer and Guangtao Zheng. Learning the wireless interference graph via local probes. In *Proc. International Workshop on Signal Processing Advances in Wireless Communications*, Atlanta, GA, May 2020
75. S. Sihag and A. Tajer. Structure Learning with Side Information: Sample Complexity. In *Proc. Conference on Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, December 2019
74. J. Heydari and A. Tajer. Quickest search for a change point. In *Proc. IEEE International Symposium on Information Theory*, Paris, France, July 2019
73. S. Sihag and A. Tajer. Structure learning of similar Ising models: Information-theoretic bounds. In *Proc. IEEE International Symposium on Information Theory*, Paris, France, July 2019
72. S. Sihag and A. Tajer. Secure estimation under causative attacks. In *Proc. IEEE International Symposium on Information Theory*, Paris, France, July 2019
71. S. Sihag and A. Tajer. Sample complexity of joint structure learning. In *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing*, Brighton, UK, April 2019
70. M. Zohdy and A. Tajer. A broadcast approach to the single-user energy harvesting channel. In *Proc. IEEE Global Communications Conference*, Abu Dhabi, UAE, December 2018
69. M. Zohdy, S. Kazemi, and A. Tajer. A broadcast approach to multiple access with partial CSIT. In *Proc. IEEE Global Communications Conference*, Abu Dhabi, UAE, December 2018
68. S. Sihag and A. Tajer. Non-linear state estimation in power systems under model uncertainty. In *Proc. IEEE Global Conference on Signal and Information Processing*, Anaheim, CA, Nov. 2018
67. J. Heydari and A. Tajer. Quickest search for a change window. In *Proc. Allerton Conference on Communication, Control, and Computing*, Monticello, IL, Oct. 2018
66. A. Tajer and M. Zohdy. Resource Allocation under Sequential Resource Access: Theory and Application. In *Proc. Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2018
65. S. Perlaza, A. Tajer, and H. V. Poor. Simultaneous energy and information transmission: A finite block-length analysis. In *Proc. IEEE International Workshop on Signal Processing Advances in Wireless Communications*, Kalamata, Greece, June 2018
64. J. Heydari and A. Tajer. Controlled sensing for multi-hypothesis testing with co-dependant actions. In *Proc. IEEE International Symposium on Information Theory*, Vail, CO, June 2018
63. S. Sihag and A. Tajer. Scalable network parameter estimation in the presence of anomalies. In *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing*, Calgary, Canada, April 2018
62. S. Sihag and A. Tajer. Distributed estimation under network model uncertainty. In *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing*, Calgary, Canada, April 2018
61. S. Sihag, J. Heydari, and A. Tajer. Sequential estimation of distributed parameters in networks. In *Proc. Annual Conference on Information Sciences and Systems*, Princeton, NJ, March 2018
60. A. Tajer. Data injection attacks in electricity markets: Stochastic robustness. In *Proc. IEEE Global Conference on Signal and Information Processing*, Montreal, Canada, November 2017
59. S. Sihag and A. Tajer. Secure parameter estimation: Fundamental tradeoffs. In *Proc. IEEE Global Conference on Signal and Information Processing*, Montreal, Canada, November 2017
58. Z. Sun J. Heydari and A. Tajer. Quickest line outage localization under unknown model. In *Proc. IEEE Global Conference on Signal and Information Processing*, Montreal, Canada, November 2017

57. A. Tajer. Quickest search for a transient change in a time series. In *Proc. Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2017
56. S. Kazemi and A. Tajer. A broadcast approach to multiple access adapted to the multiuser channel. In *Proc. IEEE International Symposium on Information Theory*, Aachen, Germany, June 2017
55. J. Heydari and A. Tajer. Quickest search and learning over multiple sequences. In *Proc. IEEE International Symposium on Information Theory*, Aachen, Germany, June 2017
54. J. Heydari and A. Tajer. Quickest change detection in structured data with incomplete information. In *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing*, New Orleans, LA, March 2017
53. T. Allen, A. Tajer, and N. Al-Dhahir. Reduced-feedback an-aided secure alamouti mac transmissions. In *Proc. IEEE Global Communications Conference*, Washington, D.C., December 2016
52. M. Xue and A. Tajer. Worst-case robust attacks by limited adversaries against electricity markets. In *Proc. Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, November 2016
51. J. Heydari and A. Tajer. Quickest combined anomaly detection and estimation in networked data. In *Proc. Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, November 2016
50. J. Heydari and A. Tajer. Quickest search for structured subnetworks. In *Proc. 54th Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2016
49. J. Heydari, A. Tajer, and H. V. Poor. Quickest detection of markov networks. In *Proc. International Symposium on Information Theory*, Barcelona, Spain, June 2016
48. J. Heydari and A. Tajer. A graphical approach to quickest outage localization in power grids. In *Proc. IEEE Workshop on Statistical Signal Processing*, Palma de Mallorca, Spain, June 2016
47. J. Heydari, A. Tajer, and H. V. Poor. Quickest search over correlated sequences under model uncertainty. In *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing*, Shanghai, China, March 2016
46. J. Heydari, A. Tajer, and H. V. Poor. Quickest Detection of Gauss-Markov Random Fields. In *Proc. 53rd Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2015
45. J. Heydari and A. Tajer. Quickest Linear Search over Correlated Sequences. In *Proc. International Symposium on Information Theory*, Hong Kong, China, June 2015
44. A. Tajer and J. Heydari. Quickest Spectrum Sensing over Correlated Channels. In *Proc. International Conference on Communications*, London, UK, June 2015
43. I. S. Bayram, A. Tajer, M. Abdallah, and K. Qaraqe. Energy Storage Sizing for Peak Hour Utility Applications. In *Proc. International Conference on Communications*, London, UK, June 2015
42. H. Zebardast, A. Tajer, B. Maham, and M. Rezaee. Relay X Channel without Channel State Information at the Transmit Sides: Degrees of Freedom. In *Proc. IEEE Wireless Communications and Networking Conference*, New Orleans, LA, March 2015
41. A. Tajer. Diversity-based parameter estimation in complex networks. In *Proc. IEEE Global Conference on Signal and Information Processing*, Atlanta, GA, December 2014
40. J. Heydari and A. Tajer. Quickest Sequential Search over Correlated Sequences. In *Proc. 48rd Annual Asilomar Conference on Signals, Systems, and Computers* 6rd Annual Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, November 2014
39. A. Tajer. State Recovery under Cyber Attacks in Energy Grids. In *Proc. The 8th IEEE Sensor Array and Multichannel Signal Processing Workshop*, Coruna, Spain, June 2014
38. S. Balaneshin, A. Tajer, and H. V. Poor. Quick search for correlated rare events in high-dimensional data. In *Proc. International Symposium on Communications, Control, and Signal Processing*, Athens, Greece, May 2014
37. Ali Tajer and H. V. Poor. Adaptive Block Sampling for Spectrum Sensing. In *Proc. 5th IEEE International Workshop on Computational Advances in Multi-sensor Adaptive Processing*, Saint Martin, December 2013

36. K. Kalbat and A. Tajer. Learning-based distributed load forecasting in energy grids. In *Proc. IEEE Global Conference on Signal and Information Processing*, Austin, TX, December 2013
35. A. Tajer and H. V. Poor. Quick Search for Rare Events through Sequential Group Sampling. In *Proc. 47rd Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, November 2013
34. A. Tajer and H. V. Poor. Quick Search for Rare Spectrum Opportunities. In *Proc. European Signal Processing Conference*, Marrakech, Morocco, September 2013
33. A. Tajer and H. V. Poor. Quick Spectrum Access via Block Sampling. In *Proc. IEEE Vehicular Technology Conference Fall*, Las Vegas, NV, August 2013
32. A. Tajer, N. Prasad, and X. Wang. Design of Coordinated Multi-Point (CoMP) Transmission and Reception Schemes for the 4G Cellular Downlink. In *Proc. 46rd Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, November 2012
31. A. Tajer and H. V. Poor. Hypothesis testing for partial sparse recovery. In *Proc. Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2012
30. A. Tajer and H. V. Poor. Cost of Proportional Fairness in Multiuser Networks. In *Proc. Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2012
29. C. S. Leberknight, A. Tajer, M. Chiang, and H. V. Poor. Identifying Communities of Interest Using Side Information. In *Proc. IEEE Statistical Signal Processing Workshop*, Ann Arbor, MI, August 2012
28. H. Godrich, A. Tajer, and H.V. Poor. Distributed target tracking in multiple widely separated radar architectures. In *Proc. IEEE Sensor Array and Multichannel Signal Process. Workshop (SAM)*, Hoboken, NJ, June 2012
27. A. Tajer and H. V. Poor. Quick Partial Sparse Support Recovery. In *Proc. Information Theory and Applications*, San Diego, CA, February 2012
26. C. Gong, A. Tajer, and X. Wang. Group Decoding for Interference Channels. In *Proc. International Conference on Computing, Networking and Communications*, Manu, HI, January 2012
25. C. Gong, A. Tajer, and X. Wang. A Practical Coding Scheme for Interference Channel using Constrained Partial Group Decoder. In *Proc. IEEE Global Communications Conference*, Houston, TX, December 2011
24. A. Tajer, S. Kar, H. V. Poor, and S. Cui. Distributed joint cyber attack detection and state recovery in smart grids. In *Proc. IEEE Smart Grid Communication Conference*, Brussels, Belgium, October 2011
23. G. H. Jajamovich, A. Tajer, and X. Wang. Optimal combined detection and estimation. In *Proc. Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2011
22. A. Tajer and H. V. Poor. Adaptive Sampling for Sparse Recovery. In *Proc. The Fourth Workshop on Information Theoretic Methods in Science and Engineering*, Helsinki, Finland, August 2011
21. A. Tajer, H. V. Poor, and X. Wang. Partial Group Decoding for Interference Channels. In *Proc. International Symposium on Information Theory*, Saint Petersburg, Russia, August 2011
20. A. Tajer, X. Wang, and H. V. Poor. Coordination Limits in MIMO Networks. In *Proc. International Symposium on Information Theory*, Saint Petersburg, Russia, August 2011
19. A. Tajer and X. Wang. $(n; K)$ -user Interference Channel: Degrees of Freedom. In *Proc. International Symposium on Information Theory*, Saint Petersburg, Russia, August 2011
18. A. Tajer and H. V. Poor. Quick Search via Adaptive Sampling. In *International Workshop on Sequential Methodologies*, Palo Alto, CA, June 2011
17. A. Tajer, N. Prasad, and X. Wang. Fair Rate Adaptation in Multiuser Interference Channels. In *Proc. International Symposium on Information Theory*, Austin, TX, June 2010
16. A. Tajer, N. Prasad, and X. Wang. Robust Beamforming for Multi-cell Downlink Transmission. In *Proc. International Symposium on Information Theory*, Austin, TX, June 2010

15. A. Tajer, N. Prasad, and X. Wang. Robust Transceiver Design for the Multi-user Interference Channel. In *Proc. IEEE International Conference on Communications*, Cape Town, South Africa, May 2010
14. A. Tajer, R. Castro, and X. Wang. Adaptive spectrum sensing for agile cognitive radios. In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, TX, March 2010
13. A. Tajer, R. Castro, and X. Wang. Adaptive spectrum sensing for agile cognitive radios. In *Proc. Information Theory and Applications*, San Diego, CA, February 2010
12. A. Tajer, G. H. Jajamovich, X. Wang, and G. V. Moustakides. Finite-sample optimal joint target detection and parameter estimation by MIMO radars. In *Proc. the Forty-Third Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, Nov. 2009
11. A. Tajer, G. H. Jajamovich, X. Wang, and G. V. Moustakides. Finite-sample optimal joint target detection and parameter estimation by MIMO radars. In *Proc. IEEE Military Communications Conference*, Boston, MA, Oct. 2009
10. A. Tajer, N. Prasad, and X. Wang. Distributed Beamforming and Rate Allocation in Multi Antenna Cognitive Radio Networks. In *Proc. IEEE International Conference on Communications*, Dresden, Germany, June 2009
9. A. Tajer and X. Wang. Beacon-Assisted Spectrum Access with Cooperative Cognitive Transmitter and Receiver. In *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing*, Taiwan, March 2009
8. A. Tajer and X. Wang. Multiuser Diversity Gain in Cognitive Networks with Distributed Spectrum Access. In *Proc. IEEE Conference on Information Sciences and Systems*, Baltimore, MD, March 2009
7. A. Tajer, N. Prasad, and X. Wang. Distributed Rate Allocation in MISO Cognitive Networks. In *Proc. Information Theory and Applications*, San Diego, CA, February 2009
6. A. Tajer and X. Wang. Opportunistic Multi-Antenna Downlink Transmission with Finite-Rate Feedback. In *Proc. Allerton Conference on Communication, Control, and Computing*, Monticello, IL, September 2008
5. A. Tajer and A. Nosratinia. Diversity Order of MMSE Single-Carrier Frequency Domain Linear Equalization. In *Proc. IEEE Global Telecommunications Conference*, Washington, D.C., November 2007
4. A. Tajer and A. Nosratinia. Opportunistic Cooperation via Partner Selection with Minimal Information Exchange. In *Proc. IEEE International Symposium on Information Theory*, Nice, France, June 2007
3. A. Tajer, A. Nosratinia, and N. Al-Dhahir. MMSE Infinite Length Symbol-by-Symbol Linear Equalization Achieves Full Diversity. In *Proc. IEEE International Symposium on Information Theory*, Nice, France, June 2007
2. A. Tajer and A. Nosratinia. A Broadcasting Relay for Orthogonal Multiuser Channels. In *Proc. IEEE Global Telecommunications Conference*, San Francisco, CA, November 2006
1. A. Tajer and B. H. Khalaj. Performance Enhancement of Cellular OFDM Based Wireless LANs by Exploiting Spatial Diversity Techniques. In *Proc. International Conference of Signal Processing*, Ankara, Turkey, 2004

Editorship & Service

Research Proposal Reviews

- NSF Panel Reviewer, ENG (CAREER) 2020
- NSF Panel Reviewer, CRII 2020
- NSF Panel Reviewer, CISE 2020
- Natural Sciences and Engineering Research (Canada) 2020
- NSF Panel Reviewer, CISE 2019
- DoE Panel Reviewer 2019
- NSF Panel Reviewer, Big Data 2018

- NSF Panel Reviewer, Big Data 2017
- Israel Science Foundation 2017
- US-Israel Binational Science Foundation 2017
- NSF Panel Reviewer, Big Data 2016
- NSF Panel Reviewer, CISE 2016
- NSF Panel Reviewer, EARS 2015
- NSF Panel Reviewer, CISE 2015
- Israel Science Foundation 2015
- NSF Panel Reviewer, RIPS 2014
- NSF Panel Reviewer, Big Data 2014
- AFOSR/DDDS 2014
- NSF Panel Reviewer, ENG 2013

Professional Societies

- *Senior Member*, IEEE
- *Member* IEEE Information Theory Society
- *Member*, IEEE Signal Processing Society
- *Member*, IEEE Communication Society
- *Member*, IEEE Power System Society
- *Member*, Society for Industrial and Applied Mathematics (SIAM)
- *Member*, New York Academy of Sciences

Service to Professional Societies

• **Technical Societies Committee Member:**

– **Elected Member**

- IEEE Signal Processing Theory and Methods* 2018 - present
- IEEE Signal Processing for Communications and Networking* 2018 - 2020

– **Invited Member**

- IEEE Information Theory Society Online Committee* 2018 - 2019
- IEEE Signal Processing for Communications* 2016 - present
- IEEE Multimedia Communications Technical Committee* 2012 - 2014

• **Society Representation**

- IEEE Signal Processing Society's Representative on the IEEE Smart Grid Initiative 2019 - 2020
- IEEE Signal Processing Society's Representative on the IEEE Transactions on Smart Grid 2019 - 2020

• **Technical Chair**

- IEEE Global Communications Conf. (Globecom) 2020
- Asilomar Conference on Signals, Systems, and Computers 2020

• **Symposium Chair**

- IEEE Global Communications Conf. (Globecom) 2019
 - IEEE Intl. Conf. on Computing, Networking and Communications (ICNC) 2014
 - IEEE Intl. Conf. on Communications and Networking 2012
- **Special Session Organizer**
- Asilomar Conference on Signals, Systems, and Computers 2018
 - Asilomar Conference on Signals, Systems, and Computers 2014
 - IEEE Workshop on CAMSAP 2015
- **Tutorials Chair**
- IEEE Smart Grid Communications (SmartGridComm) 2020
- **Technical Program Committee**
- IEEE Smart Grid Communications (SmartGridComm) 2020
 - IEEE International Symposium on Information Theory (ISIT) 2020
 - IEEE Intl. Workshop on Signal Processing Advances in Wireless Communications (SPAWC) 2020
 - IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2020
 - ACM Special Interest Group on Measurement and Evaluation (SIGMETRICS) 2020
 - IEEE Smart Grid Communications (SmartGridComm) 2019
 - IEEE Global Signal and Information Processing (GlobalSIP) 2019
 - IEEE International Symposium on Information Theory (ISIT) 2019
 - IEEE Data Science Workshop (DSW) 2019
 - IEEE Wireless Communications and Networking Conf. (WCNC) 2019
 - IEEE Intl. Workshop on Signal Processing Advances in Wireless Communications (SPAWC) 2019
 - IEEE Intl. Conf. on Communications (ICC) 2019
 - IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2019
 - IEEE Global Signal and Information Processing (GlobalSIP) 2018
 - IEEE Smart Grid Communications (SmartGridComm) 2018
 - IEEE Global Communications Conf. (Globecom) 2018
 - IEEE Intl. Conf. on Communications (ICC) 2018
 - IEEE Intl. Conf. on Computing, Networking and Communications (ICNC) 2018
 - IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2018
 - IEEE Global Communications Conf. (Globecom) 2017
 - IEEE Intl. Conf. on Communications (ICC) 2017
 - IEEE Global Signal and Information Processing (GlobalSIP) 2017
 - IEEE Workshop on Comp. Advances in Multi-Sensor Adaptive Processing (CAMSAP) 2017
 - IEEE Smart Grid Communications (SmartGridComm) 2016
 - IEEE Global Communications Conf. (Globecom) 2016
 - IEEE Global Signal and Information Processing (GlobalSIP) 2016
 - * Machine Learning for of Cognitive Communications and Radar
 - * Signal Processing for Big Data in Wireless Networks
 - IEEE Wireless Communications and Networking Conf. (WCNC) 2016
 - IEEE Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP) 2015
 - IEEE Global Signal and Information Processing (GlobalSIP) 2015

- IEEE Global Communications Conf. (Globecom)	2015
- IEEE Intl. Conf. on Communications (ICC)	2015
- IEEE Global Signal and Information Processing (GlobalSIP)	2014
- IEEE Intl. Symposium on Wireless Personal Multimedia Communication (WMPC)	2014
- IEEE International Wireless Symposium (IWS)	2014
- IEEE International Conf. on Communications (ICC)	2014
- IEEE International Conf. on Connected Vehicles & Expo	2013
- IEEE & CIC International Conf. on Communications	2013
- IEEE Smart Grid Communication Conf. (SmartGridComm)	2013
- IEEE Global Wireless Summit,	2013
- IEEE Wireless Conf. and Networking Conference	2013
- IEEE Global Signal and Information Processing (GlobalSIP)	2013
* Symposium on Network Theory	
* Symposium on New Sensing and Statistical Inference Methods	
* Symposium on Information Processing in Energy Grids	
- IEEE International Wireless Symposium	2013
- IEEE Smart Grid Communications (SmartGridComm)	2012

• **Peer Reviewing (Selected List)**

- IEEE Transactions on Information Theory
- Annals of Statistics
- Bernoulli Journal
- IEEE Transactions on Signal Processing
- IEEE Journal of Selected Topics in Signal Processing
- IEEE Transactions on Signal and Information Processing over Networks
- IEEE Transactions on Power Systems
- IEEE Transactions on Smart Grids
- IEEE Transactions on Communications
- IEEE Transactions on Wireless Communications
- IEEE Journal of Selected Areas in Communications
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Vehicular Technology
- IEEE/ACM Transactions on Networking
- IEEE Signal Processing Magazine
- IEEE Communications Magazine
- IEEE Signal Processing Letters
- IEEE Communication Letters
- IEEE Wireless Communications Letters
- EURASIP Journal on Advances in Signal Processing
- EURASIP Journal on Wireless Communications and Networking
- Cambridge University Press
- ASME Journal of Mechanical Design
- Conferences: ISIT, INFOCOM, Globecom, ICC, and ICASSP.

Service to the Institute

University, School and Departmental Committees

- Faculty Award Committee (ECSE) 2020 - present
- School of Engineering Awards Committee 2019 - present
- Faculty Senate, Senator 2019 - present
- Graduate Admission Committee (ECSE) 2015 - 2019, 2020 - present
- Faculty Recruitment Committee (ECSE) 2015 - present
- Graduate Studies Committee (ECSE) 2014 - present
- Communications, Information, and Signals and Systems (ECSE) 2014 - present
- RPI-IBM AI Research Collaboration Core Hiring Committee 2019 - 2020
- Cybersecurity Analysis Team 2019 - 2020
- Data Dexterity Task Force 2018 - 2019
- Faculty Recruitment Committee (ECSE), Chair 2018 - 2019
- Cyber Security Task Force 2018
- Seminar Series Organizer (WSU, ECE) 2013 - 2014
- Graduate Studies Committee (WSU, ECE) 2012 - 2014

Other Service and Administration Activities

- Undergraduate Research Symposium – Judge Apr. 2018
- High School Research Program – Judge Aug. 2017
- Undergraduate Research Symposium – Judge Apr. 2017
- IEEE Signal Processing Distinguished Lectures – Organizer 2016 - present

Professional and Public Lectures

Plenary Talks

- IEEE Smart Grid Communications Conference (Miami, FL) Nov. 2015
Title: *Data-adaptive Agile Line Outage Detection and Localization*
- Cyber Physical Systems Week (Philadelphia, PA) Apr. 2013
Title: *Non-asymptotic Composite Hypothesis Testing: Theory and Applications*

Invited Talks

- [Quickest Search for Transient Change Points](#)
IT58. Binghamton University (Binghamton, NY) Jun. 2019
- [Secure Estimation in Adversarial Environments](#)
IT57. Air Force Research Lab (Rome, NY) May 2019
- [Active Sensing for Quickest Event Detection in Networks](#)

IT58. Shannon YouTube Channel	Nov. 2019
IT57. National Science Foundation	Nov. 2019
IT56. California Institute of Technology (Pasadena, CA)	Nov. 2018
IT55. University of California, Berkeley (Berkeley, CA)	Oct. 2018
• <i>Controlled Sensing under Correlated Actions</i>	
IT54. Information Theory and Application (U. of California San Diego, La Jolla, CA)	Feb. 2018
• <i>Optimization under Sequential Resource Access</i>	
IT53. Sharif University of Technology (Tehran, Iran)	Feb. 2018
• <i>Quickest Search for Local Structures in Random Graphs</i>	
IT52. Syracuse University (Syracuse, NY)	Feb. 2018
IT51. Shanghai Jiao Tong University (Shanghai, China)	Oct. 2017
IT50. Tongji University (Shanghai, China)	Oct. 2017
IT49. Southeast University - School of Information Science and Eng'g (Nanjing, China)	Oct. 2017
IT48. Southeast University - School of Mathematics (Nanjing, China)	Oct. 2017
IT47. University of Science and Technology of China (Hefei, China)	Oct. 2017
IT46. Carnegie Mellon University (Pittsburgh, PA)	May 2017
IT45. Information Theory and Application (U. of California San Diego, La Jolla, CA)	Feb. 2017
IT44. Texas A&M University - Doha (Doha, Qatar)	Jan. 2017
IT43. State University of New York - Albany (Albany, NY)	Nov. 2016
IT42. Lund University	Aug. 2016
• <i>Quickest Search for Anomalies in Networked Data</i>	
IT41. General Electric (Schenectady, NY)	May 2016
IT40. Information Theory and Application (U. of California San Diego, La Jolla, CA)	Feb. 2016
IT39. Boğaziçi University (Istanbul, Turkey)	Nov. 2015
IT38. Sabanci University (Istanbul, Turkey)	Nov. 2015
IT37. Koç University (Istanbul, Turkey)	Nov. 2015
IT36. University of Pittsburgh (Pittsburgh, PA)	Feb. 2014
IT35. New Jersey Institute of Technology (Newark, NJ)	Feb. 2014
IT34. Illinois Institute of Technology (Chicago, IL)	Jan. 2014
• <i>Fundamental Limits of Spectrum Sensing</i>	
IT33. National Science Foundation (Arlington, VA)	Mar. 2016
IT32. American Association for Advancement of Science (Washington, D.C.)	Mar. 2012
• <i>Data-adaptive Agile Line Outage Detection and Localization</i>	
IT31. IEEE Statistical Signal Processing Workshop (Palma de Mallorca, Spain)	Jun. 2016
IT30. University of Vermont (Burlington, VT)	Oct. 2015
• <i>Search for Correlation Structures in Networked Data</i>	
IT29. Tufts University (Medford, MA)	Sep. 2015
IT28. Worcester Polytechnic Institute (Worcester, MA)	Sep. 2015
IT27. Rensselaer Polytechnic Institute - Computer Science Department (Troy, NY)	May 2015
IT26. Information Theory and Application (U. of California San Diego)	Feb. 2015

- *Coordination Limits in Wireless Networks*
 - IT25. Imperial College London (London, UK) Apr. 2014
 - IT24. Rensselaer Polytechnic Institute Troy, NY) Mar. 2014
 - IT23. Purdue University (West Lafayette, IN) Mar. 2014
 - IT22. George Mason University (Fairfax, VA) Mar. 2014
 - IT21. Pennsylvania State University (State College, PA) Mar. 2014
 - IT20. Virginia Polytechnic Institute and State University (Blacksburg, VA) Feb. 2014
 - IT19. Georgia Institute of Technology (Atlanta, GA) Mar. 2012
 - IT18. University of Minnesota (Minneapolis, MN) Mar. 2012
 - IT17. University of Massachusetts (Amherst, MA) Mar. 2012
 - IT16. Boston University (Boston, MA) Mar. 2012
 - IT15. Tufts University (Medford, MA) Mar. 2012
 - IT14. Qualcomm, Inc. (San Diego, MA) Jan. 2012
 - *Quick Search over Correlated Sequences*
 - IT13. Information Theory and Application (U. of California San Diego, La Jolla, CA) Feb. 2014
 - *Distributed Inference and Resource Management in Power Systems*
 - IT12. Temple University (Philadelphia, PA) Nov. 2013
 - IT11. New Jersey Institute of Technology (Newark, NJ) Feb. 2013
 - IT10. New York University (Brooklyn, NY) Apr. 2012
 - IT9. Wayne State University (Detroit, MI) Mar. 2012
 - *Quick Search for Rare Events*
 - IT8. Information Theory and Application (U. of California San Diego, La Jolla, CA) Feb. 2012
 - IT7. Rutgers University (New Brunswick, NJ) Nov. 2011
 - IT6. Stanford University (Palo Alto, CA) Jun. 2011
 - *Interference Management via Group Decoding*
 - IT5. University of Illinois Chicago (Chicago, IL) Mar. 2011
 - IT4. Alcatel Lucent Bell Labs (Murray Hill, NJ) Mar. 2011
 - IT3. Information Theory and Application (U. of California San Diego, La Jolla, CA) Feb. 2011
 - IT2. Broadcom Jun. 2010
 - IT1. Alcatel Lucent Bell Labs (Murray Hill, NJ) Apr. 2010
-

January 20, 2021