Xiaojun Lin

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Education

Degree	Date	School
BS	July 1994	Zhongshan University
MSEE	May 2000	Purdue University
Ph.D.	August 2005	Purdue University

Professional Society Membership

- Fellow, Institute of Electrical and Electronics Engineers (IEEE), Communications Society.

- Member, Association for Computing Machinery (ACM)

Research Interests

- Machine learning, generalization bounds, overparameterized neural networks, student-teacher learning, graph matching, online learning.

- Performance limits, control and optimization of large and complex networked systems, including both communication networks and power systems.

- Wireless networks, scaling laws, scheduling, cross-layer design, low-complexity and distributed algorithms to achieve high throughput and low delay.

- Smart grid, power-system operations under renewable uncertainty, robust and efficient multi-stage decisions under uncertainty.

- Stochastic optimization, queueing theory, large deviations, competitive online algorithms, network coding.

Honors and Awards

[1] IBM Recognition Event Award, 1996 and 1997.

[2] Purdue Graduate Student Government (PGSG) Travel Grant, 2004.

[3] Student Travel Grant for *IEEE Conference on Decision and Control* (declined), 2004.

[4] IEEE Communications Society Student Travel Grant for *IEEE INFOCOM*, 2005.

[5] Best Paper Award Finalist (one of the two runner-up papers), *IEEE INFOCOM*, 2005 (for my paper [C8]).

[6] Best Paper of the Year Award, *Journal of Communications and Networks*, 2005 (for my paper [J1]).

[7] National Science Foundation CAREER Award, 2007.

[8] Best Paper Award, *IEEE INFOCOM*, 2008 (for my paper [C19]).

[9] Best Paper Award Finalist (one of five finalists), *ACM e-Energy*, 2018 (for my paper [C63]).

[10] Best Paper Award Finalist (one of four finalists), *IEEE SmartGridComm*, 2020 (for my paper [C75]).

Professional Experience

July 1994 - Sept. 1995	Electronic Engineer, Ming-Hao Electronics Company, Guangzhou, China.
Oct. 1995 - Aug. 1998	Advisory I/T Specialist, Networking Hardware Division, IBM China Company, Guangzhou, China.
May 2002 - Aug. 2002	Research Intern, T.J. Watson Research Labs, IBM Research, Hawthorne, New York.
Aug. 2005 - June 2011	Assistant Professor, School of Electrical and Computer Engineering, Purdue University.
July 2011 - July 2017	Associate Professor, School of Electrical and Computer Engineering, Purdue University.
Aug. 2017 - present	Professor, School of Electrical and Computer Engineering, Purdue University.

Research Grants and Contracts

[G1] Principal Investigator, Purdue Research Foundation Grant, "Loosely-Coupled Cross-Layer Control For Multi-Channel Multihop Wireless Networks," June 2006 to May 2007, $15,292.

[G2] Co-Principal Investigator (PI: N. Shroff, Co-PI: Y. C. Hu), "NETS-NBD: A High-Performance Control Plane For Mesh Networks: Theory And Implementation," National Science Foundation (Award CNS-0626703), Aug. 2006 to July 2009, $735,000 ($238,000 directly responsible).

[G3] Co-Principal Investigator (PI: N. Shroff), "Collaborative Research: Towards an Analytical Foundation for Network Architectures," National Science Foundation (Award CCF-0635202), Sept. 2006 to Aug. 2007, $133,000 ($60,000 directly responsible). (Multi-institution grant with UIUC, UT Austin, and Princeton. Total amount across institutions: $400K.)

[G4] Principal Investigator, "CAREER: A Theoretical Foundation for Supporting Delay-Sensitive Applications on Wireless Networks," National Science Foundation (Award CNS-0643145), May 2007 to April 2012, $400,000.

[G5] Principal Investigator, "NOSS: Collaborative Research: Energy-Efficient Distributed Sensor Network Control: Theory to Implementation," National Science Foundation (Award CNS-0721477), Sept. 2007 to Aug. 2010, $182,250. (Multi-institution grant with OSU. Total amount across institutions: $650K.)

[G6] Principal Investigator, "FIND: Collaborative Research: Towards an Analytic Foundation for Network Architectures," National Science Foundation (Award CNS-0721484), Sept. 2007 to Aug. 2010, $200,000. (Multi-institution grant with UIUC, OSU, UT Austin and Princeton. Total amount across institutions: $1.2M.)

[G7] Principal Investigator, Purdue Research Foundation Grant, "Loosely-Coupled Cross-Layer Control For Delay-Sensitive Multi-Channel Multihop Wireless Networks," June 2008 to May 2009, $16,375.

[G8] Principal Investigator (Co-PI: S. Bagchi), "NECO: Provably Assurable Ad Hoc Networks under Byzantine Malicious Behaviors," National Science Foundation (Award CNS-0831999), Sept. 2008 to Aug. 2010, $199,991 ($99,995 directly responsible).

[G9] Principal Investigator, Purdue Research Foundation Grant, "Supporting Delay-Sensitive Elastic Traffic in Wireless Mesh Networks," June 2010 to May 2011, $16,795.

[G10] Principal Investigator (with M. Kulkarni), Intel, "Wireless Networks for Delay Sensitive Applications and Adaptive Runtime Systems for Amorphous Data Parallelism," 2010, $70,000 (gift, $35,000 directly responsible).

[G11] Principal Investigator (Co-PI: S. Bagchi), National Science Foundation, Research Experiences for Undergraduates, "NECO: Provably Assurable Ad Hoc Networks under Byzantine Malicious Behaviors," Sept. 2011 to Aug. 2012, $16,000.

[G12] Principal Investigator, "Exploiting the Multi-Channel Advantage for Wireless Ad Hoc Networks: Achieving both High Throughput and Low Delay with Low-Complexity Control," Army Research Office (Award W911NF-14-1-0368, subcontract through Ohio State University), August 2014 to July 2017, $140,654. (Multi-institution grant with OSU. Total amount across institutions: $338,717.)

[G13] Principal Investigator (Co-PI: D. Aliprantis), "CyberSEES: Type 1: A New Reliability-Assuring Computational Framework for Grid Operations under High Renewable Penetration," National Science Foundation (Award CCF-1442726), September 2014 to August 2016, $400,000 ($200,000 directly responsible, no-cost extension to August 2017 approved).

[G14] Principal Investigator, "WiFiUS: Collaborative Research: Data-Guided Resource Management for Dense Heterogeneous Networks," National Science Foundation (Award CNS-1457137), February 2015 to January 2017, $96,666. (Multi-institution grant with UC-Davis. Total amount across institutions: $290,000.)

[G15] Principal Investigator (Co-PI: A. L. Liu), "EPCN: Achieving Robust Power System Operations under Uncertainty and Price-Driven Active Demand-Side Participation," National Science Foundation (Award ECCS-1509536), September 2015 to August 2018, $399,831 ($201,373 directly responsible).

[G16] Principal Investigator, "WiFiUS: Collaborative Research: Low Overhead Wireless Access Solutions for Massive and Dynamic IoT Connectivity," National Science Foundation (Award CNS-1703014), April 2017 to March 2019, $150,000. (Multi-institution grant with UC-Davis. Total amount across institutions: $300,000.)

[G17] Principal Investigator, "NeTS: Small: Managing Network Function Virtualization under Uncertainty," National Science Foundation (Award CNS-1717493), September 2017 to August 2020, $500,000 ($291,404 directly responsible).

[G18] Principal Investigator, "EPCN: Student Travel Grant Support for ACM e-Energy 2019," National Science Foundation (Award ECCS-1921671), June 2019 to November 2019, $12,000 ($12,000 directly responsible).

[G19] Principal Investigator, "BIGDATA: F: Collaborative Research: Mining for Patterns in Graphs and High-Dimensional Data: Achieving the Limits," National Science Foundation (subcontract of Award IIS-1932630 via Duke University), October 2019 to September 2021, $168,649 ($168,649 directly responsible).

[G20] Principal Investigator, "Communication-Constrained Robust Control and Learning of Grid Connected IoT," Department of Energy (Award DE-OE0000921), August 2020 to July 2022, $1,850,000.

Professional Society Activities

Editorial Positions

[1] Area Editor, Elsevier *Computer Networks* Journal, 2009 - 2018..

[2] Guest Editor, Elsevier *Ad Hoc Networks* Journal, Special Issue on *Models and Algorithms for Wireless Mesh Networks*, 2010.

[3] Associate Editor, *IEEE/ACM Transactions on Networking*, 2013 - 2017.

Chairs

[1] Workshop co-Chair, *IEEE Global Communications Conference (IEEE GLOBE-COM)*, Washington DC, November 2007.

[2] Panel co-Chair and Moderator, *4th International Wireless Internet Conference (WICON)*, Maui, Hawaii, November 2008.

[3] Technical Program Committee co-Chair, *Tenth ACM International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc)*, New Orleans, LA, May 2009.

[4] Mini-conference co-Chair, *IEEE International Conference on Computer Communications (IEEE INFOCOM)*, Orlando, FL, March 2012.

[5] Workshop Chair, *International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, Hammamet, Tunisia, May 2014.

[6] Area TPC Chair, *IEEE International Conference on Computer Communications (IEEE INFOCOM)*, 2015-2021.

[7] Publication Chair, *International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, Phoenix, AZ, May 2016.

[8] General co-Chair, *Tenth ACM International Conference on Future Energy Systems (ACM e-Energy)*, Phoenix, AZ, June 2019.

Keynote Addresses and Panelist

[1] Panelist, "Pressing Theoretical Challenges in Wireless Networking Research," in *ACM MobiHoc*, Hangzhou, China, June 22-25, 2015,

[2] Keynote address on "Algorithmic Foundation Towards a Robust, Adaptive and Decentralized Cloud under Uncertain and Dynamic Demand," in the *10th International Workshop on Hot Topics in Pervasive Mobile and Online Social Networking (HotPOST'18)*, in conjunction with IEEE INFOCOM'18, Honolulu, HI, April, 2018.

Session Organizers

[1] Special Session Co-organizer, "Advances in Networked Video," *IEEE International Conference on Multimedia & Expo (ICME)*, July 2006.

Technical Program Committees (TPC)

[1] TPC member, *IEEE INFOCOM*, 2005-2021.

[2] TPC member, *25th IEEE International Performance Computing and Communications Conference (IPCCC)*, 2006.

[3] TPC member, *International Conference on Computer Communications and Networks (ICCCN)*, 2006.

[4] TPC member, *WiOpt: Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks*, 2006, 2007, 2011-2012.

[5] TPC member, *IEEE Broadnets* 2007.

[6] TPC member, *ACM MobiHoc* 2008, 2010, 2011, 2014-2021.

[7] TPC member, *AdhocNets* 2009.

[8] TPC member, *ICDCS* 2010.

[9] TPC member, *IEEE GLOBECOM*, 2013, 2016.

[10] TPC member, *IEEE SmartGridComm*, 2015-2017.

[11] TPC member, *ACM e-Energy*, 2016-2018, 2020-2021.

Activities as a Referee:

Dr. Lin is a regular reviewer for major journals including *IEEE/ACM Transactions on Networking, IEEE Transactions on Automatic Control, IEEE Transactions on Wireless Communications, IEEE Transactions on Information Theory, Computer Networks Journal, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Mobile Computing, IEEE Transactions on Power Systems*, and *IEEE Transactions on Smart Grid*. He is also a reviewer for major international conferences including *IEEE INFOCOM, ACM Mobihoc, ACM SIGMETRICS, IEEE International Conference on Communications, IEEE Globecom, IEEE SmartGridComm*, and *WiOpt (Modeling and Optimization in Mobile Ad-hoc and Wireless Networks)*.

PhD Supervision Completed:

- Joohwan Kim, "Improving Performance of Wireless Networks Using Anycast," March 2010 (Co-supervised with N. Shroff). Currently with Samsung.

- V. J. Venkataramanan, "Quality of Service Analysis of Scheduling Algorithms in General Wireless Networks," May 2010. Currently with Qualcomm.

- Can Zhao, "The Streaming Capacity of Sparsely-Connected P2P Systems with Distributed Control," August 2012. Currently with Qualcomm.

- Jinkyu Koo, "Secure Control Protocols for Resource-Constrained Embedded Systems," August 2012 (Co-supervised with S. Bagchi). Currently with Purdue as a researcher.

- Xiaohang Li, "Wireless Network Coded Scheduling Algorithms for Delay-Sensitive Applications," May 2013 (Co-supervised with C. Wang). Currently with Google.

- Po-Kai Huang, "Achieving High Throughput and Low Delay in Wireless Networks," August 2013. Currently with Intel.

- Shizhen Zhao, "Delay Constrained Scheduling in Wireless Networks and Smart Grids," August 2015. Currently with Google.

- Wei-Kang Hsu, "Resource Allocation in Nano-Communication Networks and Online Service Platforms," August 2018 (Co-supervised with M. Bell). Currently with Apple.

M.S. Supervision Completed:

- Manu Sharma, "OFDM Downlink Scheduling for Delay-Optimality: Many-Channel Many-Source Asymptotics with General Arrival Processes," August 2011. Currently at Qualcomm.

Ph.D. Thesis Students Currently Being Supervised

Yihan Zou	PhD (Co-supervised with M. Chiang)
Ming Shi	PhD
Peizhong Ju	PhD
Liren Yu	PhD
Ajinkya Mulay	PhD
Siyuan Xu	PhD

Undergraduate Vertically Integrated Project (VIP)

Alex Curtis, Michael Surjaputra, Silin Xie, and Hongfei Zhou	2011
Alec Turner, Michael Swartz, and Zhe Xu	2012

Teaching

[1] **Courses Taught**

ECE-201: Linear Circuit Analysis I (S' 12, S' 13, F' 13, F' 14, S' 17, F' 17, S' 19)

ECE-382: Feedback Systems Analysis and Design (S '06, S '07)

ECE-547: Introduction to Computer Communication Networks (F '07, F '08, F' 09, F' 10, F' 11, S' 14, F' 15, F' 16, F'18, F'19, F' 20)

ECE-647: Performance Modeling of Computer Communication Networks (F '06, S' 09, S' 11, S' 15)

ECE-60022: Wireless Communication Networks (F' 05, S' 08, S' 10, S' 12, S' 18, S' 20).

[2] **Courses Developed**

(a) Developed a new curriculum for ECE-647 (advanced graduate-level course in networking) that focused on convex optimization and large-deviations.

(b) Significantly revised the curriculum for ECE-60022 (graduate course in wireless communication networks).

School Committee Activities

[1] CNSIP (Communications, Networking, Signal and Image Processing) Area Committee (2005–Present). Serving as Area Chair 2018-2020.

[2] Graduate Admissions Committee (2005–Present)

[3] Graduate Committee (2009–2012)

[4] Curriculum Committee (2013–2016)

[5] Degree-Merge Committee (2016)

Research Book Contributions and Books Published

[B1] X. Lin and N. B. Shroff, "On the Fundamental Relationship Between the Achievable Capacity and Delay in Mobile Wireless Networks," in *Advances in Pervasive Computing and Networking*, B. K. Szymanski and B. Yener (editors), Kluwer Academic Publishers, 2004.

[B2] B. Ji, X. Lin and N. B. Shroff, *Advances in Multi-Channel Resource Allocation: Throughput, Delay, and Complexity*, in *Synthesis Lectures on Communication Networks*, Morgan & Claypool Publishers, 2016.

Serial Journal Articles

[J1] X. Lin and N. B. Shroff, "Towards Achieving the Maximum Capacity in Large Mobile Wireless Networks Under Delay Constraints," in *KICS Journal of Communications and Networks, Special Issue on Mobile Ad Hoc Wireless Networks*, vol. 6, no. 4, pp. 352-361, December 2004 (**Best Paper of the Year Award**, 10 pages).

[J2] X. Lin and N. B. Shroff, "Simplification of Network Dynamics in Large Systems," in *IEEE/ACM Transactions on Networking*, vol. 13, no. 4, pp. 813-826, August 2005 (14 pages).

[J3] X. Lin and N. B. Shroff, "The Impact of Imperfect Scheduling on Cross-Layer Congestion Control in Wireless Networks," in *IEEE/ACM Transactions on Networking*, vol. 14, no. 2, pp. 302-315, April 2006 (14 pages).

[J4] X. Lin and N. B. Shroff, "Utility Maximization for Communication Networks with Multi-path Routing," in *IEEE Transactions on Automatic Control*, vol. 51, no. 5, pp. 766-781, May 2006 (16 pages).

[J5] X. Lin, G. Sharma, R. R. Mazumdar and N. B. Shroff, "Degenerate Delay-Capacity Trade-offs in Ad Hoc Networks with Brownian Mobility," in Joint Special Issue of *IEEE Transactions on Information Theory* and *IEEE/ACM Transactions on Networking, Special Issue on Networking and Information Theory*, vol. 52, no. 6, pp. 2777-2784, June 2006 (8 pages).

[J6] X. Lin, N. B. Shroff and R. Srikant, "A Tutorial on Cross-Layer Optimization in Wireless Networks," in *IEEE Journal on Selected Areas in Communications, Special Issue on Non-Linear Optimization of Communication Systems*, vol. 24, no. 8, pp. 1452-1463, August 2006 (12 pages).

[J7] X. Lin and N. B. Shroff, "An Optimization Based Approach for Quality-of-Service Routing in High-Bandwidth Networks," in *IEEE/ACM Transactions on Networking*, vol. 14, no. 6, pp. 1348-1361, December 2006 (14 pages).

[J8] X. Lin, N. B. Shroff and R. Srikant, "On the Connection-Level Stability of Congestion-Controlled Communication Networks," *IEEE Transactions on Information Theory*, vol. 54, no. 5, pp. 2317-2338, May 2008 (22 pages).

[J9] X. Lin and S. Rasool, "Constant-Time Distributed Scheduling Policies for Ad Hoc Wireless Networks," *IEEE Transactions on Automatic Control*, vol. 54, no. 2, pp. 231-242, February 2009 (12 pages).

[J10] C. Joo, X. Lin, and N. B. Shroff, "Understanding the Capacity Region of the Greedy Maximal Scheduling Algorithm in Multi-hop Wireless Networks," *IEEE/ACM Transactions on Networking*, vol. 17, no. 4, pp. 1132-1145, August 2009 (14 pages).

[J11] A. Gupta, X. Lin and R. Srikant, "Low-Complexity Distributed Scheduling Algorithms for Wireless Networks," *IEEE/ACM Transactions on Networking*, vol. 17, no. 6, pp. 1846-1859, December 2009 (14 pages).

[J12] X. Lin and S. Rasool, "Distributed and Provably Efficient Algorithms for Joint Channel-Assignment, Scheduling and Routing in Multi-Channel Ad Hoc Wireless Networks,"

IEEE/ACM Transactions on Networking, vol. 17, no. 6, pp. 1874-1887, December 2009 (14 pages).

[J13] C. Joo, X. Lin, and N. B. Shroff, "Greedy Maximal Matching: Performance Limits for Arbitrary Network Graphs Under the Node-exclusive Interference Model," *IEEE Transactions on Automatic Control*, vol. 54, no. 12, pp. 2734-2744, December 2009 (11 pages).

[J14] L. Lin, X. Lin and N. B. Shroff, "Low-Complexity and Distributed Energy Minimization in Multi-hop Wireless Networks," *IEEE/ACM Transactions on Networking*, vol. 18, no. 2, pp. 501-514, April 2010 (14 pages).

[J15] J. Kim, X. Lin, N. Shroff and P. Sinha, "Minimizing Delay and Maximizing Lifetime for Wireless Sensor Networks with Anycast," *IEEE/ACM Transactions on Networking*, vol. 18, no. 2, pp. 515-528, April 2010 (14 pages).

[J16] V. J. Venkataramanan and X. Lin, "On Wireless Scheduling Algorithms for Minimizing the Queue-Overflow Probability," *IEEE/ACM Transactions on Networking*, vol. 18, no. 3, pp. 788-801, June 2010 (14 pages).

[J17] C. Zhao and X. Lin, "On the Queue-Overflow Probabilities of a Class of Distributed Scheduling Algorithms," *Computer Networks*, vol. 55, no. 1, pp. 343-355, January 2011 (13 pages).

[J18] J. Kim, X. Lin and N. Shroff, "Optimal Anycast Technique for Delay-Sensitive Energy-Constrained Asynchronous Sensor Networks," *IEEE/ACM Transactions on Networking*, vol. 19, no. 2, pp. 484-497, April 2011 (14 pages).

[J19] X. Li, C.-C. Wang and X. Lin, "On the Capacity of Immediately Decodable Coding Schemes for Wireless Stored-video Broadcast with Hard Deadline Constraints," *IEEE Journal on Selected Areas in Communications, Special Issue on Trading Rate for Delay at the Transport and Application Layer*, vol. 29, no. 5, pp. 1094-1105, May 2011 (12 pages).

[J20] T. Lan, X. Lin, M. Chiang, R. Lee, "Stability and Benefits of Suboptimal Utility Maximization," *IEEE/ACM Transactions on Networking*, vol. 19, no. 4, pp. 1194-1207, August 2011 (14 pages).

[J21] X. Wang, X. Lin, Q. Wang and W. Luan, "Mobility Increases the Connectivity of Wireless Networks," *IEEE/ACM Transactions on Networking*, vol. 21, no. 2, pp. 440-454, April 2013 (15 pages).

[J22] P.-K. Huang, X. Lin and C.-C. Wang, "A Low-Complexity Congestion Control and Scheduling Algorithm for Multihop Wireless Networks with Order-Optimal Per-Flow Delay," *IEEE/ACM Transactions on Networking*, vol. 21, no. 2, pp. 495-508, April 2013 (14 pages).

[J23] J. Koo, D. Shin, X. Lin and S. Bagchi, "A Delay-Bounded Event-Monitoring and Adversary-Identification Protocol in Resource-Constraint Sensor Networks," *Elsevier Ad Hoc Networks*, vol. 11, no. 6, pp. 1820-1835, August 2013 (16 pages).

[J24] V. J. Venkataramanan and X. Lin, "On the Queue-Overflow Probability of Wireless Systems: A New Approach Combining Large Deviations with Lyapunov Functions," *IEEE Transactions on Information Theory*, vol. 59, no. 10, pp. 6367-6392, October 2013 (26 pages).

[J25] B. Ji, G. R. Gupta, X. Lin, and N. B. Shroff, "Low-Complexity Scheduling Policies for Achieving Throughput and Delay Optimality in Multi-Channel Wireless Networks," *IEEE/ACM Transactions on Networking*, vol. 22, no. 6, pp. 1911-1924, December 2014 (14 pages).

[J26] J. Zhao, C. Wu, and X. Lin, "Locality-Aware Streaming in Hybrid P2P-Cloud CDN Systems," *Peer-to-Peer Networking and Applications*, vol. 8, no. 2, pp. 320-335, March 2015 (16 pages).

[J27] P.-K. Huang and X. Lin, "Achieving Optimal Throughput Utility and Low Delay with CSMA-like Algorithms: A Virtual Multi-Channel Approach," *IEEE/ACM Transactions on Networking*, vol. 23, no. 2, pp. 505-518, April 2015 (14 pages).

[J28] B. Ji, G. R. Gupta, M. Sharma, X. Lin and N. B. Shroff, "Achieving Optimal Throughput and Near-Optimal Asymptotic Delay Performance in Multi-Channel Wireless Networks with Low Complexity: A Practical Greedy Scheduling Policy," *IEEE/ACM Transactions on Networking*, vol. 23, no. 3, pp. 880-893, June 2015 (14 pages).

[J29] C. Zhao, X. Lin and C. Wu, "The Streaming Capacity of Sparsely-Connected P2P Systems with Distributed Control," *IEEE/ACM Transactions on Networking*, vol. 24, no. 1, pp. 58-71, February 2016 (14 pages).

[J30] S. Zhao and X. Lin, "Design of Scheduling Algorithms for End-to-End Backlog Minimization in Wireless Multi-hop Networks under K-hop Interference Models," *IEEE/ACM Transactions on Networking*, vol. 24, no. 2, pp. 1265-1278, April 2016 (14 pages).

[J31] H. Wang, J. Huang, X. Lin and H. Mohsenian-Rad, "Proactive Demand Response for Data Centers: A Win-Win Solution," *IEEE Transactions on Smart Grid*, vol. 7, no. 3, pp. 1584-1596, May 2016 (13 pages).

[J32] C. Joo, X. Lin, J. Ryu and N. B. Shroff, "Distributed Greedy Approximation to Maximum Weighted Independent Set for Scheduling with Fading Channels," *IEEE/ACM Transactions on Networking*, vol. 24, no. 3, pp. 1476-1488, June 2016 (13 pages).

[J33] H. Wu, X. Lin, X. Liu and Y. Zhang, "Application-Level Scheduling with Deadline Constraints," *IEEE/ACM Transactions on Networking*, vol. 24, no. 3, pp. 1504-1517, June 2016 (14 pages).

[J34] H. Wu, X. Lin, X. Liu, K. Tan and Y. Zhang, "CoSchd: Coordinated Scheduling with Channel- and Load-Awareness for Alleviating Cellular Congestion," *IEEE/ACM Transactions on Networking*, vol. 24, no. 5, pp. 2579-2592, Oct. 2016 (14 pages).

[J35] C. Zhao, J. Zhao, X. Lin and C. Wu, "Capacity of P2P On-Demand Streaming with Simple, Robust and Decentralized Control," *IEEE/ACM Transactions on Networking*, vol. 24, no. 5, pp. 2607-2620, Oct. 2016 (14 pages).

[J36] X. Li, C.-C. Wang and X. Lin, "Inter-Session Network Coding Schemes for 1-to-2 Downlink Access-Point Networks with Sequential Hard Deadline Constraints," *IEEE/ACM Transactions on Networking*, vol. 25, no. 1, pp. 624-638, Feb. 2017 (15 pages).

[J37] S. Zhao, X. Lin and M. Chen, "Robust Online Algorithms for Peak-Minimizing EV Charging under Multi-Stage Uncertainty," *IEEE Transactions on Automatic Control*, vol. 62, no. 11, pp. 5739-5754, Nov. 2017 (16 pages).

[J38] J. Zhang, X. Lin and X. Wang, "Coded Caching under Arbitrary Popularity Distributions," *IEEE Transactions on Information Theory*, vol. 64, no. 1, pp. 349-366, November 2017 (18 pages).

[J39] O. Dalkilic, A. Eryilmaz and X. Lin, "Pricing for the Optimal Coordination of Opportunistic Agents," *IEEE Transactions on Control of Network Systems*, vol. 5, no. 3, pp. 833-845, September 2018 (12 pages).

[J40] H. Yi, M. H. Hajiesmaili, Y. Zhang, M. Chen, and X. Lin, "Impact of the Uncertainty of Distributed Renewable Generation on Deregulated Electricity Supply Chain," *IEEE Transactions on Smart Grid*, vol. 9, no. 6, pp. 6183-6193, November 2018 (11 pages).

[J41] M. Shi, X. Lin and L. Jiao, "On the Value of Look-Ahead in Competitive Online Convex Optimization," *Proceedings of the ACM on Measurement and Analysis of Computing Systems*, vol. 3 no. 2, June 2019 (42 pages).

[J42] Y. Zhang, L. Jiao, J. Yan and X. Lin, "Dynamic Service Placement for Virtual Reality Group Gaming on Mobile Edge Cloudlets," *IEEE Journal on Selected Areas in Communications*, vol. 37, no. 8, pp. 1881-1897, August 2019 (17 pages).

[J43] D. Zhao, H. Wang, J. Huang and X Lin, "Storage or No Storage: Duopoly Competition Between Renewable Energy Suppliers in a Local Energy Market," *IEEE Journal on Selected Areas in Communications*, vol. 38, no. 1, pp. 31-47, January 2020 (17 pages).

[J44] D. Zhao, H. Wang, J. Huang and X Lin, "Virtual Energy Storage Sharing and Capacity Allocation," *IEEE Journal on Selected Areas in Communications*, vol. 11, no. 1, pp. 1112-1123, March 2020 (12 pages).

[J45] S. Zhao, Y. Zou, X. Lin, D. Aliprantis, H. N. Villegas Pico, M. Chen and A. Castillo, "Leveraging Generators with Complementary Capabilities for Robust Multi-stage Power Grid Operations," *IEEE Transcations on Control of Network Systems*, vol. 7, no. 3, pp. 1441-1452, September 2020 (12 pages).

[J46] W.-K. Hus, J. Xu, X. Lin and M. R. Bell, "Integrated Online Learning and Adaptive Control in Queueing Systems with Uncertain Payoffs," *Operations Research*, accepted for publication (63 pages).

Serial Journal Articles under Review/Revision

[J47] Y. Zou, X. Lin, D. Aliprantis, and M. Chen, "Virtual Generator-Storage Pairing for Robust Multi-Stage Power Grid Operations," submitted to *IEEE Transcations on Control of Networked Systems*, 2020.

[J48] M. Shi, X. Lin and S. Fahmy, "Competitive Online Convex Optimization with Switching Costs and Ramp Constraints," submitted to *IEEE/ACM Transactions on Networking*, 2020.

[J49] B. Miao, S. Wang, L. Fu, X. Lin, and X. Wang, "The Effect of Symmetry on the De-anonymizability of Social Networks," submitted to *IEEE Transactions on Information Theory*, 2020.

Conference Proceedings and Presentations

[C1] X. Lin and N. B. Shroff, "Pricing-Based Control of Large Networks," in *Evolutionary Trends of the Internet, Proceedings of Tyrrhenian International Workshop on Digital Communications (IWDC 2001)*, Taormina, Italy, September 2001 (invited, 20 pages).

[C2] X. Lin and N. B. Shroff, "Simplification of Network Dynamics in Large Systems," in *Tenth International Workshop on Quality of Service (IWQoS 2002)*, Miami Beach, Florida, May 15-17, 2002. (Acceptance Rate: 18.9%, 10 pages)

[C3] X. Lin and N. B. Shroff, "The Multi-path Utility Maximization Problem," in *41st Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, October 2003 (invited, 10 pages).

[C4] X. Lin and N. B. Shroff, "An Optimization Based Approach for Quality-of-Service Routing in High-Bandwidth Networks," in *Proceedings of IEEE INFOCOM*, Hong Kong, March 2004. (Acceptance Rate: 18.4%, 11 pages)

[C5] X. Lin and N. B. Shroff, "The Fundamental Capacity-Delay Tradeoff in Large Mobile Ad Hoc Networks," in *Proceedings of 3rd Annual Mediterranean Ad Hoc Networking Workshop*, Bodrum, Turkey, June 2004 (invited, 12 pages).

[C6] X. Lin and N. B. Shroff, "On the Stability Region of Congestion Control," in *42nd Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 2004 (10 pages).

[C7] X. Lin and N. B. Shroff, "Joint Rate Control and Scheduling in Multi-hop Wireless Networks," in *43rd IEEE Conference on Decision and Control*, Paradise Island, Bahamas, December 2004 (invited, 6 pages).

[C8] X. Lin and N. B. Shroff, "The Impact of Imperfect Scheduling on Cross-Layer Rate Control in Multihop Wireless Networks," in *IEEE INFOCOM*, Miami, Florida, March 2005 (Acceptance Rate: 17.2%, 11 pages. **Best Paper Award Finalist, selected for fast-track publication in *IEEE/ACM Transactions on Networking***).

[C9] R. Zhang, C. Tang, Y. C. Hu, S. Fahmy and X. Lin, "Impact of the Inaccuracy of Distance Prediction Algorithms on Internet Applications: an Analytical and Comparative Study," in *IEEE INFOCOM*, Barcelona, Spain, April 2006. (Acceptance Rate: 18%, 12 pages)

[C10] R. Zhang, Y. C. Hu, X. Lin and S. Fahmy, "A Hierarchical Approach to Internet Distance Prediction," in *IEEE International Conference on Distributed Computing Systems*, Lisboa, Portugal, July 2006. (Acceptance Rate: 13.8%, 8 pages)

[C11] X. Lin, "On Characterizing the Delay Performance of Wireless Scheduling Algorithms," in *44th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, September 2006 (invited, 8 pages).

[C12] X. Lin and S. Rasool, "Constant-Time Distributed Scheduling Policies for Ad Hoc Wireless Networks," in *Proceedings of IEEE Conference on Decision and Control*, San Diego, December 2006. (6 pages)

[C13] J. Kim, X. Lin, and N. B. Shroff, "Locally-Optimized Scheduling and Power Control Algorithms for Multi-hop Networks under SINR Interference Models," *Fifth International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2007)*, Limassol, Cyprus, April 2007. (10 pages)

[C14] A. Gupta, X. Lin and R. Srikant, "Low-Complexity Distributed Scheduling Algorithms for Wireless Networks," in *IEEE INFOCOM*, Anchorage, Alaska, May 2007. (Acceptance Rate: 18%, 9 pages)

[C15] L. Lin, X. Lin and N. B. Shroff, "Low-Complexity and Distributed Energy Minimization in Multi-hop Wireless Networks," in *IEEE INFOCOM*, Anchorage, Alaska, May 2007. (Acceptance Rate: 18%, 9 pages)

[C16] X. Lin and S. Rasool, "A Distributed Joint Channel-Assignment, Scheduling and Routing Algorithm for Multi-Channel Ad Hoc Wireless Networks," in *IEEE INFOCOM*, Anchorage, Alaska, May 2007. (Acceptance Rate: 18%, 9 pages)

[C17] V. J. Venkataramanan and X. Lin, "Structural Properties of LDP for Queue-Length Based Wireless Scheduling Algorithms," in *45th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, September 2007 (invited, 8 pages).

[C18] C. Joo, X. Lin, and N. B. Shroff, "Performance Limits of Greedy Maximal Matching in Multi-hop Wireless Networks," in *IEEE CDC*, New Orleans, Louisiana, December 2007 (invited, 6 pages).

[C19] C. Joo, X. Lin, and N. B. Shroff, "Understanding the Capacity Region of the Greedy Maximal Scheduling Algorithm in Multi-hop Wireless Networks," in *IEEE INFOCOM*, Phoenix, Arizona, April 2008. (Acceptance Rate: 20.3%, 9 pages. **Best Paper Award, selected for fast-track publication in *IEEE/ACM Transactions on Networking***).

[C20] T. Lan, X. Lin, M. Chiang and R. Lee, "How Bad Is Suboptimal Rate Allocation?" in *IEEE INFOCOM*, Phoenix, Arizona, April 2008. (Acceptance Rate: 20.3%, 9 pages)

[C21] J. Kim, X. Lin, N. Shroff and P. Sinha, "On Maximizing the Lifetime of Delay-Sensitive Wireless Sensor Networks with Anycast," in *IEEE INFOCOM*, Phoenix, Arizona, April 2008. (Acceptance Rate: 20.3%, 9 pages)

[C22] J. Kim, X. Lin, and N. B. Shroff, "Optimal Anycast Technique for Delay-Sensitive Energy-Constrained Asynchronous Sensor Networks," in *IEEE INFOCOM*, Rio de Janeiro, Brazil, April 2009. (Acceptance Rate: 19.7%, 9 pages)

[C23] C.-C. Wang and X. Lin, "Fast Resource Allocation for Network-Coded Traffic — A Coded-Feedback Approach," in *IEEE INFOCOM Mini-Conference*, Rio de Janeiro, Brazil, April 2009. (5 pages)

[C24] Q. Wang, X. Wang and X. Lin, "Mobility Increases the Connectivity of K-hop Clustered Wireless Networks," in *ACM MobiCom*, Beijing, China, September 2009. (Acceptance Rate: 10.6%, 12 pages)

[C25] X. Lin and V. J. Venkataramanan, "On the Large-Deviations Optimality of Scheduling Policies Minimizing the Drift of a Lyapunov Function," in *47th Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, September 2009. (8 pages)

[C26] C. Zhao and X. Lin, "On the Queue-Overflow Probabilities of Distributed Scheduling Algorithms," in *IEEE CDC*, Shanghai, China, December 2009 (invited, 6 pages).

[C27] V. J. Venkataramanan, X. Lin, L. Ying and S. Shakkottai, "On Scheduling for Minimizing End-to-end Buffer Usage Over Multihop Wireless Networks," in *IEEE INFOCOM*, San Diego, CA, March 2010. (Acceptance Rate: 17.5%, 9 pages)

[C28] X. Li, C.-C. Wang, X. Lin, "Throughput and Delay Analysis on Uncoded and Coded Wireless Broadcast with Hard Deadline Constraints," in *IEEE INFOCOM Mini-Conference*, San Diego, CA, March 2010. (5 pages)

[C29] M. Sharma and X. Lin, "OFDM Downlink Scheduling for Delay-Optimality: Many-Channel Many-Source Asymptotics with General Arrival Processes," in *Information Theory and Applications Workshop*, University of California at San Diego, February 2011 (invited, 10 pages).

[C30] V. J. Venkataramanan and X. Lin, "Low-Complexity Scheduling Algorithm for Sum-Queue Minimization in Wireless Converge-cast," in *IEEE INFOCOM*, Shanghai, China, April 2011. (Acceptance Ratio: 16%, 9 pages)

[C31] P.-K. Huang, X. Lin and C.-C. Wang, "A Low-Complexity Congestion Control and Scheduling Algorithm for Multi-hop Wireless Networks with Order-Optimal Per-Flow Delay," in *IEEE INFOCOM*, Shanghai, China, April 2011. (Acceptance Ratio: 16%, 9 pages)

[C32] C. Zhao, X. Lin and C. Wu, "The Streaming Capacity of Sparsely-Connected P2P Systems with Distributed Control," in *IEEE INFOCOM*, Shanghai, China, April 2011. (Acceptance Ratio: 16%, 9 pages)

[C33] S. Zhao and X. Lin, "On the Design of Scheduling Algorithms for End-to-End Backlog Minimization in Multi-hop Wireless Networks," in *IEEE INFOCOM*, Orlando, FL, March 2012. (Acceptance Ratio: 18%, 9 pages)

[C34] X. Chen, W. Huang, X. Wang and X. Lin, "Multicast Capacity in Mobile Wireless Ad Hoc Network with Infrastructure Support," in *IEEE INFOCOM*, Orlando, FL, March 2012. (Acceptance Ratio: 18%, 9 pages)

[C35] J. Koo, D. Shin, X. Lin and S. Bagchi, "PRIVATUS: Wallet-Friendly Privacy Protection for Smart Meters," in *17th European Symposium on Research in Computer Security (ESORICS)*, Pisa, Italy, September 2012. (Acceptance Ratio: 20.2%, 18 pages)

[C36] P.-K. Huang and X. Lin, "Improving the Delay Performance of CSMA Algorithms: A Virtual Multi-Channel Approach," in *IEEE INFOCOM*, Turin, Italy, April 2013. (Acceptance Ratio: 17.4%, 9 pages)

[C37] C. Zhao, J. Zhao, X. Lin and C. Wu, "Capacity of P2P On-Demand Streaming with Simple, Robust and Decentralized Control," in *IEEE INFOCOM*, Turin, Italy, April 2013. (Acceptance Ratio: 17.4%, 9 pages)

[C38] B. Ji, G. Gupta, X. Lin, N. B. Shroff, "Performance of Low-Complexity Greedy Scheduling Policies in Multi-Channel Wireless Networks: Optimal Throughput and Near-Optimal Delay," in *IEEE INFOCOM*, Turin, Italy, April 2013. (Acceptance Ratio: 17.4%, 9 pages)

[C39] X. Li, X. Tang, C.-C. Wang and X. Lin, "Gibbs-Sampling-Based Optimization for the Deployment of Small Cells in 3G Heterogeneous Networks," in *WiOpt*, Tsukuba Science City, Japan, May 2013. (Acceptance Ratio: 44.3%, 8 pages)

[C40] L. Lu, J. Tu, C.-K. Chau, M. Chen and X. Lin, "Online Energy Generation Scheduling for Microgrids with Intermittent Energy Sources and Co-Generation," in *ACM SIGMETRICS*, Pittsburgh, PA, June 2013. (Acceptance Ratio: 13.8%, 14 pages)

[C41] H. Wang, J. Huang, X. Lin and H. Mohsenian-Rad, "Exploring Smart Grid and Data Center Interactions for Electrical Power Load Balancing,"in *Greenmetrics workshop*, in conjunction with *ACM SIGMETRICS*, Pittsburgh, PA, June 2013. (6 pages)

[C42] C. Joo, X. Lin, J. Ryu and N. B. Shroff, "Distributed Greedy Approximation to Maximum Weighted Independent Set for Scheduling with Fading Channels," in *ACM MobiHoc*, Bangalore, India, August 2013. (Acceptance Ratio: 10.3%, 9 pages)

[C43] S. Zhao, X. Lin, and M. Chen, "Peak-Minimizing Online EV Charging," in *51st Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, October 2013. (8 pages)

[C44] O. Dalkilic, A. Eryilmaz, and X. Lin, "Stable Real-time Pricing and Scheduling for Serving Opportunistic Users with Deferrable Loads," in *51st Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, October 2013 (invited, 8 pages).

[C45] P.-K. Huang, X. Lin, N. B. Shroff, and D. J. Love, "Fast Multi-Channel Gibbs-Sampling for Low-Overhead Distributed Resource Allocation in OFDMA Cellular Networks," in *51st Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, October 2013 (invited, 8 pages).

[C46] H. Wu, X. Lin, X. Liu, K. Tan and Y. Zhang, "Decomposition of Large-Scale MDPs for Wireless Scheduling with Load- and Channel-Awareness," in *Information Theory and Applications Workshop*, University of California at San Diego, February 2014 (invited, 10 pages).

[C47] H. Wu, X. Lin, X. Liu and Y. Zhang, "Application-Level Scheduling with Deadline Constraints," in *IEEE INFOCOM*, Toronto, Canada, April 2014. (Acceptance Ratio: 19.3%, 9 pages)

[C48] S. Zhao and X. Lin, "Rate-Control and Multi-Channel Scheduling for Wireless Live Streaming with Stringent Deadlines," in *IEEE INFOCOM*, Toronto, Canada, April 2014. (Acceptance Ratio: 19.3%, 9 pages)

[C49] O. Dalkilic, A. Eryilmaz and X. Lin, "Randomized Pricing for the Optimal Coordination of Opportunistic Agents," in *52nd Annual Allerton Conference on Communication, Control, and Computing*, Monticello, Illinois, October 2014 (invited, 8 pages).

[C50] J. Zhang, X. Lin and X. Wang, "Coded Caching under Arbitrary Popularity Distributions", in *Information Theory and Applications Workshop*, University of California at San Diego, February 2015 (invited, 10 pages).

[C51] S. Zhao, X. Lin and M. Chen, "Peak-Minimizing Online EV Charging: Price-of-Uncertainty and Algorithm Robustification," in *IEEE INFOCOM*, Hong Kong, China, April 2015. (Acceptance Ratio: 19.3%, 9 pages)

[C52] J. Zhang, X. Lin, C.-C. Wang, and X. Wang, "Coded Caching for Files with Distinct File Sizes," in *IEEE ISIT*, Hong Kong, China, June 2015 (5 pages).

[C53] W.-K. Hsu, M. Bell and X. Lin, "Carrier Allocation in Mobile Bacteria Networks," in *49th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 2015 (5 pages).

[C54] S. Zhao, H. Villegas, X. Lin, D. Aliprantis, and M. Chen, "Online Multi-stage Decisions for Robust Power-Grid Operations under High Renewable Uncertainty," in *IEEE INFOCOM*, San Francisco, CA, April 2016. (Acceptance Ratio: 18.2%, 9 pages).

[C55] S. Misra, X. Lin and N. B. Shroff, "Fast Multi-Channel Gibbs-Sampling for Clustering in Cloud-Based Radio Access Networks," in *WiOpt'16*, Tempe, AZ, May 2016 (invited, 8 pages).

[C56] D. Zhao, H. Wang, J. Huang and X. Lin, "Pricing-based Energy Storage Sharing and Virtual Capacity Allocation," in *IEEE ICC*, Paris, France, May 2017.

[C57] J. Koo, X. Lin and S. Bagchi, "RL-BLH: Learning-Based Battery Control for Cost Savings and Privacy Preservation for Smart Meters," in *47th Annual IEEE/IFIP International Symposium on Dependable Systems and Networks (DSN)*, Denver, Colorado, June 2017.

[C58] H. N. Villegas, D. C. Aliprantis and X. Lin, "Transient Stability Assessment of Power Systems With Uncertain Renewable Generation, in *Proceedings of IREP*, Espinho, Portugal, August 2017, (12 pages).

[C59] W.-K. Hsu, X. Lin and M. Bell, "Deep-Target Delivery of Nanosensors with Bacteria-Inspired Coordination," in *IEEE GLOBECOM*, Singapore, December 2017.

[C60] W.-K. Hsu, J. Xu, X. Lin, and M. Bell, "Integrating Online Learning and Adaptive Control in Queueing Systems with Uncertain Payoffs," in *Information Theory and Applications Workshop*, University of California at San Diego, February 2018 (invited, 10 pages).

[C61] Y. Zou, X. Lin, D. Aliprantis, and M. Chen, "Robust Multi-stage Power Grid Operations with Energy Storage," in *IEEE INFOCOM*, Honolulu, HI, April 2018 (9 pages).

[C62] M. Shi, X. Lin, S. Fahmy, D.-H. Shin, "Competitive Online Convex Optimization with Switching Costs and Ramp Constraints," in *IEEE INFOCOM*, Honolulu, HI, April 2018 (9 pages).

[C63] P. Ju and X. Lin, "Adversarial Attacks to Distributed Voltage Control in Power Distribution Networks with DERs," in *ACM e-Energy*, Karlsruhe, Germany, June 2018 (12 pages, **Finalist for Best Paper Award**).

[C64] L. Jiao, L. Pu, L. Wang, X. Lin, and J. Li, "Multiple Granularity Online Control of Cloudlet Networks for Edge Computing," in *IEEE International Conference on Sensing, Communication and Networking (SECON)*, Hong Kong, China, June 2018 (9 pages).

[C65] D. Zhao, H. Wang, J. Huang and Xiaojun Lin, "Controllable vs. Random: Renewable Generation Competition in a Local Energy Market," in *IEEE International Conference on Communications (ICC)*, Shanghai, China, May 2019.

[C66] A. Jajoo, Y. C. Hu and X. Lin, "Your coflow has many flows: sampling them for fun and speed," in *USENIX Annual Technical Conference (USENIX ATC)*, Renton, WA, June 2019 (15 pages).

[C67] M. Shi, X. Lin and L. Jiao, "On the Value of Look-Ahead in Competitive Online Convex Optimization," in *ACM SIGMETRICS*, Phoenix, AZ, June 2019.

[C68] L. Jiao, R. Zhou, X. Lin and X. Chen, "Online Scheduling of Traffic Diversion and Cloud Scrubbing with Uncertainty in Current Inputs," in *ACM MobiHoc*, Catania, Italy, July 2019 (10 pages).

[C69] Q. Lin, W. Xu, M. Chen and X. Lin, "A Probabilistic Approach for Demand-Aware Ride-Sharing Optimization," in *ACM MobiHoc*, Catania, Italy, July 2019 (10 pages).

[C70] X. Liu, L. Fu, B. Jiang, X. Lin and Xinbing Wang, "Poster: Information Source Detection with Limited Time Knowledge," in *ACM MobiHoc*, Catania, Italy, July 2019 (2 pages).

[C71] J. Zhang, X. Lin and Chih-Chun Wang, "Closing the Gap for Coded Caching with Distinct File Sizes," in *IEEE International Symposium on Information Theory (ISIT)*, Paris, France, July 2019.

[C72] Y. Zou, K. T. Kim, X. Lin, M. Chiang, Z. Ding, R. Wichman and J. Hamalainen, "Low-overhead Multi-antenna-enabled Random Access for Machine-type Communications with Low Mobility," in *IEEE GLOBECOM*, Waikoloa, HI, December 2019 (6 pages).

[C73] Y. Zou, K. T. Kim, X. Lin, M. Chiang, Z. Ding, R. Wichman and J. Hamalainen, "Low-Overhead Joint Beam-Selection and Random-Access Schemes for Massive Internet-of-Things with Non-Uniform Channel and Load," in *IEEE INFOCOM*, Online, July 2020 (10 pages).

[C74] B. Miao, S. Wang, L. Fu, and X Lin, "De-anonymizability of social network: through the lens of symmetry," in *ACM MobiHoc*, Online, October 2020 (10 pages).

[C75] D. Zhao, H. Wang, J. Huang, and X. Lin, "Contract-Based Time-of-Use Pricing for Energy Storage Investment," in *IEEE SmartGridComm*, Online, November 2020 (7 pages, **Finalists for Best Paper Award**).

[C76] P. Ju, X. Lin and J. Liu, "Overfitting Can Be Harmless for Basis Pursuit, But Only to a Degree," in *Advances in Neural Information Processing Systems*, December 2020 (10 pages, **Spotlight Presentation**).

[C77] M. Shi, X. Lin and L. Jiao, "Combining Regularization with Look-Ahead for Competitive Online Convex Optimization," accepted in *IEEE INFOCOM*, May 2021.

[C78] L. Jiao, S. Bhattacharya, and X. Lin, "Online Provisioning of Model Ensemble and Edge Network for Inferences under Concept Drifts," accepted in *IEEE INFOCOM*, May 2021.

Pending Conference Submissions

[C79] A. Jajoo, Y. C. Hu and X. Lin, "The Case for Task Sampling based Learning for Cluster Job Scheduling," submitted to *EuroSys 2021*.

[C80] Y. Zou, K. T. Kim, X. Lin, and M. Chiang, "Minimizing Age-of-Information in Heterogeneous Multi-Channel Systems: A New Partial-Index Approach," submitted to *ACM MobiHoc 2021*.

[C81] X. Xu, X. Lin and L. Duan, "Design and Performance Analysis of Partial Computation Output Schemes for Accelerating Coded Machine Learning," submitted to *ACM MobiHoc 2021*.

[C82] G. Hong, Z. Mao, X. Lin and S. Chan, "Student-Teacher Learning from Clean Inputs to Noisy Inputs," submitted to *CVPR 2021*.

Invited Seminars

[1] "Simplifications of Network Dynamics in Large Systems," at Workshop on Economics of Communication Networks, Montreal, Canada, July 17th, 2004.

[2] "Cross-Layer Design for Multi-hop Wireless Networks: A Loose-Coupling Perspective," at Boston University, May 23rd, 2005.

[3] "On the Capacity-Delay Tradeoffs for Large Mobile Wireless Networks," at University of Illinois at Urbana-Champaign, Jan. 23rd, 2006.

[4] "Cross-Layer Design for Multi-hop Wireless Networks: A Loose-Coupling Perspective," at Princeton University, May 18th, 2006.

[5] "Constant-Time Distributed Scheduling Policies for Ad Hoc Wireless Networks," at INFORMS Annual Meeting, Pittsburgh, November 7th, 2006.

[6] "Multi-Channel Ad Hoc Wireless Networks: Distributed Algorithms for Channel-Assignment, Scheduling and Routing,"
at Virginia Tech University, February 2nd, 2007;
at IUPUI, March 21st, 2007;
at IEEE Communication Theory Workshop, Sedona, Arizona, May 22nd, 2007.

[7] "Anycasting for Delay Minimization and Lifetime Maximization in Low Duty-Cycled Wireless Sensor Networks,"
at Shanghai Jiaotong University, February 26th, 2009;
at Chinese University of Hong Kong, March 2nd, 2009.

[8] "Supporting Delay-Sensitive Applications on Next-Generation Wireless Networks,"
at SUNY Buffalo, ECE Graduate Seminar Series, November 6th, 2009;
at Hong Kong University of Science and Technology, December 14th, 2009;
at University of Hong Kong, December 15th, 2009.

[9] "End-to-end delay-performance in multi-hop wireless networks," at Information Theory Workshop, University of California, San Diego, February 5th, 2010.

[10] "Supporting Delay-Sensitive Applications on Next-Generation Wireless Networks,"
at Rice University, February 25, 2010;
at University of Texas at Austin, February 26, 2010;
at University of Illinois at Urbana-Champaign, May 13th, 2010;
at University of California, Berkeley, May 26th, 2010;
at California Institute of Technology, May 28th, 2010.

[11] "Beyond Throughput-Optimality — Towards Cross-Layer Network Optimization with Quantifiable Delay Guarantees,"
at Qualcomm, San Diego, February 8th, 2011;
at University of Hong Kong, June 7th, 2011;
at Chinese University of Hong Kong, June 9th, 2011;
at Hong Kong University of Science and Technology, June 10th, 2011;
at Beihang University, Beijing, China, June 16th, 2011;
at Tsinghua University, Beijing, China, June 17th, 2011.

[12] "Achieving Both High Capacity and Low Delay via CSMA-Like Algorithms: A Virtual Multi-Channel Approach,"
at Tsinghua University, Beijing, China, August 21st, 2012;

at Chinese University of Hong Kong, Hong Kong, China, September 5th, 2012;
at University of Hong Kong, Hong Kong, China, September 11th, 2012.

[13] "Performance Modeling and Algorithm Design for Sparsely-Connected Peer-to-Peer Video Streaming Systems with Distributed Control," at Chinese University of Hong Kong, Hong Kong, China, October 17th, 2012.

[14] "Achieving Both High Capacity and Low Delay via CSMA-Like Algorithms: A Virtual Multi-Channel Approach," at Shanghai Jiaotong University, Shanghai, China, October 22, 2012.

[15] "Performance Modeling and Algorithm Design for Sparsely-Connected Peer-to-Peer Video Streaming Systems with Distributed Control," at Applied Science and Technology Research Institute, Hong Kong, China, November 15th, 2012.

[16] "Achieving Both High Capacity and Low Delay via CSMA-Like Algorithms: A Virtual Multi-Channel Approach," at City University of Hong Kong, Hong Kong, China, December 19th, 2012.

[17] "Getting the Best out of Your Wireless Spectrum — Achieving Both High Capacity and Low Delay via Low-Complexity CSMA-Like Algorithms,"
at Qualcomm, San Diego, February 15th, 2013;
at Ohio State University, March 11th, 2013;
at Northwestern University, May 31st, 2013;
at Texas A&M University, November 7th, 2013.

[18] "Robust Online Algorithms for Electrical Vehicle Charging," at University of Illinois, Urbana-Champaign, June 4th, 2014.

[19] "Managing Uncertainty in Future Smart Grid: An Online-Algorithmic Approach towards Robust and Efficient Decisions,"
at Illinois Institute of Technology, ECE Department Seminar, April 10th, 2015;
at Temple University, Computer and Information Sciences Colloquia, April 15th, 2015;
at Chinese University of Hong Kong, May 27th, 2015;
at Zhongshan University, June 1st, 2015.

[20] "Performance Limits of Coded Caching under Heterogeneous Settings," at Chinese University of Hong Kong, June 4th, 2015.

[21] "Managing Uncertainty in Future Smart Grid: An Online-Algorithmic Approach towards Robust and Efficient Decisions,"
at University of Hong Kong, June 9th, 2015;
at ACM MobiHoc, 3rd Workshop on the Frontiers of Networks: Theory and Algorithms, June 22nd, 2015;
at Shanghai Jiaotong University, July 6th, 2015;

at Zhejiang University, July 8th, 2015;
at Hangzhou Dianzi University, July 9th, 2015;
at Boston University, April 8th, 2016.

[22] "Robust and Efficient Online Decisions for Managing Uncertainty in Future Smart Grid,"
at University of Oregon, CS Department Colloquium, May 18th, 2017;
at University of Washington, May 19th, 2017.

[23] "Learning + Queueing: Operating Online Service Platforms under Uncertainty,"
at Zhongshan University, July 25th, 2018;
at University of Hong Kong, July 31st, 2018;
at Chinese University of Hong Kong - Shenzhen, August 1st, 2018;
at Chinese University of Hong Kong - Shatin, August 2nd, 2018;
at Arizona State University, November 5th, 2018;

[24] "Integrating Online Learning and Adaptive Control in Queueing Systems with Uncertain Payoffs," at INFORMS General Meeting, November 4th, 2018.