

Xiaohan Kang

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| CONTACT INFORMATION | Website: https://veggente.github.io/ Email: xiaohan.kang1@gmail.com Phone: (515) 509-6693 |
| RESEARCH INTERESTS | Queueing theory, stochastic systems, real-time scheduling, game theory, information theory, bioinformatics, causal inference |
| CURRENT APPOINTMENT | Postdoctoral Research Associate , Mar. 2016–present University of Illinois at Urbana–Champaign , Urbana, Illinois Coordinated Science Laboratory Advisor: Prof. Bruce Hajek |
| EDUCATION | Arizona State University , Tempe, Arizona Ph.D., Electrical Engineering, 2015 Advisor: Prof. Lei Ying Iowa State University , Ames, Iowa M.S., Electrical Engineering, 2012 Advisor: Prof. Lei Ying Tsinghua University , Beijing, China B.E., Electronic Engineering, 2009 |
| INDUSTRY EXPERIENCE | Internship in Data Center Core Software Group at Cisco Systems, Inc., San Jose, CA, Summer 2015 |
| PROGRAMMING LANGUAGES | Python (advanced) C, C++ (intermediate) |
| HONORS AND AWARDS | Helmsley Fellowship , Frontiers and Techniques in Plant Science Course, Cold Spring Harbor Laboratory, 2019 INFOCOM Best Paper Award , 2015 Coauthors: Lei Ying and R. Srikant The First Place Team , Cisco Intern Hackathon, 2015 University Graduate Fellowship , Arizona State University, 2014 Schafer 2050 Challenge Graduate Fellowship , Iowa State University, 2010 |
| PROFESSIONAL SERVICE | Exemplary Reviewer , IEEE Communications Letters, 2014 Reviewer for – IEEE/ACM Transactions on Networking – Queueing Systems – IEEE Transactions on Mobile Computing – IEEE Communications Letters – IEEE Transactions on Vehicular Technology – IEEE Signal Processing Letters – IEEE Transactions on Network Science and Engineering Technical Program Committee Member for ACM MobiHoc 2019–2022 and WiOpt 2021 |

JOURNAL
PUBLICATIONS

J1. Xiaohan Kang, Juan José Jaramillo, Lei Ying, “Stability of longest-queue-first scheduling in linear wireless networks with multihop traffic and one-hop interference,” *Queueing Systems*, vol. 80, no. 3, pp. 273–291, Jul. 2015. <http://doi.org/10.1007/s11134-015-9441-2>

J2. Xiaohan Kang, Weina Wang, Juan José Jaramillo, and Lei Ying, “On the performance of largest-deficit-first for scheduling real-time traffic in wireless networks,” *IEEE/ACM Transactions on Networking*, vol. 24, pp. 72–84, Feb. 2016. <https://doi.org/10.1109/TNET.2014.2360365>

J3. Lei Ying, R. Srikant, and Xiaohan Kang, “The power of slightly more than one sample in randomized load balancing,” *Mathematics of Operations Research*, vol. 42, no. 3, pp. 692–722, 2017. <https://doi.org/10.1287/moor.2016.0823>

J4. Xiaohan Kang, Bruce Hajek, Faqiang Wu, and Yoshie Hanzawa, “Time Series Experiment Design Under One-Shot Sampling: The Importance of Condition Diversity,” *PLOS ONE*, vol. 14, no. 10, pp. e0224577, 2019. <https://doi.org/10.1371/journal.pone.0224577>

J5. Faqiang Wu, Xiaohan Kang, Minglei Wang, Waseem Haider, William B. Price, Bruce Hajek, and Yoshie Hanzawa, “Transcriptome-enabled network inference revealed the *GmCOL1* feed-forward loop and its roles in photoperiodic flowering of soybean” *Frontiers in Plant Science*, vol. 10, pp. 1221, 2019. <https://doi.org/10.3389/fpls.2019.01221>

J6. Xiaohan Kang, Bruce Hajek, and Yoshie Hanzawa, “From graph topology to ODE models for gene regulatory networks” *PLOS ONE*, vol. 15, no. 6, pp. e0235070, 2020. <https://doi.org/10.1371/journal.pone.0235070>

CONFERENCE
PUBLICATIONS

C1. Xiaohan Kang, Juan José Jaramillo, “A strategy-proof and non-monetary admission control mechanism for wireless access networks,” in *Proc. Int. Conf. Heterogeneous Networking for Quality, Reliability, Security and Robustness (QShine 2010)*, pp. 172–187, Houston, TX, Nov. 2010. https://doi.org/10.1007/978-3-642-29222-4_13

C2. Xiaohan Kang, Juan José Jaramillo, and Lei Ying, “Impacts of peer churn on P2P streaming networks,” in *Proc. 50th Annu. Allerton Conf. Communication, Control and Computing (Allerton 2012)*, pp. 1417–1424, Monticello, IL, Oct. 2012. <https://doi.org/10.1109/Allerton.2012.6483384>

C3. Xiaohan Kang, Weina Wang, Juan José Jaramillo, and Lei Ying, “On the performance of largest-deficit-first for scheduling real-time traffic in wireless networks,” in *Proc. 14th ACM Int. Symp. on Mobile Ad Hoc Networking and Computing (MobiHoc 2013)*, pp. 99–108, Bangalore, India, Jul.–Aug. 2013. <https://doi.org/10.1145/2491288.2491298>

C4. Xiaohan Kang, Juan José Jaramillo, and Lei Ying, “Stability of Longest-Queue-First Scheduling in Linear Wireless Networks with Multihop Traffic and One-Hop Interference,” in *Proc. 52nd Annu. Conf. on Decision and Control (CDC 2013)*, pp. 3312–3317, Florence, Italy, Dec. 2013. <https://doi.org/10.1109/CDC.2013.6760389>

C5. Lei Ying, R. Srikant, and Xiaohan Kang, “The power of slightly more than one sample in randomized load balancing,” in *Proc. IEEE Conf. on Computer Communications (INFOCOM 2015)*, pp. 1131–1139, Kowloon, Hong Kong, Apr.–May 2015. <https://doi.org/10.1109/INFOCOM.2015.7218487>

Best Paper Award

C6. Xiaohan Kang, I-Hong Hou, and Lei Ying, “On the capacity requirement of largest-deficit-first for scheduling real-time traffic in wireless networks,” in *Proc. 16th ACM Int. Symp. Mobile Ad Hoc Networking and Computing (MobiHoc 2015)*, pp. 217–226, Hangzhou, China, Jun. 2015. <https://doi.org/10.1145/2746285.2746302>

C7. Honghao Wei, Xiaohan Kang, Weina Wang, and Lei Ying, “QuickStop: A Markov Optimal Stopping Approach for Quickest Misinformation Detection” in *Proc. ACM Meas. and Anal. Comput. Syst. (SIGMETRICS)*, 2019. <https://doi.org/10.1145/3341617.3326156>

C8. Xiaohan Kang and Bruce Hajek, “Lower Bounds on Information Requirements for Causal Network Inference” in *Proc. IEEE Int. Symp. Inform. Theor. (ISIT)*, 2021. <https://doi.org/10.1109/ISIT45174.2021.9518005>

SELECTED TALKS

T1. “On the performance of largest-deficit-first for scheduling real-time traffic in wireless networks,” *MobiHoc*, Bangalore, India, Jul.–Aug. 2013

T2. “Stability of Longest-Queue-First Scheduling in Linear Wireless Networks with Multihop Traffic and One-Hop Interference,” *CDC*, Florence, Italy, Dec. 2013

T3. “On the performance of largest-deficit-first for scheduling real-time traffic in wireless networks”, *invited talk (hosted by Prof. Eytan Modiano)*, Massachusetts Institute of Technology, MA, Jun. 2015

T4. “The power of slightly more than one sample in randomized load balancing”, *INFORMS Annual Meeting, invited talk*, Philadelphia, PA, Nov. 2015

T5. “The power of slightly more than one sample in randomized load balancing”, *guest lecture (hosted by Prof. Rhonda Righter)*, IEOR Department, University of California at Berkeley, Berkeley, CA, Feb. 2016

T6. “The power of slightly more than one sample in randomized load balancing”, *SINE Seminar, invited talk*, University of Illinois at Urbana–Champaign, Urbana, IL, Mar. 2016

T7. “CausNet: a causal inference algorithm for gene regulatory network reconstruction”, *The Plant and Animal Genome XXVI Conference (PAG 2018)*, San Diego, CA, Jan. 2018

T8. “On the challenge of gene regulatory network reconstruction from high-throughput sequencing data”, *Network Science Seminar Series, invited talk*, Arizona State University, Tempe, AZ, Apr. 2018

T9. “Time series experimental design under one-shot sampling: The importance of condition diversity” *Energy & Information Systems Seminar, invited talk*, Carnegie Mellon University, Pittsburgh, PA, Jun. 2019

T10. “Lower Bounds on Information Requirements for Causal Network Inference” *ISIT*, Melbourne, Australia (virtual), Jul. 2021

T11. “On modeling the circadian clock gene regulatory network in soybean” *Finding Your Inner Modeler Workshop IV (FYIM)*, Chicago, IL (virtual), Aug. 2021

T12. “Lower Bounds on Information Requirements for Causal Network Inference” *INFORMS Annual Meeting, invited talk*, Anaheim, CA, Oct. 2021

TEACHING EXPERIENCE

Instructor, ECE 313 (Probability with Engineering Applications) Section D (60+ students), University of Illinois at Urbana–Champaign, Fall 2017

Lab TA, EEE 455 (Communication Systems), Arizona State University, Spring 2015
Leads a session with 20+ students

Lab TA, EEE 455 (Communication Systems), Arizona State University, Fall 2014
Leads a session with 20+ students

Teaching Assistant, Cpr E 310 (Theoretical Foundations of Computer Engineering),
Iowa State University, Fall 2009