

Yin Sun

CONTACT INFORMATION

Assistant Professor
Department of Electrical and Computer Engineering
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RESEARCH INTERESTS

Age of Information
Networking
Robotic Control
Information Theory
Machine Learning

PROFESSIONAL MEMBERSHIP

IEEE Senior Member
ACM Member

PROFESSIONAL EXPERIENCE

Assistant Professor, Dept. of Electrical and Computer Engineering
Auburn University Aug. 2017 – present

Research Associate, Dept. of Electrical and Computer Engineering
The Ohio State University Oct. 2014 – Aug. 2017

Postdoctoral Scholar, Dept. of Electrical and Computer Engineering
The Ohio State University Aug. 2011 – Oct. 2014

EDUCATION

Ph.D. degree in Electronic Engineering, Tsinghua University, China Sep. 2006 – Jun. 2011
Major: Communications and Information Systems
Thesis: Resource Allocation of Heterogeneous Cooperative Relay Networks
Supervisor: Shidong Zhou
Award: Excellent Doctoral Thesis Award

B.Eng. degree in Electronic Engineering, Tsinghua University, China Sep. 2002 – Jun. 2006
Major: Electronic Science and Technology
Award: Excellent Bachelor Thesis Award

RESEARCH GRANTS

The portion of funding that he is responsible for: about \$644K

1. Principal Investigator, “REU Supplement: CIF: Small: Collaborative Research: On the Fundamental Nature of the Age of Updates,” National Science Foundation: CCF-1813078, June 1, 2018 – May 31, 2022, \$24,000.00.
2. Principal Investigator (Collaborative PI: Ness B. Shroff), “Towards Breaking the Gridlock: Delay, Convergence, and Complexity in Highly Dynamic Tactical Networks,” Army Research Office: ARO W911NF-21-1-0244, May 1, 2021 – April 30, 2024, \$420,000.00 (Auburn portion: \$125,000.00).
3. Principal Investigator, “REU Supplement: CIF: Small: Collaborative Research: On the Fundamental Nature of the Age of Updates,” National Science Foundation: CCF-1813078, June 1, 2018 – May 31, 2022, \$8,000.00.

4. Principal Investigator (Collaborative PI: Anthony Ephremides, UMD), “CIF: Small: Collaborative Research: On the Fundamental Nature of the Age of Updates,” National Science Foundation: CCF-1813078, June 1, 2018 – May 31, 2022, \$491,283.00 (Auburn portion: \$250,000.00).
5. Principal Investigator (Collaborative PIs: Ness B. Shroff, Jia Liu, Sastry Kompella), “Achieving Low Delay and Highly Adaptive Tactical Networking with Multi-Path TCP,” Office of Naval Research: ONR N00014-17-1-2417, September 1, 2017 – August 15, 2021, \$990,000.00 (Auburn portion: \$237,152.00).

TEACHING

1. ELEC 7970, Special Topics: Reinforcement Learning, Auburn University, Fall 2021.
2. ELEC 2120, Signals and Systems, Auburn University, Fall 2021.
3. [ELEC 7970, Special Topics: Information Freshness](#), Auburn University, Spring 2021.
4. ELEC 2120, Signals and Systems, Auburn University, Spring 2021.
5. ELEC 7970/7976, Special Topics: Reinforcement Learning, Auburn University, Fall 2020.
6. ELEC 2120, Signals and Systems, Auburn University, Fall 2020.
7. ELEC 2120, Signals and Systems, Auburn University, Spring 2020.
8. ELEC 2120, Signals and Systems, Auburn University, Fall 2019.
9. ELEC 2120, Linear Signals and Systems, Auburn University, Fall 2018.
10. ELEC 5120/6120, Telecommunication Networks, Auburn University, Fall 2017.

STUDENTS

Ph.D. Students

Thomas Orrison	to start in Jan. 2022
Tasmeen Zaman Ornee	Aug. 2018 – present
Kamran Chowdhury Shisher	Aug. 2018 – present
Jiayu Pan (OSU, co-supervised with Ness B. Shroff)	Aug. 2018 – present
Ahmed M. Bedewy (OSU, co-supervised with Ness B. Shroff)	Aug. 2015 – May 2021

Master Students

Tasmeen Zaman Ornee	Jan. 2021 – present
Kamran Chowdhury Shisher	Jan. 2021 – present
Shaoyi Li	Aug. 2017 – Dec. 2019
Shane Williams	Jan. 2018 – May 2018

Undergraduate Students

Christobel Nweke	May 2021 – present
Eli Dvoskin	May 2021 – present
Justin Tran	May 2021 – present
Vibhu Singh (Brandeis University)	January 2021 – present
Grace Palenapa	May 2020 – present
Winston Van	Nov. 2018 – May 2019
Anni Zhang	Oct. 2018 – May 2019
Kun Wang	May 2018 – May 2019
Promise B. Owei	Jan. 2018 – May 2018
Collin Pike	Jan. 2018 – May 2018
Don Tran	Aug. 2017 – May 2018
Jordan Sosnowski	Aug. 2017 – Jan. 2018

Murphy Braswell	Aug. 2017 – Jan. 2018
Benjamin Cyr	Aug. 2017 – Jul. 2018

Ph.D. Committee Member

Ye Zhou (supervised by Xiaowen Gong)	Nov. 2021 – present
Ticao Zhang (supervised by Shiwen Mao)	Nov. 2021 – present

M.S. Committee Member

HONORS AND
AWARDS

Journal of Communications and Networks (JCN) Best Paper Award	2021
<i>Awarded paper: Yin Sun and Benjamin Cyr, "Sampling for Data Freshness Optimization: Non-linear Age Functions," vol. 21, no. 3, pp. 204 – 219, June 2019.</i>	
Runner-up of Best Paper Award, ACM MobiHoc Conference	2020
Auburn Author Award, Auburn University	2020
Best Paper Award, IEEE/IFIP WiOpt Conference	2019
Best Student Paper Award, IEEE/IFIP WiOpt Conference	2013
Excellent Doctoral Thesis Award (25 winners from 1566 PhDs), Tsinghua University	2011
Distinction in Postgraduate Research of Dept. EE (1st rank), Tsinghua University	2011
Kang Ning Scholarship, Tsinghua University	2010
Bounty for Publishing Paper in High Quality International Conferences of Communications: Outstanding Research Award, Nokia Siemens Networks	2010
Jiang Zhen Scholarship, Tsinghua University	2009
Bounty for Publishing Paper in High Quality International Conferences of Communications, Nokia Siemens Networks	2009
Outstanding Person in Community Practice of Graduate Students, Tsinghua University	2008
Scholarship for Excellent Students, Tsinghua University	2008
Guang Hua Scholarship for Graduate Students, Tsinghua University	2007
Graduation with Honor, Tsinghua University	2006
Excellent Bachelor Thesis Award, Tsinghua University	2006
First-class Scholarship for Excellence Students, Tsinghua University	2005
Third-class Scholarship for Excellence Students, Tsinghua University	2004

	Kodak Scholarship for Undergraduate Students, Tsinghua University	2003
HONORS AND AWARDS OF SUPERVISED STUDENTS	Benjamin Cyr, Journal of Communications and Networks (JCN) Best Paper Award	2021
	<i>Awarded paper: Yin Sun and Benjamin Cyr, "Sampling for Data Freshness Optimization: Non-linear Age Functions," vol. 21, no. 3, pp. 204 – 219, June 2019. Benjamin Cyr participated in this study when he was an undergraduate student in Dept. ECE at Auburn University.</i>	
	Kamran Chowdhury Shisher, NSF Student Conference Award, IEEE INFOCOM Conference	2021
	Ahmed M. Bedewy, Runner-up of Best Paper Award, ACM MobiHoc Conference	2020
	Tasmeen Zaman Ornee, Best Paper Award, IEEE/IFIP WiOpt Conference	2019
PROFESSIONAL ACTIVITIES AND SERVICES	Founder	
	Age of Information Workshop, founded in 2018	
	Maintainer	
	Online Paper Repository on Age of Information: auburn.edu/~yzs0078/AoI.html	
	Editorial Board	
	1. Editor for the <i>Journal of Communications and Networks (JCN)</i> , 2020 - present.	
	2. Guest Editor of <i>Frontiers in Communications and Networks</i> for the special issue on "Age of Information," 2021.	
	3. Guest Editor of <i>Entropy</i> for the special issue on "Age of Information: Concept, Metric and Tool for Network Control," 2021.	
	4. Guest Editor of the <i>IEEE Journal on Selected Areas in Communications (JSAC)</i> for the special issue on "Age of Information in Real-time Systems and Networks," 2020.	
	Conference TPC Vice-Chair	
IEEE/IFIP WiOpt 2020		
Conference TPC Track Chair		
Track: "Emerging Technologies, Architectures, and Services", IEEE WCNC 2021		
Conference Submission and Publication Chair		
ACM MobiHoc 2022		
Conference Publicity Chair		
34th International Teletraffic Congress (ITC34) 2022		
ACM MobiHoc 2021		
Conference Web Chair		

IEEE INFOCOM 2021
IEEE INFOCOM 2020
ACM MobiHoc 2019

Conference Session Chair

“Poster Session 2,” IEEE INFOCOM 2021
“Wireless Mesh and Ad Hoc Networks 1,” IEEE INFOCOM 2019
“Ultra Dense Networks,” IEEE INFOCOM 2018
“Recovery Algorithms and Online Learning,” ITA Workshop 2018
“Age of Information 1,” IEEE ISIT 2017

Workshop General Chair

Age of Information Workshop 2019
Age of Information Workshop 2018

Workshop TPC Chair

Age of Information Workshop 2019
Age of Information Workshop 2018

Workshop Steering Committee Member

Age of Information Workshop 2022
Age of Information Workshop 2021
Age of Information Workshop 2020

Conference and Workshop TPC Member (by year)

2022: IEEE INFOCOM, IEEE ICC Workshop on Short Packet Communications for 6G Mission-Critical Applications, ACM MobiHoc, Age of Information Workshop

2021: IEEE INFOCOM, ACM MobiHoc, Age of Information Workshop, IEEE WCNC, IEEE WiOpt

2020: IEEE INFOCOM, ACM MobiHoc, Age of Information Workshop, IEEE WCNC, IEEE WiOpt

2019: IEEE INFOCOM, ACM MobiHoc, Age of Information Workshop, RAWNET Workshop

2018: IEEE INFOCOM, ACM MobiHoc, Age of Information Workshop

2017: IEEE INFOCOM, ACM MobiHoc

2016: IEEE INFOCOM, IEEE/IFIP WiOpt

Panel Organizer

Panel Discussion at the 1st Age of Information Workshop, 2018
Topic: How Significant is the Age of Information Concept?
Panelists: Roy D. Yates, Eytan Modiano, Anthony Ephremides, Bo Bai

Proposal Reviewer

National Science Foundation (NSF)

Journal and Conference Reviewer

Optimization

IEEE Internet of Things Journal
IEEE Journal on Selected Areas in Communications
IEEE Transactions on Wireless Communications
IEEE Transactions on Signal Processing
IEEE Transactions on Information Theory
IEEE Transactions on Information Forensics and Security
IEEE/ACM Transactions on Networking
IEEE Transactions on Mobile Computing
IEEE Transactions on Communications
IEEE Transactions on Vehicular Technology
IEEE Transactions on Green Communications and Networking
IEEE Transactions on Control Systems Technology
IEEE Communication Letters
IEEE Wireless Communication Letters
Annals of the Institute of Statistical Mathematics
Network Science Journal
Journal of Communications and Networks
IEEE ISIT
IEEE INFOCOM
IEEE ICASSP
IEEE WCNC
IEEE GLOBECOM
IEEE VTC
IEEE PIMRC
IEEE ICC
ACM MobiHoc
CHINACOM
IEEE SPAWC
ITC
Age of Information Workshop

TUTORIAL LECTURE

1. Yin Sun and Elif Uysal, “Age of Information: Providing Fresh Data to Real-time Applications,” IEEE PIMRC Conference, Istanbul, Turkey, September 8th, 2019.

INVITED SEMINARS AND TALKS

1. “Status Updates with Priorities: Lexicographic Optimality,” Information Theory and Applications Workshop (ITA), UCSD, February 2020.
2. “From the Age of Information to Sampling Theory,” ACM MobiHoc Workshop on the Frontiers of Networks, Catania, Italy, July 2019.
3. “Fresh Samples through Queues: Age of Information and Remote Estimation,” Purdue University, April 2019.
4. “Fresh Samples through Queues: Age of Information and Remote Estimation,” Workshop at ACM MobiHoc TPC Meeting, University of Michigan, March 2019.
5. “Fresh Samples through Queues: Age of Information and Remote Estimation,” University of Maryland, February 2019.
6. “Fresh Samples through Queues: Age of Information and Remote Estimation,” Information Theory and Applications Workshop (ITA), UCSD, February 2019.

7. "Age of Information: Optimizing the Freshness of Real-Time Data," Qualcomm, San Diego, CA, February 2019.
8. "Age of Information: Optimizing the Freshness of Real-Time Data," Auburn University, Auburn, AL, October 2018.
9. "Age of Information: Optimizing the Freshness of Real-Time Data," University of Nevada, Reno, October 2018.
10. "Information Aging through Queues: A Mutual Information Perspective," Special Session on the Age of Information at IEEE SPAWC, June 2018.
11. "Age of Information: Optimizing the Freshness of Real-Time Data," Wireless Seminar Series, Auburn University, Auburn, AL, February 2018.
12. "Information Aging through Queues: A Mutual Information Perspective," Information Theory and Applications Workshop (ITA), UCSD, February 2018.
13. "Age of Information: Optimizing the Freshness of Real-Time Data," Rice University, February 2018.
14. "Timely Data and Signal Updates," NTT DOCOMO Research Lab, CA, December 2017.
15. "Timely Signal and Information Updates," Wireless Advisory Board Meeting, Auburn University, AL, November 2017.
16. "Timely Data and Signal Updates," Northwestern University, Evanston, IL, July 2017.
17. "Timely Data and Signal Updates," Sun Yat-sen University, Guangzhou, China, July 2017.
18. "Timely Data and Signal Updates," Tsinghua University, Beijing, China, July 2017.
19. "Near Delay-Optimal Job Scheduling and Task Replications over Parallel Machines," INFORMS Applied Probability Society Conference, Kellogg School of Management, July 2017.
20. "Age of Information: Optimizing the Freshness of Real-Time Data," Workshop at ACM MobiHoc TPC Meeting, University of Southern California, March 2017.
21. "Age of Information: Optimizing the Freshness of Real-Time Data," The Ohio State University, Columbus, OH, February 2017.
22. "Real-Time Sampling of Gauss-Markov Signals," Information Theory and Applications Workshop (ITA), UCSD, February 2017.
23. "Minimizing Latency in Cloud Systems: Replication Over Parallel Servers," University of Illinois Urbana-Champaign, Champaign, IL, May 2016.
24. "Minimizing Latency in Cloud Systems: Replication Over Parallel Servers," Arizona State University, Tempe, AZ, April 2016.
25. "Minimizing Latency in Cloud Systems: Replication Over Parallel Servers," Massachusetts Institute of Technology, Cambridge, MA, April 2016.
26. "Towards Delay Optimal Data Retrieving in Cloud Storage Systems," Tsinghua University, Beijing, China, May 2015.
27. "Towards Delay Optimal Data Retrieving in Cloud Storage Systems," Beijing JiaoTong University, Beijing, China, May 2015.
28. "Towards Delay Optimal Data Retrieving in Cloud Storage Systems," Sun Yat-sen University, Guangzhou, China, May 2015.
29. "Towards Delay Optimal Data Retrieving in Cloud Storage Systems," Information Theory and Applications Workshop (ITA), UCSD, February 2015.
30. "Life-Add: A Redesign of WiFi for Smartphones with Battery Life, Throughput and Fairness Improvements," Seoul National University, Seoul, Korea, August 2013.
31. "Life-Add: A Redesign of WiFi for Smartphones with Battery Life, Throughput and Fairness Improvements," National Tsinghua University, Hsinchu, Taiwan, August 2013.

32. “Life-Add: A Redesign of WiFi for Smartphones with Battery Life, Throughput and Fairness Improvements,” National Taiwan University of Science and Technology, Taipei, Taiwan, August 2013.

PUBLICATIONS

Summary: 5 preprints, 1 monograph, 3 book chapters, 31 journal papers, and 37 conference papers

Preprints and Under Review

- [1] Jiayu Pan, Ahmed M. Bedewy, **Yin Sun**, and Ness B. Shroff, “Age-optimal Scheduling over Hybrid Channels,” submitted to the *IEEE Transactions on Mobile Computing*, 2021.
- [2] Ali Maatouk, **Yin Sun**, Anthony Ephremides, and Mohamad Assaad, “Timely Updates with Priorities: Lexicographic Age Optimality,” submitted to the *IEEE Transactions on Communications*, 2021.
- [3] Rahul Singh, Fang Liu, **Yin Sun**, and Ness B. Shroff, “Multi-Armed Bandits with Dependent Arms,” 2021. [arXiv:2010.09478](https://arxiv.org/abs/2010.09478)
- [4] **Yin Sun**, C. Emre Koksal, and Ness B. Shroff, “Near Delay-Optimal Scheduling of Batch Jobs in Multi-Server Systems,” *technical report*, 2017. [[pdf](#)]
- [5] **Yin Sun**, C. Emre Koksal, and Ness B. Shroff, “On Delay-Optimal Scheduling in Queueing Systems with Replications,” *technical report*, 2016. [arXiv:1603.07322](https://arxiv.org/abs/1603.07322)

Monograph

- [1] **Yin Sun**, Igor Kadota, Rajat Talak, and Eytan Modiano, *Age of Information: A New Metric for Information Freshness*, San Rafael, California, USA: Morgan & Claypool Publishers, 2019. (2020 Auburn Author Award)

Book Chapters

- [1] Tasmeen Zaman Ornee and **Yin Sun**, “Age of Information and Remote Estimation,” a chapter in the book *Age of Information: Foundations and Applications*, Cambridge University Press, in press.
- [2] Ahmed M. Bedewy, **Yin Sun**, Sastry Kompella, and Ness B. Shroff, “Sampling and Scheduling for Minimizing Age of Information of Multiple Sources,” a chapter in the book *Age of Information: Foundations and Applications*, Cambridge University Press, in press.
- [3] **Yin Sun**, Xiaofeng Zhong, Tsung-Hui Chang, Shidong Zhou, Jing Wang, and Chong-Yung Chi, “Dynamic Spectrum Sharing Between Cooperative Relay and Ad-Hoc Networks: Towards Real-Time Optimal Control,” Chapter 15 of *Dynamic Ad-hoc Networks*, IET, August 2013.

Journal Publications (published/in press)

- [1] Ahmed M. Bedewy, **Yin Sun**, Rahul Singh, and Ness B. Shroff, “Low-Power Status Updates via Sleep-Wake Scheduling,” *IEEE/ACM Transactions on Networking (ToN)*, vol. 29, no. 5, pp.

2129 – 2141, October 2021. (**Recommended for Fast-track Review**)

- [2] Tasmeen Zaman Ornee and **Yin Sun**, “Sampling and Remote Estimation for the Ornstein-Uhlenbeck Process through Queues: Age of Information and Beyond,” *IEEE/ACM Transactions on Networking (ToN)*, vol. 29, no. 5, pp. 1962 – 1975, October 2021. (**Recommended for Fast-track Review**)
- [3] Roy D. Yates, **Yin Sun**, D. Richard Brown III, Sanjit K. Kaul, Eytan Modiano, and Sennur Ulukus, “Age of Information: An Introduction and Survey,” *IEEE Journal on Selected Areas of Communications*, vol. 39, no. 5, pp. 1183 – 1210, May 2021.
- [4] Ahmed M. Bedewy, **Yin Sun**, Sastry Kompella, and Ness B. Shroff, “Optimal Sampling and Scheduling for Timely Status Updates in Multi-source Networks,” *IEEE Transactions on Information Theory*, vol. 67, no. 6, pp. 4019 – 4034, June 2021.
- [5] Zhanzhan Zhang, **Yin Sun**, Ashutosh Sabharwal, Zhiyong Chen, and Bin Xia, “Scheduling and Power Allocation Dampens the Effect of Channel Misreporting in Massive MIMO,” *IEEE/ACM Transactions on Networking*, vol. 28, no. 6, pp. 2531 – 2544, December 2020.
- [6] Xu Du, **Yin Sun**, Ness B. Shroff, and Ashutosh Sabharwal, “Balance Queueing and Retransmission: Latency-Optimal Massive MIMO Design,” *IEEE Transactions on Wireless Communications*, vol. 19, no. 4, pp. 2293 – 2307, April 2020.
- [7] **Yin Sun**, Yury Polyanskiy, and Elif Uysal, “Sampling of the Wiener Process for Remote Estimation over a Channel with Random Delay,” *IEEE Transactions on Information Theory*, vol. 66, no. 2, pp. 1118 – 1135, February 2020.
- [8] Ahmed M. Bedewy, **Yin Sun**, and Ness B. Shroff, “The Age of Information in Multihop Networks,” *IEEE/ACM Transactions on Networking*, vol. 27, no. 3, pp. 1248 – 1257, June 2019.
- [9] Baran Tan Bacinoglu, **Yin Sun**, Elif Uysal, and Volkan Mutlu, “Optimal Status Updating with a Finite-Battery Energy Harvesting Source,” *Journal of Communications and Networks (JCN) – Special Issue on the Age of Information*, vol. 21, no. 3, pp. 280 – 294, June 2019.
- [10] **Yin Sun** and Benjamin Cyr, “Sampling for Data Freshness Optimization: Non-linear Age Functions,” *Journal of Communications and Networks (JCN) – Special Issue on the Age of Information*, vol. 21, no. 3, pp. 204 – 219, June 2019. (**2021 JCN Best Paper Award**)
- [11] Ahmed M. Bedewy, **Yin Sun**, and Ness B. Shroff, “Minimizing the Age of Information through Queues,” *IEEE Transactions on Information Theory*, vol. 65, no. 8, pp. 5215 – 5232, August 2019.
- [12] Xingyu Zhou, Fei Wu, Jian Tan, **Yin Sun**, and Ness B. Shroff, “Designing Low-Complexity Heavy-Traffic Delay-Optimal Load Balancing Schemes: Theory to Algorithms,” *Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS)*, vol. 1, no. 2, article 39, pp. 39:1 – 39:30, December 2017.
- [13] **Yin Sun**, Elif Uysal-Biyikoglu, Roy D. Yates, C. Emre Koksal, and Ness B. Shroff, “Update or Wait: How to Keep Your Data Fresh,” *IEEE Transactions on Information Theory*, vol. 63, no.

11, pp. 7492 – 7508, November 2017.

- [14] Fei Wu, **Yin Sun**, Yang Yang, Kannan Srinivasa, and Ness B. Shroff, “Constant Delay and Constant Feedback Moving Window Network Coding for Wireless Multicast: Design and Asymptotic Analysis,” *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 2, pp. 127 – 140, February 2015.
- [15] **Yin Sun**, C. Emre Koksall, and Ness B. Shroff, “Capacity of Compound MIMO Gaussian Channels with Additive Uncertainty,” *IEEE Transactions on Information Theory*, vol. 59, no. 12, pp. 8267 – 8274, December 2013.
- [16] Xiujun Zhang, **Yin Sun**, Xiang Chen, Shidong Zhou, Jing Wang, and Ness B. Shroff, “Distributed Power Allocation for Coordinated Multipoint Transmissions in Distributed Antenna Systems,” *IEEE Transactions on Wireless Communications*, vol. 12, no. 5, pp. 2281 – 2291, May 2013.
- [17] Haohao Qin, **Yin Sun**, Tsung-Hui Chang, Xiang Chen, Chong-Yung Chi, Ming Zhao, and Jing Wang, “Power Allocation and Time-Domain Artificial Noise Design for Wiretap OFDM with Discrete Inputs,” *IEEE Transactions on Wireless Communications*, vol. 12, no. 6, pp. 2717 – 2729, June 2013.
- [18] Fei He, **Yin Sun**, Limin Xiao, Xiang Chen, Chong-Yung Chi, and Shidong Zhou, “Capacity Region Bounds and Resource Allocation for Two-Way OFDM Relay Channels,” *IEEE Transactions on Wireless Communications*, vol. 12, no. 6, pp. 2904 – 2917, June 2013.
- [19] **Yin Sun**, Xiaofeng Zhong, Tsung-Hui Chang, Shidong Zhou, Jing Wang, and Chong-Yung Chi, “Optimal Real-time Spectrum Sharing between Cooperative Relay and Ad-hoc Networks,” *IEEE Transactions on Signal Processing*, vol. 60, no. 4, pp. 1971 – 1985, April 2012.
- [20] **Yin Sun**, Árpád Baricz, and Shidong Zhou, “Corrections to “Unified Laguerre polynomial-series-based distribution of small-scale fading envelopes,”” *IEEE Transactions on Vehicular Technology*, vol. 60, no. 1, pp. 347 – 349, January 2011.
- [21] Yuan Gao, **Yin Sun**, Chunhui Zhou, Xin Su, Xibin Xu, Shidong Zhou, “Accelerating the 3GPP LTE System Level Simulation with NVidia CUDA,” *Applied Mechanics and Materials*, vols. 58-60, pp. 1596 – 1601, 2011.
- [22] **Yin Sun**, Xiaofeng Zhong, Xiang Chen, Shidong Zhou, and Jing Wang, “Ergodic capacity of decode-and-forward relay strategies over general fast fading channels,” *Electronics Letters*, vol. 47, no. 2, pp. 148 – 150, January 2011.
- [23] András Szilárd, Árpád Baricz, and **Yin Sun**, “The generalized Marcum Q-function: an orthogonal polynomial approach,” *Acta Universitatis Sapientiae Mathematica*, vol. 3, no. 1, pp. 60-76, 2011.
- [24] **Yin Sun**, Árpád Baricz, and Shidong Zhou, “On the monotonicity, log-concavity and tight bounds of the generalized Marcum and Nuttall Q-functions,” *IEEE Transactions on Information Theory*, vol. 56, no. 3, pp. 1166 – 1186, March 2010.

- [25] rd Baricz and **Yin Sun**, “New bounds for the generalized Marcum Q-function,” *IEEE Transactions on Information Theory*, vol. 55, no. 7, pp. 3091 – 3100, July 2009.
- [26] rd Baricz, and **Yin Sun**, “Bounds for the generalized Marcum Q-function,” *Applied Mathematics and Computation*, vol. 217, pp. 2238 – 2250, 2010.
- [27] You Xu, **Yin Sun**, Yunzhou Li, Yifei Zhao, and Hongxing Zou, “Joint sensing period and transmission time optimization for energy-constrained cognitive radios,” *EURASIP Journal on Wireless Communications and Networking*, vol. 2010, Article ID 818964, 16 pages, 2010.
- [28] Wei Chen, Yunzhou Li, and **Yin Sun**, “Realizations of system level simulation platform of LTE based on Matlab (in Chinese),” *Communications Technology*, vol. 43, no. 5, pp. 170-175, May 2010.
- [29] **Yin Sun**, rd Baricz, Ming Zhao, Xibin Xu, and Shidong Zhou, “Approximate average bit error probability for DQPSK over fading channels,” *Electronics Letters*, vol. 45, no. 23, November 5, 2009.
- [30] Zhou Zhong, Yunzhou Li, **Yin Sun**, and Jing Wang, “Check node degree-based modified minimum sum decoding algorithm with classification for LDPC codes (in Chinese),” *Journal of Tsinghua University (Science and Technology)*, vol. 49, no. 1, pp. 45 – 48, 2009.
- [31] **Yin Sun** and rd Baricz, “Inequalities for the generalized Marcum Q-function,” *Applied Mathematics and Computation*, vol. 203, pp.134 – 141, September 2008.

Conference Publications (published/in press)

- [1] Jiayu Pan, Ahmed M. Bedewy, **Yin Sun**, and Ness B. Shroff, “Optimizing Sampling for Data Freshness: Unreliable Transmissions with Random Two-way Delay,” *IEEE INFOCOM*, 2022.
- [2] Tasmeen Zaman Ornee and **Yin Sun**, “Performance Bounds for Sampling and Remote Estimation of Gauss-Markov Processes over a Noisy Channel with Random Delay,” *IEEE SPAWC Conference – Special Session on the Age of Information*, 2021. **(Invited Paper)**
- [3] Jiayu Pan, Ahmed M. Bedewy, **Yin Sun**, and Ness B. Shroff, “Minimizing Age of Information via Scheduling over Heterogeneous Channels,” *ACM MobiHoc*, 2021.
- [4] MD Kamran Chowdhury Shisher, Heyang Qin, Lei Yang, Feng Yan, and **Yin Sun**, “The Age of Correlated Features in Supervised Learning based Forecasting,” *IEEE INFOCOM Age of Information Workshop (AoI Workshop)*, 2021.
- [5] Ahmed M. Bedewy, **Yin Sun**, Rahul Singh, and Ness B. Shroff, “Optimizing Information Freshness using Low-Power Status Updates via Sleep-Wake Scheduling,” *ACM MobiHoc*, 2020. **(Runner-up for Best Paper Award)**
- [6] Baran Tan Bacinoglu, **Yin Sun**, and Elif Uysal, “On the Trackability of Stochastic Processes Based on Causal Information,” *IEEE ISIT*, 2020.

- [7] Ali Maatouk, **Yin Sun**, Anthony Ephremides, and Mohamad Assaad, “Status Updates with Priorities: Lexicographic Optimality,” *IEEE/IFIP WiOpt*, 2020.
- [8] Ahmed M. Bedewy, **Yin Sun**, Sastry Kompella, and Ness B. Shroff, “Age-optimal Sampling and Transmission Scheduling in Multi-source Systems,” *ACM MobiHoc*, 2019.
- [9] Tasmeen Zaman Ornee and **Yin Sun**, “Sampling for Remote Estimation through Queues: Age of Information and Beyond,” *IEEE/IFIP WiOpt*, 2019. **(Best Paper Award)**
- [10] Xingyu Zhou, Fei Wu, Jian Tan, **Yin Sun**, and Ness B. Shroff, “Designing Low-Complexity Heavy-Traffic Delay-Optimal Load Balancing Schemes: Theory to Algorithms,” *ACM Sigmetrics*, 2018.
- [11] **Yin Sun** and Benjamin Cyr, “A Dynamic Jamming Game for Real-Time Status Updates,” *IEEE SPAWC Conference – Special Session on the Age of Information*, 2018. **(Invited Paper)**
- [12] Baran Tan Bacinoglu, **Yin Sun**, Elif Uysal-Biyikoglu, and Volkan Mutlu, “Achieving the Age-Energy Tradeoff with a Finite-Battery Energy Harvesting Source,” *IEEE ISIT*, 2018.
- [13] Yuanzhang Xiao and **Yin Sun**, “A Dynamic Jamming Game for Real-Time Status Updates,” *IEEE INFOCOM Age of Information Workshop (AoI Workshop)*, 2018.
- [14] **Yin Sun**, Elif Uysal-Biyikoglu, and Sastry Kompella, “Age-Optimal Updates of Multiple Information Flows,” *IEEE INFOCOM Age of Information Workshop (AoI Workshop)*, 2018.
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