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1. Brief Biography

Lingjie Duan is an Associate Professor and Associate Head of Pillar (Research) in the Engineering Systems and Design Pillar/School at Singapore University of Technology and Design (SUTD). He received the B.Eng. degree from Harbin Institute of Technology in 2008, and Ph.D. degree in Information Engineering from The Chinese University of Hong Kong (CUHK) in 2012. He was a Visiting Scholar at University of California at Berkeley in 2011. Dr. Duan's research focuses on the **resource allocation, policy design, economics and optimization for wireless communications and networking**. He has been actively working and contributing to the emerging inter-disciplinary research field Network Economics and Optimization, by combining computer/communication networks, optimization and game theory. In this new field, he has 90 publications in top-tier AI/engineering/business journals, including TON, JSAC, TMC, TWC, TCOM, TVT, TNSE, TSP, TIFS, JAIR, AGENT, TCS, and Production and Operations Management (POM). He has also published a number of top-tier conference papers in AAAI, AAMAS, INFOCOM, MobiHoc, ISIT, and ICASSP. His publications have over 6000 Google Scholar citations with an H-index of 41. His SCI citations by Web of Science exceeds 3500 and 6 journal papers were classified as ESI Highly Cited Papers by the ISI Essential Science Indicator.

Dr. Duan's research work has received high recognition from the research community. Particularly, he received the 2016 SUTD Excellence in Research Award, a prestigious award conferred annually to two SUTD faculty members with significant impact and promise in research. He also received the 10th Asia-Pacific Outstanding Young Researcher Award conferred by the IEEE Communications Society in 2015, for contributions to "Economics and Optimization of Communication Networks". He was also a Finalist of the the Hong Kong Young Scientist Award in Engineering Science in 2014. Dr. Duan is serving as an Editor of IEEE/ACM Transactions on Networking (TON) and an Associate Editor of IEEE Transactions on Mobile Computing. He was an Editor of IEEE Transactions on Wireless Communications during 2017–2022. During 2016–2019, he was an Editor of IEEE Communications Surveys and Tutorials. In 2016, he served as a Guest Editor of IEEE Journal on Selected Areas in Communications (JSAC) - special issue "Human-in-the-loop Mobile Networks," and he also served as a Guest Editor of IEEE Wireless Communications magazine - feature topic "Green networking and computing for 5G." In 2019, he also served as a Guest Editor of IEEE Transactions on Cognitive Communications and Networking. He is a regular technical program committee (TPC) member of leading conferences in computer communications and networking (e.g., IEEE INFOCOM, SECON, WiOPT, ACM MobiHoc and MobiArch). He served as a General Chair of IEEE WiOPT 2023, the 21st International Symposium on Modeling and Optimization in Mobile, Ad hoc, and Wireless Networks. He is a Senior Member of IEEE, and co-leads the SUTD Wireless Innovation Centre (SWIC).

2. Education and Working Experience

- **Singapore University of Technology and Design (SUTD), Singapore** Aug. 2012 – Present
  - Associate Head of Pillar (Research), Engineering Systems and Design (ESD) Pillar, Jan. 2023 – Present
  - Associate Professor (Tenured), Engineering Systems and Design (ESD) Pillar, Jun. 2019 – Present
  - Assistant Professor, Engineering Systems and Design (ESD) Pillar, Aug. 2012 – May 2019
- **University of California, Berkeley (UC Berkeley), USA** 2011
  - Visiting Scholar, Department of Electrical Engineering and Computer Sciences
- **The Chinese University of Hong Kong, Hong Kong** Aug. 2008– Jul. 2012
  - PhD degree, Department of Information Engineering
- **Harbin Institute of Technology, China** Sept. 2004– Jul. 2008

– Bachelor of Engineering, Department of Electrical Engineering

3. Individual Honors and Awards

- *The Top 2% Scientists*, Released by Stanford University, 2021-2022.
- *The 2017 SUTD Long Service Award*, Singapore University of Technology and Design (SUTD), Jan. 2018.
- *The 2016 SUTD Excellence in Research Award*, Singapore University of Technology and Design (SUTD), Jan. 2017. (This is a prestigious award conferred annually to two faculty members with significant impact and promise in research at SUTD.)
- *The 10th Asia-Pacific Outstanding Young Researcher Award*, for contributions to "Economics and Optimization of Communication Networks", IEEE Communications Society (ComSoc), 2015.
- *Finalist of Hong Kong Young Scientist Award (in Engineering Science)*, Hong Kong Institution of Science, 2014.
- *Award of Global Scholarship for Research Excellence*, The Chinese University of Hong Kong, 2011.

4. Research Grants

1) Principle Investigator, *Dynamic Crowdsourcing Mechanisms for Decarbonizing Urban Passenger Transportation and Package Delivery*, the Joint SMU-SUTD Grant, $0.30 million, 2023/10 –
2) Principle Investigator, *Privacy-protected AI methods for restricted surveillance of mobile communications*, SUTD Kickstarter Initiative (SKI) Grant, SGD$0.5 million, 2023/11 –
3) Principle Investigator, *FLACH*, DSO National Laboratories, $0.25 million, 2023/6 –
4) Principle Investigator, *To Motivate Human-in-the-Loop Learning of Complex Traffic networks*, MOE Academic Research Fund Tier 2 Project (under EP2), SGD $0.67 million, 2022/3 –
5) Principle Investigator, *Towards Secure Federated Learning Against Advanced Attacks*, Temasek Laboratories Seed Research Project Grant, SGD $85,000, 2022/1 –
6) Principle Investigator, *Towards Secure Federated Learning Against Intelligent Poisoning Attacks*, Temasek Laboratories Seed Research Project Grant, SGD $85,000, 2021/1 –2021/12.
7) Principle Investigator, *Theory and Methods for User-provided Wireless Markets over Complex Networks*, MOE Academic Research Fund Tier 2 Project (under EP5), SGD $0.44 million, 2017/2 – 2020/8.
8) Principle Investigator, *Proactive information surveillance in wireless networks*, Temasek Laboratories Seed Research Project Grant, SGD $50,000, 2016/6–2017/5.
9) Principle Investigator, *Green Wireless Networks with Energy and Communication Cooperation,* International SUTD-ZJU Collaboration Grant, SGD $0.31 million, 2015/2 – 2018/2.
10) Co-Principle Investigator, *Cognitive Small Cells for Self-Organizing Networks*, SUTD-MIT International Design Center Grant, SGD $0.61 million, 2013/1–2016/1.
11) Co-Principle Investigator, *Advancing Security of Public Infrastructure using Resilience and Economics*, National Research Foundation (NRF), Singapore, SGD $5.3 millions, 2015/1–2019/12.
12) Co-Principle Investigator, *CISDeM: Cross-functional Information Systems for Decision Making*, Ministry of De-

fense, Singapore, SGD $4.6 Millions, 2014/12 –2018/6.

13) Principle Investigator, *Incentive Mechanism Designs for Cognitive Radio Networks*, SUTD Start-up Research Grant, Singapore University of Technology and Design, SGD $100,000, 2012/9–2015/9.

5. Professional Services

- Journal Editorships
  1) Editor, IEEE/ACM Transactions on Networking, 2023 –
  2) Associate Editor, IEEE Transactions on Mobile Computing, 2023 –
  3) Editor, IEEE Transactions on Wireless Communications, 2017– 2022.
  4) Editor, IEEE Communications Surveys and Tutorials, 2016–2019.
  5) Guest Editor, IEEE Transactions on Cognitive Communications and Networking - special issue for selected dynamic spectrum access networks (DySPAN) papers, 2019.
  6) Guest Editor, IEEE Journal on Selected Areas in Communications - special issue "Human-in-the-loop Mobile Networks," 2016.
  7) Guest Editor, IEEE Wireless Communications - feature topic "Green networking and computing for 5G," 2016.
- Professional Memberships
  1) Senior Member of IEEE and the IEEE Communications Society (ComSoc)
  2) Member of IEEE Technical Committee on Cognitive Networks (TCCN)
  3) Member of IEEE Technical Committee on Green Communications and Computing (TCGCC)
  4) Vice-Chair, IEEE Special Interest Group (SIG) on Green and Sustainable Networking with Cognition and Cooperation
- Conference Service:
  1) General Chair, IEEE WiOPT 2023 (The 21st International Symposium on Modeling and Optimization in Mobile, Ad hoc, and Wireless Networks).
  2) Symposium Co-Chair, IEEE ICC 2019 Cognitive Radio and Networks Symposium.
  3) Workshop Co-Chair, IEEE WiOPT 2018 Conference.
  4) Track Co-Chair, 86th IEEE VTC 2017 Conference: Future Trends and Emerging Technologies track, Toronto, Canada.
  5) Publicity Co-Chair, IEEE WCNC 2017 Conference.
  6) Publication Co-Chair, 7th International EAI Conference on Game Theory for Networks (GameNets), 2017.
  7) Program Co-Chair, IEEE INFOCOM 2016 Workshop: Green and Sustainable Networking and Computing (GSNC), San Francisco, USA.
  8) Symposium Co-Chair, IEEE ICNC 2016 Conference: Green Computing, Networking, and Communications (GCNC) Symposium, Hawaii, USA.
  9) Symposium Co-Chair, IEEE ICCC 2015 Conference: Wireless Communications Systems (WCS) Sympo-

sium, Shenzhen, China.

10) Program Co-Chair, IEEE INFOCOM 2014 Workshop: International Workshop on Green Cognitive Communications and Computing Networks (GCCCN 2014), Toronto, Canada.

- Conference Service: Technical Program Committee (TPC) Member
  1) ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), 2016 – 2021.
  2) IEEE International Conference on Computer Communications (INFOCOM), 2017 – 2018.
  3) IEEE International Conference on Sensing, Communications, and Networking (SECON), 2016 – 2018.
  4) IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt), 2017-2018.
  5) The 11th Workshop on the Economics of Networks, Systems and Computation (NetEcon), 2016
  6) IEEE Wireless Communications and Networking Conference (WCNC), 2013–2017
  7) IEEE International Conference on Communications (ICC), 2013–2017
  8) IEEE Global Communication Conference (GLOBECOM), 2013 –2017
  9) IEEE Vehicular Technology Conference (VTC), 2011, 2013 & 2017
  10) IEEE International Conference on Smart Grid Communications (SmartGridComm), 2014 & 2015
  11) International Conference on Computing, Networking, and Communications (ICNC), 2015–2016
  12) International Conference on Design of Reliable Communication Networks (DRCN), 2015
  13) International Conference on Game Theory for Networks (GAMENETS), 2016 & 2017
  14) International Wireless Communications and Mobile Computing Conference (IWCMC), 2014
  15) ACM Workshop on Mobility in the Evolving Internet Architecture (MobiArch), 2012–2013
  16) The 22nd International Teletraffic Congress (ITC) Specialist Seminar on Energy Efficient and Green Networking (ITC SSENGN), 2013.
  17) The 22nd IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2011), Toronto, Canada, Sept. 2011.
- Journal Technical Reviewer
  1) IEEE Journal on Selected Areas in Communications (JSAC)
  2) IEEE Transactions on Mobile Computing (TMC)
  3) IEEE/ACM Transactions on Networking (TON)
  4) IEEE Transactions on Wireless Communications (TWC)
  5) IEEE Transactions on Signal Processing
  6) IEEE Transactions on Communications (TCOM)
  7) IEEE Transactions on Network Science and Engineering (TNSE)
  8) IEEE Communications Surveys and Tutorials (COMST)
  9) IEEE Transactions on Cognitive Communications and Networking (TCCN)
  10) IEEE Communications Magazine
  11) IEEE Wireless Communications Magazine
  12) Naval Research Logistics

13) ACM Transactions on Internet Technology (TOIT)
14) Communications of the ACM (CACM)
15) IEEE Transactions on Smart Grid (TSG)
16) IEEE Transactions on Vehicular Technology (TVT)
17) IEEE Transactions on Systems, Man, and Cybernetics — Part A: Systems and Humans
18) Wireless Communications and Mobile Computing
19) European Transactions on Telecommunications
20) Computer Networks, Elsevier
21) CUHK PhD Thesis Committee in Department of Mechanical and Automation Engineering, 2022.
22) CUHK PhD Thesis Committee in the Departments of Information Engineering, 2021.
23) Tsinghua University PhD Thesis in the Discipline of Computer Science, 2018-2020.
24) NTU PhD Thesis in the School of Computer Science and Engineering, 2020.
25) Proposals of the Singapore NRF Green Data Centre Programme, 2016.

6. Research Publications

(There are over 6000 citations by Google Scholar with an H-index of 41 and 6 ESI Highly Cited Papers.)

- **Book Chapter and Monograph**

B1. X. Wang and **L. Duan**, "Market entry," in the chapter of *Encyclopedia of Wireless Networks*, 2019.

B2. J. Xu, **L. Duan**, and R. Zhang, "Cost-aware cellular networks powered by smart grid and energy harvesting," in the chapter of *Key Technologies for 5G Wireless Systems*, Cambridge University Press, 2017.

B3. **L. Duan**, J. Huang, and B. Shou, *Cognitive Virtual Network Operator Games*, Springer Press, 2013.

- **Journal Papers**

1) S. Hao and **L. Duan**, "To save mobile crowdsourcing from cheap-talk: A game theoretic learning approach," IEEE Transactions on Mobile Computing (TMC), forthcoming.
2) F. Li, Y. Chai, H. Yang, P. Hu, and **L. Duan**, "Incentivizing Massive Unknown Workers for Budget-Limited Crowdsensing: From Off-Line and On-Line Perspectives," IEEE/ACM Transactions on Networking (TON), forthcoming.
3) W. Wang, **L. Duan**, X. Liu, and N. Zhao, "Legitimate pilot contamination attack in intelligent multi-access networks," *IEEE Wireless Communications Letters*, forthcoming.
4) X. Xu, J. Zhang, M. Li, **L. Duan**, and L. Xie, "A family of strategyproof mechanisms for activity scheduling," *Autonomous Agents and Multi-Agent Systems (AGNT)*, forthcoming.
5) X. Wang, S. Zheng, **L. Duan**, "Dynamic pricing for client recruitment in federated learning," *IEEE/ACM Transactions on Networking (TON)*, forthcoming.
6) X. Xu, B. Li, M. Li, and **L. Duan**, "Two-facility location games with minimum distance requirement," *Journal of Artificial Intelligence Research (JAIR)*, forthcoming.
7) X. Xu, X. Lin, and **L. Duan**, "Design and Performance Analysis of Partial Computation Output Schemes

for Accelerating Coded Machine Learning," *IEEE Transactions on Network Science and Engineering*, forthcoming.

8) S. Li, M. Li, **L. Duan**, and V. C.S. Lee, "Efficient algorithms for ride-hitching in UAV travelling," Theoretical Computer Science, forthcoming.
9) X. Wang and **L. Duan**, "Dynamic Pricing and Mean Field Analysis for Controlling Age of Information," *IEEE/ACM Transactions on Networking (TON)*, forthcoming.
10) S. Gao, C. Courcoubetis, and **L. Duan**, "Distributed Double Auction Mechanisms for Large-Scale Device-to-Device Resource Trading," *IEEE/ACM Transactions on Networking (TON)*, forthcoming
11) S. Hong and **L. Duan**, "Location privacy protection game against adversary through multi-user cooperative obfuscation," *IEEE Transactions on Mobile Computing*, forthcoming.
12) Y. Che, Z. Zhao, S. Luo, K. Wu, **L. Duan**, V. C.M. Leung, "UAV-aided wireless energy transfer for sustaining Internet of Everything in 6G," *Drones*, forthcoming.
13) W. Wang, **L. Duan**, X. Liu, and N. Zhao, "Enhancing MISO-NOMA Networks via Constructive Interference Precoding," *IEEE Transactions on Communications*, forthcoming.
14) S. Hao and **L. Duan** , "To help or disturb: introduction of crowdsourced WiFi to 5G networks," *IEEE Transactions on Mobile Computing (TMC)*, forthcoming. Available: https://arxiv.org/abs/2206.08261
15) Z. Wang and **L. Duan**, "Chase or Wait: Dynamic UAV Deployment to Learn and Catch Time-Varying User Activities," *IEEE Transactions on Mobile Computing (TMC)*, forthcoming. **[This paper is an ESI Highly Cited Paper in 2023 (data from Web of Science).]**
16) S. Hong, **L. Duan**, and J. Huang, "Protecting location privacy by multi-query: A dynamic Bayesian game theoretic approach," IEEE Transactions on Information Forensics & Security (TIFS), forthcoming.
17) H. Li and **L. Duan**, "Online pricing incentive to sample fresh information," *IEEE Transactions on Network Science and Engineering*, forthcoming
18) J. Li, G. Sun, **L. Duan**, Q. Wu, "Multi-objective optimization for UAV swarm-assisted IoT with virtual antenna arrays," *IEEE Transactions on Mobile Computing*, forthcoming.
19) Y. Cao, **L. Duan**, M. Jin, and N. Zhao, "Cooperative Double-IRS Aided Proactive Eavesdropping," *IEEE Transactions on Communications*, forthcoming.
20) S. Li, M. Li, **L. Duan**, and V. C.S. Lee, "Online algorithms for the maximum k-interval coverage problem," *Journal of Combinatorial Optimization (JOCO)*, forthcoming.
21) Y. Han, S. Zhang, **L. Duan**, and R. Zhang, "Double-IRS Aided MIMO Communication under LoS Channels: Capacity Maximization and Scaling," *IEEE Transactions on Communications (TCOM)*, forthcoming.
22) K. Wang, X. Zhang, **L. Duan**, and J. Tie, "Multi-UAV Trajectory Optimization for Servicing Dynamic Demands and Charging Battery," *IEEE Transactions on Mobile Computing (TMC)*, forthcoming.
23) J. Yan, S. Bi, **L. Duan**, and Y.-J. A. Zhang, "Pricing-driven service caching and task offloading in mobile edge computing," *IEEE Transactions on Wireless Communications (TWC)*, forthcoming. [Online]. Available: https://arxiv.org/pdf/2011.02154.pdf
24) P. Lai, C. Courcoubetis, **L. Duan**, and S. Galelli, "Economic controls for smart water distribution networks undergoing supply failures," *IEEE Transactions on Network Science and Engineering (TNSE)*, vol. 8(1), pp. 555–574, 2021.

25) Y. Han, L. Liu, **L. Duan**, and R. Zhang, "Towards reliable UAV swarm communication in D2D-enhanced cellular network," *IEEE Transactions on Wireless Communications (TWC)*, forthcoming. [Online]. Available here: https://arxiv.org/abs/2002.04897

26) B. Li, Q. Yang, **L. Duan**, and Y. Sun, "Operator-as-a-Consumer: A Novel Energy Storage Sharing Approach Under Demand Charge," *IEEE Transactions on Cybernetics*, forthcoming.

27) X. Zhang and **L. Duan** , "Energy-saving deployment algorithms of UAV swarm for sustainable wireless coverage," *IEEE Transactions on Vehicular Technology (TVT)*, vol. 69(9), pp. 10320–10335, 2020. [Online]. Available: https://arxiv.org/pdf/1903.11221.pdf

28) P. Lai, **L. Duan**, and X. Lin, "Learning large electrical loads via flexible contracts with commitment," *IEEE Transactions on Network Science and Engineering (TNSE)*, forthcoming. https://arxiv.org/pdf/1901.09169.pdf

29) X. Wang and **L. Duan** , "Economic Analysis of Unmanned Aerial Vehicle (UAV) Provided Mobile Services," *IEEE Transactions on Mobile Computing (TMC)*, forthcoming. [Online]. http://people.sutd.edu.sg/~lingjie_duan/wp-content/uploads/2020/02/eco-UAV.pdf

30) Y. Che, Y. Lai, S. Luo, K. Wu, and **L. Duan**, "UAV-aided information and energy transmissions for cognitive and sustainable 5G networks," *IEEE Transactions on Wireless Communications (TWC)*, vol. 20(3), pp. 1668–1683, 2021.

31) H. Zhang, **L. Duan**, and R. Zhang , "Jamming-assisted Proactive Eavesdropping over Two Suspicious Communication Links," *IEEE Transactions on Wireless Communications (TWC)*, vol. 19(7), pp. 4817–4830, 2020. [Online]. Available: https://arxiv.org/pdf/1907.12234.pdf

32) Y. Han, S. Zhang, **L. Duan**, and R. Zhang , "Cooperative Double-IRS Aided Communication: Beamforming Design and Power Scaling," *IEEE Wireless Communications Letters*, vol. 9(8), pp. 1206–1210, 2020. [Online]. Available: https://arxiv.org/pdf/2004.01846.pdf

33) H. Zhang and **L. Duan** , "Beyond Secrecy Rate in MISO Wiretap Channels: An Information Jamming Approach, " *IEEE Transactions on Communications (TCOM)*, vol. 68(5), pp. 3507–3067. [Online.] Available: http://people.sutd.edu.sg/~lingjie_duan/wp-content/uploads/2020/01/Info-Jamming.pdf

34) Y. Hsu, E. Modiano, **L. Duan** , "Scheduling Algorithms for Minimizing Age of Information in Wireless Broadcast Networks with Random Arrivals," *IEEE Transactions on Mobile Computing (TMC)*, vol. 19(12), pp. 2903–2915, 2020. [Online]. Available: https://arxiv.org/abs/1712.07419

35) Y. Chen, X. Gong, R. Ou, **L. Duan**, and Q. Zhang , "CROWDCACHING: Incentivizing D2D-Enabled Caching via Coalitional Game for IoT," *IEEE Internet of Things Journal*, vol. 7(6), pp. 5599–5612, 2020.

36) Y. Li, C. Courcoubetis, **L. Duan**, and R. Weber, "Optimal pricing for peer-to-peer sharing with network externalities," *IEEE/ACM Transactions on Networking (TON)*, vol. 29(1), 2021. [Online]. Available: https://arxiv.org/abs/1805.09616

37) X. Xu, **L. Duan**, and M. Li , "Strategic learning approach for deploying UAV-provided wireless services," *IEEE Transactions on Mobile Computing (TMC)*, vol. 20(3), pp. 1230–1241, 2021. [Online]. Available: https://arxiv.org/abs/1907.00301

38) S. Hao and **L. Duan** , "Regulating competition in age of information under network externalities, *IEEE Journal on Selected Areas in Communications (JSAC)*, forthcoming. [Online]. Available:

https://arxiv.org/abs/1904.01841

39) X. Wang and **L. Duan**, "Economic Analysis of Rollover and Shared Data Plans," *IEEE Transactions on Mobile Computing (TMC)*, forthcoming. [Online]. Available: https://arxiv.org/abs/1904.07970

40) Z. Wang, **L. Duan**, and R. Zhang, "Adaptive Deployment for UAV-Aided Communication Networks," *IEEE Transactions on Wireless Communications (TWC)*, forthcoming. [Online]. Available: https://arxiv.org/pdf/1812.03267.pdf

41) N. Ding, Z. Fang, **L. Duan**, and J. Huang, "Optimal Incentive and Load Design for Distributed Coded Machine Learning," *IEEE Journal on Selected Areas in Communications (JSAC)*, forthcoming. [Conference Version here]: https://arxiv.org/abs/2012.08715

42) Y. Han, **L. Duan**, and R. Zhang , "Jamming-assisted eavesdropping over independent parallel fading channels," *IEEE Transactions on Information Forensics and Security (TIFS)*, vol. 14(9), pp. 2486–2499, 2019. [Online]. Available: https://arxiv.org/pdf/1902.07420.pdf

43) X. Zhang and **L. Duan** , "Fast deployment of UAV networks for optimal wireless coverage," *IEEE Transactions on Mobile Computing (TMC)*, vol. 18(3), pp. 588–601, 2019. Available: https://arxiv.org/abs/1710.05616

44) X. Wang, **L. Duan**, and J. Zhang , "Mobile social services with network externality: from separate pricing to bundled pricing," *IEEE Transactions on Network Science and Engineering (TNSE)*, vol. 6(3), pp. 379–390, 2019. [Online]. Available: https://arxiv.org/abs/1803.07496

45) L. Wang, Y. L. Che, J. Long, **L. Duan**, and K. Wu, "Multiple Access mmWave Design for UAV-aided 5G Communications," *IEEE Wireless Communications*, forthcoming.

46) F. Wang, **L. Duan**, and J. Niu, , "Optimal Pricing of User-Initiated Data-Plan Sharing in A Roaming Market," *IEEE Transactions on Wireless Communications (TWC)*, vol. 17, no. 9, pp. 5929 - 5944, 2018. [Online]. Available: https://arxiv.org/pdf/1712.06236

47) H. Kim, H. Lee, **L. Duan**, and I. Lee , "Sum-Rate Maximization Methods for Wirelessly Powered Communication Networks in Interference Channels," *IEEE Transactions on Wireless Communications (TWC)*, vol. 17, no. 10, pp. 6464 - 6474, 2018.

48) Y. Chen, **L. Duan**, and Q. Zhang , "Financial Analysis of Network Upgrade," *IEEE Transactions on Vehicular Technology (TVT)*, vol. 67, no. 6, pp. 5496 - 5499, 2018.

49) C. Jiang, L. Gao, **L. Duan**, and J. Huang , "Data-centric mobile crowdsensing," *IEEE Transactions on Mobile Computing (TMC)*, vol. 17(6), pp. 1275–1288, 2018.

50) J. Xu, **L. Duan**, and R. Zhang, "Transmit optimization for symbol-level spoofing," *IEEE Transactions on Wireless Communications (TWC)*, vol. 17(1), pp. 41–55, 2018.

51) C. Jiang, L. Gao, **L. Duan**, and J. Huang , "Scalable mobile crowdsensing via peer-to-peer data sharing," *IEEE Transactions on Mobile Computing (TMC)*, vol. 17(4), pp. 898–912, 2018.

52) K. Li, W. Ni, **L. Duan**, M. Abolhasan, and J. Niu , "Wireless power transfer and data collection in wireless sensor networks," *IEEE Transactions on Vehicular Technology (TVT)*, vol. 67(3), pp. 2686–2697, 2018.

53) L. Gao, **L. Duan**, and J. Huang, "Two-sided matching based cooperative spectrum sharing," *IEEE Transactions on Mobile Computing (TMC)*, vol. 16(2), 538-551, 2017. **[This paper was an ESI Highly**

Cited Paper in 2017 (data from Web of Science).]

54) Y.P. Hsu and **L. Duan**, "To motivate social grouping in wireless networks," *IEEE Transactions on Wireless Communications (TWC)*, vol. 16(8), pp. 4880–4893, 2017.

55) F. Gu, J. Niu, and **L. Duan**, "WAIPO: A fusion-based collaborative indoor localisation system on smartphones," *IEEE/ACM Transactions on Networking (TON)*, vol. 25(4), pp. 2267–2280, 2017.

56) J. Xu, **L. Duan**, and R. Zhang, "Surveillance and intervention of infrastructure-free mobile communications: a new wireless security paradigm," *IEEE Wireless Communications*, vol. 24(4), pp. 152–159, 2017.

57) Y. Li, C. Courcoubetis, and **L. Duan**, "Dynamic routing for social information sharing," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 35(3), pp. 571–585, 2017.

58) X. Gong, **L. Duan**, X. Chen, and J. Zhang, "When social network effect meets congestion effect in wireless networks: Data usage equilibrium and optimal pricing," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 35(2), pp. 449–462, 2017.

59) **L. Duan**, L. Huang, C. Langbort, A. Pozdnukhov, J. Walrand, and L. Zhang, "Human-in-the-loop mobile networks: A survey of recent advancements," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 35(4), pp. 813–831, 2017. (Tutorial+Editorial)

60) J. Xu, **L. Duan**, and R. Zhang, "Proactive eavesdropping via Cognitive Jamming in Fading Channels," *IEEE Transactions on Wireless Communications (TWC)*, vol. 16(5), pp. 2790–2860, 2017.

61) J. Xu, **L. Duan**, and R. Zhang, "Fundamental rate limit of physical layer spoofing," *IEEE Wireless Communications Letters (WCL)*, vol. 6(2), pp. 154–157, 2017.

62) **L. Duan**, B. Shou, and J. Huang, "Capacity allocation and pricing strategies for new wireless services," *Production and Operations Management (POM)*, vol. 25(5), pp. 866-882, 2016. **[POM is among Business Week's 20 Premier Journals.]**

63) Y. Che, **L. Duan**, and R. Zhang, "Dynamic Base Station Operation in Large-Scale Green Cellular Networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 34(12), pp. 3127-3141, 2016.

64) Z. Wang, **L. Duan**, and R. Zhang, "Adaptively directional wireless power transfer for large-scale sensor networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 34, no. 5, pp. 1785-1800, 2016.

65) Y. Guo, **L. Duan**, and R. Zhang, "Cooperative local caching under heterogeneous file preferences," *IEEE Transactions on Communications (TCOM)*, vol. 65 (1), pp. 444-457, 2017.

66) J. Xu, **L. Duan**, and R. Zhang, "Proactive eavesdropping via jamming for rate maximization over Rayleigh fading channels," *IEEE Wireless Communications Letters (WCL)*, vol. 5, no. 1, pp. 80-83, 2016.

67) S. Cai, Y. Che, **L. Duan**, J. Wang, S. Zhou, and R. Zhang, "Green heterogeneous networks through dynamic small-cell operation," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 34, no. 5, pp. 1103-1115, 2016. **[This paper was classified as an ESI Highly Cited Paper in 2018 (data from Web of Science).]**

68) J. Xu, **L. Duan**, and R. Zhang, "Energy Group-Buying with Loading Sharing for Green Cellular Networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 34, no. 4, pp. 786-799, 2016.

69) C. Jiang, **L. Duan**, and J. Huang, "Optimal Pricing and Admission Control for Heterogeneous Secondary Users," *IEEE Transactions on Wireless Communications (TWC)*, vol. 15, no. 8, pp. 5218-5230, 2016.

70) X. Wang, **L. Duan**, and R. Zhang, "User-initiated data plan trading via a personal hotspot market,"

IEEE Transactions on Wireless Communications (TWC), vol. 15 (11), pp. 7885-7898, 2016.

71) S. Gong, **L. Duan**, and N. Gautam, "Optimal scheduling and beamforming design in relay networks with energy harvesting constraints," *IEEE Transactions on Wireless Communications (TWC)*, vol. 15, no. 2, pp. 1226-1238, 2016.
72) Y. Guo, **L. Duan**, and R. Zhang, "Optimal pricing and load sharing for energy saving with communications cooperation," *IEEE Transactions on Wireless Communications (TWC)*, vol. 15, no. 2, pp. 951-964, 2016.
73) Y. L. Che, **L. Duan**, and R. Zhang, "Spatial throughput maximisation of wireless powered communication networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 33, no. 8, pp. 1534–1548, 2015. **[This paper was classified as an ESI Highly Cited Paper in 2018 (data from Web of Science).]**
74) W. Wang, L. Chen, K. G. Shin, and **L. Duan**, "Thwarting intelligent malicious behaviors in cooperative sensing: A joint spectrum sensing and access framework," *IEEE Transactions on Mobile Computing (TMC)*, vol. 14, no. 11, pp. 2392 - 2405, 2015.
75) Y. Chen, **L. Duan**, J. Huang, and Q. Zhang, "Balance of income and user utility in spectrum allocation," *IEEE Transactions on Mobile Computing (TMC)*, vol. 14(12), pp. 2460–2473, 2015.
76) S. Gong, P. Wang, and **L. Duan**, "Distributed power control with robust protection for PUs in Cognitive Radio Networks," *IEEE Transactions on Wireless Communications (TWC)*, vol. 14, no. 6, pp. 3247–3258, 2015.
77) Y. Che, J. Xu, **L. Duan**, and R. Zhang, "Multi-antenna wireless powered communication with co-channel energy and information transfer," *IEEE Communications Letters*, vol. 19 (12), pp. 2266–2269, 2015.
78) Y. Guo, J. Xu, **L. Duan**, R. Zhang, "Joint energy and spectrum cooperation for cellular communication systems," *IEEE Transactions on Communications (TCOM)*, vol. 62, no. 10, pp. 3678–3691, 2014.
79) **L. Duan**, J. Huang, and B. Shou, "Pricing for local and global WiFi markets," *IEEE Transactions on Mobile Computing (TMC)*, vol. 14, no. 5, pp. 1056–1070, 2015.
80) J. Xu, **L. Duan**, and R. Zhang, "Cost-aware green cellular networks with energy and communication cooperation," *IEEE Communication Magazine*, vol. 53, no. 5, pp. 257–263, 2015. **[This paper was classified as an ESI Highly Cited Paper in 2016 (data from Web of Science).]**
81) **L. Duan**, J. Huang, and J. Walrand, "Economic analysis of 4G upgrade timing," *IEEE Transactions on Mobile Computing (TMC)*, vol. 14, no. 5, pp. 975–989, 2015.
82) J. He, **L. Duan**, F. Hou, P. Cheng, and J. Chen, "Multi-period scheduling for wireless sensor networks: A distributed consensus approach," *IEEE Transactions on Signal Processing (TSP)*, vol. 63, no. 7, pp. 1651–1663, 2015.
83) **L. Duan**, L. Gao, and J. Huang, "Cooperative spectrum sharing: a contract-based approach," *IEEE Transactions on Mobile Computing (TMC)*, vol. 13, no. 1, pp. 174–187, 2014. **[This paper was classified as an ESI Highly Cited Paper in 2015.]**
84) **L. Duan**, T. Kubo, K. Sugiyama, J. Huang, T. Hasegawa, and J. Walrand, "Motivating smartphone collaboration in data acquisition and distributed computing," *IEEE Transactions on Mobile Computing (TMC)*, vol. 113, no. 10, pp. 2320–2333, 2014.

85) Y. L. Che, R. Zhang, Y. Gong, and **L. Duan**, "On spatial capacity of wireless ad hoc networks with threshold based scheduling," *IEEE Transactions on Wireless Communications (TWC)*, vol. 13, no. 12, pp. 6915–6927, 2014.
86) Y. Yang, T. Quek, and **L. Duan**, "Backhaul-constrained small cell networks: Refunding and QoS provisioning, *IEEE Transactions on Wireless Communications (TWC)*, vol. 13, no. 9, pp. 5148–5161, 2014.
87) **L. Duan**, J. Huang, and B. Shou, "Economics of femtocell service provision," *IEEE Transactions on Mobile Computing (TMC)*, vol. 12, no. 11, pp. 2261-2273, 2013.
88) **L. Duan**, J. Huang, and B. Shou, "Duopoly competition in dynamic spectrum leasing and pricing," *IEEE Transactions on Mobile Computing (TMC)*, vol. 11, no. 11, pp. 1706-1719, 2012.
89) **L. Duan**, A. W. Min, J. Huang, and K. G. Shin, "Attack prevention for collaborative spectrum sensing in cognitive radio networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 30, no. 9, pp. 1658-1665, 2012.
90) **L. Duan**, J. Huang, and B. Shou, "Investment and pricing with spectrum uncertainty: a cognitive operator's perspective," *IEEE Transactions on Mobile Computing (TMC)*, vol. 10, no. 11, pp. 1590-1604, Nov. 2011.

Conference Papers

1) H. Li and **L. Duan**, "When Congestion Games Meet Mobile Crowdsourcing: Selective Information Disclosure," Proceedings of AAAI Conference, 2023. **(Acceptance Rate: 19.6%)**.
2) S. Li and **L. Duan**, "Age of Information Diffusion on Social Networks: Optimizing Multi-stage Seeding Strategies," Proceedings of ACM Mobihoc 2023 Conference. **(Acceptance Rate: 22%)**.
3) S. Hao and **L. Duan**, "To save crowdsourcing from cheap-talk: Strategic learning from biased users," Proceedings of IEEE/IFIP WiOpt 2023 Conference.
4) S. Hong and **L. Duan**, "Multi-user privacy cooperation game by leveraging uers' service flexibility," Proceedings of IEEE International Symposium on Information Theory (ISIT), 2022.
5) Y. Zhang, **L. Duan**, and N.-M. Cheung, "Accelerating Federated Learning on non-iid data against stragglers," SECON WS 2022 – Distributed ML.
6) N. Ding, Z. Fang, **L. Duan**, and J. Huang, "Incentive mechanism design for distributed coded machine learning," in IEEE INFOCOM 2021 Conference. **(Acceptance rate: 19.9%)**.
7) S. Gao, C. Courcoubetis, and **L. Duan**, "Average-Case Analysis of Greedy Matching for D2D Resource Sharing," in WiOPT Conference 2021.
8) Q. Lin, **L. Duan**, and J. Huang, "Personalized pricing through user profiling in social networks," in WiOPT Conference 2021.
9) S. Li, M. Li, **L. Duan**, and V. C.S. Lee , "Online Ride-Hitching in UAV Travelling," in COCOON 2021 Conference.
10) S. Gao, C. Courcoubetis, and **L. Duan** , "Distributed Double Auctions for Large-scale Device-to-Device Resource Trading," in the International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc 2020). **(Acceptance Rate: 15%)**.
11) X. Xu, M. Li, and **L. Duan** , "Strategyproof Mechanisms for Activity Scheduling," full paper in AAMAS

Conference 2020. **(Acceptance Rate: 23%)**.

12) S. Li, M. Li, **L. Duan**, and V. C.S. Lee , "Online maximum k-intervals coverage problem," in COCOA 2020 Conference.
13) K. Wang, X. Zhang, and **L. Duan** , "Cooperative path planning of a UAV swarm to meet temporal-spatial user demands," in IEEE GLOBECOM Conference, 2020.
14) S. Hao and **L. Duan** , "Economics of age of information management under network externalities," in the Twentieth International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc 2019). **(Acceptance Rate: 23.7%)**.
15) X. Wang and **L. Duan** , "Dynamic pricing and capacity allocation of UAV-provided mobile services," in IEEE INFOCOM 2019 Conference. **(Acceptance rate: 19.7%)**. [Online].
Available: https://arxiv.org/pdf/1812.02910
16) Y. Li, C. Courcoubetis, and **L. Duan** , "Recommending paths: Follow or not follow?" in INFOCOM 2019 Conference. **(Acceptance rate: 19.7%)**. [Online]. Available: https://arxiv.org/pdf/1812.00574
17) **L. Duan**, B. Li, M. Li, and X. Xu , "Heterogeneous two-facility location games with minimum distance requirement," full paper in AAMAS 2019 Conference. **(Acceptance rate: 24%)**.
18) X. Zhang and **L. Duan** , "Optimal patrolling trajectory design for multi-UAV wireless servicing and battery swapping," in IEEE GLOBECOM Workshop, 2019.
19) Y. Li, C. Courcoubetis, **L. Duan**, and R. Weber , "Optimal pricing for a peer-to-peer sharing platform under network externalities," in Proc. of The 13th Workshop on the Economics of Networks, Systems and Computation (NetEcon), 2018. [Online]. Available: https://arxiv.org/abs/1805.09616
20) X. Wang and **L. Duan** , "Economics of UAV-provided mobile services," in Proc. of The 13th Workshop on the Economics of Networks, Systems and Computation (NetEcon), 2018.
21) X. Xu, **L. Duan**, and M. Li , "UAV placement games for optimal wireless service provision," in Proc. of IEEE WiOPT, 2018.
22) H. Zhang and **L. Duan** , "Going beyond Secrecy Rate via Information Jamming," in Proc. of IEEE GLOBECOM, 2018.
23) Z. Wang, **L. Duan**, and R. Zhang , "Traffic-aware Adaptive Deployment for UAV-Aided Communication Networks," in Proc. of IEEE GLOBECOM, 2018.
24) X. Zhang and **L. Duan** , "Optimization of emergency UAV deployment for providing wireless coverage," in Proc. of IEEE GLBOECOM, 2017.
25) J. Xu, K. Li, **L. Duan**, and R. Zhang, "Proactive eavesdropping via jamming over HARQ-based Communications," in Proc. of IEEE GLOBECOM, 2017.
26) F. Wang, **L. Duan**, and J. Niu , "Pricing for opportunistic data sharing via personal hotspot," in Proc. of IEEE GLOBECOM, 2017.
27) K. Li, W. Ni, **L. Duan**, M. Abolhasan, and J. Niu , "SWPT: a joint-scheduling model for wireless powered sensor networks," in Proc. of IEEE GLOBECOM, 2017.
28) Y.-P. Hsu, E. Modiano, and **L. Duan**, "Age of Information: Design and Analysis of Optimal Scheduling Algorithms," in Proc. of ISIT, 2017. [Online]. Technical Report: https://arxiv.org/abs/1712.07419
29) G. Ma, J. Xu, **L. Duan**, and R. Zhang, "Transmit Optimization for Symbol-Level Spoofing with BPSK

Signaling," in Proc. of IEEE SPAWC 2017 as an invited paper.

30) H. Lee, **L. Duan**, and Y. Yi, "On the competition of CDN companies: Impact of new telco-CDNs' federation," in *Proceedings of IEEE WiOpt Conference*, 2016.
31) J. Xu, **L. Duan**, and R. Zhang, "Proactive eavesdropping via cognitive jamming in fading channels," in *Proceedings of IEEE ICC Conference*, 2016.
32) Y. Guo, **L. Duan**, and R. Zhang, "Cooperative local caching and file sharing under heterogeneous file preferences," in *Proceedings of IEEE ICC Conference*, 2016.
33) J. Xu, **L. Duan**, and R. Zhang, "Transmit Optimization for Symbol-Level Spoofing with BPSK Signaling," in *Proceedings of GLOBECOM Workshop*, 2016.
34) J. Xu, **L. Duan**, and R. Zhang, "Harnessing Self-Interference in Full-Duplex Relaying: An Analog Filter-and-Forward Approach," in *Proceedings of GLOBECOM*, 2016.
35) C. Jiang, L. Gao, **L. Duan**, and J. Huang, "Exploiting data reuse in mobile crowdsensing," in *Proceedings of GLOBECOM*, 2016.
36) X. Gong, **L. Duan**, and X. Chen, "When network effect meets congestion effect: Leveraging social services for wireless service," *ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc'15)*, 2015. **[Acceptance rate: 14.8%]**
37) Y. Chen, **L. Duan**, and Q. Zhang, "Financial analysis of 4G network deployment," in *Proc. of the 34th IEEE International Conference on Computer Communications (INFOCOM'15)*, 2015. **[Acceptance Rate: 19%]**
38) S. Gong, **L. Duan**, and P. Wang, "Robust optimization of cognitive radio networks powered by energy harvesting," in *Proc. of the 34th IEEE International Conference on Computer Communications (INFOCOM'15)*, 2015. **[Acceptance Rate: 19%]**
39) Z. Wang, **L. Duan**, and R. Zhang, "Adaptively directional wireless power transfer for large-scale sensor networks," in *Proc. of IEEE Global Communications Conference (GLOBECOM'15)*, 2015.
40) S. Cai, **L. Duan**, J. Wang, S. Zhou, and R. Zhang, "Incentive mechanism design for delayed WiFi offloading," in *Proc. of IEEE International Conference on Communications (ICC'15)*, 2015.
41) W. Wang, L. Chen, K. G. Shin, and **L. Duan**, "Secure cooperative spectrum sensing and access against intelligent malicious behaviors," in *Proceedings of the 33rd IEEE International Conference on Computer Communications (INFOCOM'14)*, Toronto, Canada, 2014. **[Acceptance rate: 19%]**
42) S. Cai, **L. Duan**, J. Wang, and R. Zhang, "Power-efficient heterogeneous networks through optimal small-cell scheduling," in *Proc. of IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, 2014.
43) C. Jiang, **L. Duan**, and J. Huang, "Joint dynamic pricing and spectrum allocation for heterogeneous secondary demands," in *Proceedings of the 13th International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt'14)*, Tunisia, 2014.
44) S. Gong, P. Wang, and **L. Duan**, "A game theoretic approach for robust power control in cognitive radio networks," in *Proceedings of IEEE Global Communications Conference (GLOBECOM'14)*, 2014.
45) Y. Guo, J. Xu, **L. Duan**, and R. Zhang, "Optimal energy and spectrum sharing for cooperative cellular systems," in *Proceedings of IEEE International Conference on Communications (ICC'14)*, Sydney, Australia, 2014.

46) Y. Chen, **L. Duan**, J. Huang, and Q. Zhang, "Balance of revenue and social welfare in FCC's spectrum allocation," in *Proceedings of the 32nd IEEE International Conference on Computer Communications (INFOCOM'13)*, Turin, Italy, Apr. 2013. **[Acceptance rate: 17%]**

47) **L. Duan**, J. Huang, and B. Shou, "Optimal pricing for local and global WiFi markets," in *Proceedings of the 32nd IEEE International Conference on Computer Communications (INFOCOM'13)*, Turin, Italy, Apr. 2013. **[Acceptance rate: 17%]**

48) **L. Duan**, J. Huang, and J. Walrand, "Economic analysis of 4G network upgrade," in *Proceedings of the 32nd IEEE International Conference on Computer Communications (INFOCOM'13)*, Turin, Italy, Apr. 2013. **[Acceptance rate: 17%]**

49) **L. Duan** and R. Zhang, "Dynamic contract to regulate energy management in microgrids," in *Proceedings of IEEE International Conference on Smart Grid Communications (SmartGridComm'13)*, Vancouver, Canada, 2013.

50) N. U. Hassan, S. Hussain, C. Yuen, and **L. Duan**, "Tradeoff between spectrum cost and quality of service in a cognitive radio network," in *Proceedings of IEEE Global Communications Conference (GLOBECOM'13)*, Atlanta, USA, 2013.

51) Y. Yang, T. Quek, **L. Duan**, "Backhaul-constrained optimization for hybrid access small cells," in *Proc. of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'13)*, Vancouver, Canada, 2013.

52) Y. Yang, T. Q.S. Quek, and **Lingjie Duan**, "Refunding for small cell networks with limited-capacity backhaul," IEEE/CIC International Conference on Communications in China (ICCC'13), 2013.

53) **L. Duan**, J. Huang, and B. Shou, "Femtocell Service Provision with Dual Channel Competition," in *Proceedings of the Workshop on Telecom Economics, Engineering and Policy, The 24th International Teletraffic Congress (ITC 24)*, invited paper, Krakow, Poland, Sept. 2012.

54) K. Sugiyama, T. Kubo, **L. Duan**, A. Tagami, T. Hasegawa, and J. Huang, "Incentive mechanisms for secure smartphone collaboration," in *International Conference on Decision and Game Theory (GameSec)*, 2012.

55) **L. Duan**, T. Kubo, K. Sugiyama, J. Huang, T. Hasegawa, and J. Walrand, "Incentive mechanisms for smartphone collaboration in data acquisition and distributed computing," in *Proceedings of the 31st IEEE International Conference on Computer Communications (INFOCOM'12)*, Orlando, Florida, US, Mar. 2012. **[Acceptance rate: 17%.]**

56) **L. Duan**, L. Gao, and J. Huang, "Contract-based cooperative spectrum sharing," in *Proceedings of the 5th IEEE Symposium on New Frontiers in Dynamic Spectrum Access Networks (DySPAN'11)*, Aachen, Germany, May 2011.

57) **L. Duan**, J. Huang, and B. Shou, "Cognitive mobile virtual network operator: investment and pricing with supply uncertainty," in *Proceedings of the 29th IEEE International Conference on Computer Communications (INFOCOM'10)*, San Diego, CA, US, 2010. **[Acceptance rate: 17.5%.]**

58) **L. Duan**, J. Huang, and B. Shou, "Competition with dynamic spectrum leasing," in *Proceedings of the 4th IEEE Symposium on New Frontiers in Dynamic Spectrum Access Networks (DySPAN'10)*, Singapore, 2010.

7. Conference and Invited Presentations

- Conference Presentations
  1) "When congestion games meet mobile crowdsourcing: Selective information disclosure," in AAAI 2023 Conference.
  2) "To help or not: Introduction of D2D crowdsourced WiFi to 5G networks," invited talk at the IEEE World Forum on IoT - Industry Forum, Nov. 2022.
  3) "Economic analysis of drone-provided mobile services," **invited talk at the 7th ACM MobiHoc Workshop on the Frontiers of Networks: Theory and Algorithms**, July 2019.
  4) "Going beyond the secrecy rate via information jamming," in IEEE GLOBECOM Conference, Abu Dhabi, UAE, Dec. 2018.
  5) "Traffic-aware adaptive deployment for UAV-aided communication networks," in IEEE GLOBECOM Conference, Abu Dhabi, UAE, Dec. 2018.
  6) "A joint-scheduling model for wireless powered sensor networks," in IEEE GLOBECOM Conference, Singapore, Dec. 2017.
  7) "When network effect meets congestion effect: Leveraging social services for wireless service," in ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Hangzhou, China, May 2015.
  8) "Adaptively directional wireless power transfer for larger sensor networks," at IEEE GLOBECOM conference, San Diego, CA, USA, Dec. 2015.
  9) "Economic analysis of 4G network upgrade," at the 32nd IEEE International Conference on Computer Communications (INFOCOM) conference, Turin, Italy, Apr. 2013.
  10) "Optimal pricing for local and global WiFi markets," at the 32nd IEEE International Conference on Computer Communications (INFOCOM) conference, Turin, Italy, Apr. 2013.
  11) "Incentive mechanisms for smartphone collaboration in data acquisition and distributed computing," at IEEE INFOCOM confernece, Orlando, Florida, US, Mar. 2012.
  12) "Contract-based cooperative spectrum sharing," at IEEE DySPAN conference, Aachen, Germany, May 2011.
  13) "Economic viability of femtocell service provision," at GameNets conference, Shanghai, China, Apr. 2011.
  14) "Competition with dynamic spectrum leasing," at IEEE DySPAN conference, Singapore, Apr. 2010.
  15) "Cognitive mobile virtual network operator: Investment and pricing under supply uncertainty," at IEEE INFOCOM conference, San Diego, California, US, Mar. 2010.
- Invited Presentations
  1) "Human-in-the-loop learning and information diffusion," Chinese University of Hong Kong (Shenzhen), Dec. 2024.
  2) "Mobile Crowdsourcing mechanisms for D2D information learning and resource sharing," George Wash-

ington University, Feb. 2023.

3) "Device-to-device (D2D) resource sharing and pricing mechanisms," online talk invited by Harbin Institute of Technology, July 2022.
4) "Buy from your neighbors: New distributed optimization and Pricing Design," Chinese University of Hong Kong and Shenzhen Institute of Artificial Intelligence and Robotics (AIRS), Nov. 2020.
5) "Economic Thinking of Age of Information Management: Sampling Pricing and Bandwidth Competition," Chinese University of Hong Kong, Shenzhen, Jan. 2020.
6) "Economics of Age of Information Management," University of Paris at Sud, May 2019.
7) "Incentive Design for Mobile Sensing and Computing," ESD Research Seminar, Singapore University of Technology and Design, Nov. 2015.
8) "Joint energy and communication cooperation for cost-aware communication networks," in Department of Information Engineering, Chinese University of Hong Kong, Hong Kong, Apr. 2015.
9) "Green and cooperative design for future wireless networks," College of Control Science and Engineering, Zhejiang University, Hangzhou, China, Dec. 2014.
10) "Economics of mobile cloud computing," *Panel Talk* in International Conference on Cloud Computing Research and Innovation (ICCCRI), Singapore, Oct. 2014.
11) "Economics of technology upgrade and smartphone collaborations in Cellular Networks," in School of Information Science and Technology, Tsinghua University, China, Jan. 2013.
12) "Economic analysis of cellular network upgrade," in Department of Electrical Engineering and Computer Sciences, University of California at Berkeley, Berkeley, CA, USA, Oct. 2011.
13) "Economics of cooperative spectrum sharing," in Department of Electrical Engineering and Computer Sciences, University of California at Berkeley, Berkeley, CA, USA, Jun. 2011.

8. Supervision of PhD Students and Postdocs

- Postdoctoral Research Fellows (3 in SUTD and 11 alumni)
  1) Dr. Songhua Li (PhD from City University of Hong Kong), postdoc at SUTD, 2022-
  2) Dr. Yang Cao (PhD from Dalian University of Technology), postdoc at SUTD, 2022-
  3) Dr. Shugang Hao (PhD from SUTD), postdoc at SUTD, 2022-
  4) Dr. Abhishek Pal Majumder (PhD from University of North Carolina), postdoc at SUTD, 2021. (Now a **Lecturer at University of Reading**, UK.)
  5) Dr. Zhe Wang, (PhD from University of New South Wales, Australia), postdoc at SUTD, 2017- 2020. (Now a full Professor at Nanjing University of Science and Technology.)
  6) Dr. Haiyang Zhang (PhD from Southeast University, China), postdoc at SUTD, 2017- 2020. (Now a Postdoc at The Weizmann Institute of Science.)
  7) Dr. Pan Lai (PhD from Nanyang Technological University, Singapore), postdoc at SUTD, 2015-2019. (Now **Hubei Province 100 Talents** and an Associate Professor at South-Central University for Nationalities.)
  8) Dr. Xiao Zhang (PhD from City University of Hong Kong, Hong Kong), postdoc at SUTD, 2016-2019. (Now **Hubei Province 100 Talents** and an Associate Professor at South-Central University for Nationalities.)

9) Dr. Xuehe Wang (PhD from Nanyang Technological University, Singapore), postdoc at SUTD, 2015-2018. (Now an Associate Professor at Sun-Yat-Sen University.)
10) Dr. Jie Xu (PhD from University of Science and Technology of China, China), postdoc at SUTD, 2015-2016. (Now in **China's Youth 1000-Talent Program and an Associate Professor at Chinese University of Hong Kong, Shenzhen**.)
11) Dr. Yu-Pin Hsu (PhD from Texas A&M University, USA), postdoc in the **SUTD-MIT Postdoctoral Programme** (jointly supervised with Prof. Eytan Modiano at MIT), 2014-2016. (Yu-Pin is now an Associate Professor at National Taipei University.)
12) Dr. Yueling Che (PhD from Nanyang Technological University, Singapore), postdoc at SUTD, 2013-2016. (Now an Associate Professor at Shenzhen University.)
13) Dr. Shimin Gong (PhD from Nanyang Technological University), postdoc at SUTD, 2014. (Now an Associate Professor in Sun Yat-Sen University.)
14) Dr. Shengming Cai (PhD from Nanyang Technological University), postdoc at SUTD, 2014. (Now a Research Engineer at Huawei Technologies.)

- PhD Students (4 in SUTD, and 6 graduated from SUTD)
  1) Jiale Zhang: Master from Hunan University, PhD student at SUTD, 2024 - (Co-supervised with Bikram Das)
  2) Yiting Hu: Master from Beihang University, PhD student at SUTD, 2023 -
  3) Sisui Ngoh: Bachelor from SUTD, PhD student at SUTD, 2021 -
  4) Hongbo Li: Bachelor from Shanghai Jiao Tong University (China), PhD student at SUTD, 2020- (Visiting student at Ohio State University with Prof. Ness Shroff.)
  5) Shu Hong: Bachelor from Southeast University (China), PhD student at SUTD, 2018- (Now a postdoc fellow at UBC.)
  6) Shugang Hao: Bachelor from South China University of Technology (China), PhD student at SUTD, 2017- 2022. (Now a Postdoc at SUTD).
  7) Shuqin Gao: Bachelor from Shanghai Jiao Tong University (China), PhD student at SUTD, 2017- 2022. (Now a Postdoc Fellow at CUHK-SZ).
  8) Yitao Han: Bachelor from Zhejiang University (China), SUTD-NUS Joint PhD student (co-supervised by Rui Zhang), 2016 - 2021. (Now a Research Engineer at Huawei Singapore Lab.)
  9) Xinping Xu: Bachelor from Nanjing University (China), PhD student at SUTD, 2015 - 2019. (Visiting student at Purdue University with Prof. Xiaojun Lin in 2019 and now a postdoc fellow at NTU.)
  10) Yunpeng Li: Bachelor from Zhejiang University (China), PhD student at SUTD, 2014 - 2019. (Visiting Student at MIT with Prof. John Tsitsiklis in 2018, now postdoc at CUHK-SZ).

9. Research Collaborators

1) Prof. Eytan Modiano, Laboratory for Information and Decision Systems, MIT, USA
2) Prof. Kang G. Shin, Department of Computer Science, University of Michigan (UMich), USA
3) Prof. Jean Walrand, Department of Electrical Engineering and Computer Sciences (EECS), University of California at Berkeley (UC Berkeley), USA
4) Prof. Natarajan Gautam, Industrial & Systems Engineering, Texas A&M University (TAMU), USA
5) Prof. Richard Weber, Dept. of Pure Mathematics and Mathematical Statistics, University of Cambridge, UK.

6) Prof. Junshan Zhang, School of Electrical, Computer and Energy Engineering, Arizona State University, USA
7) Prof. Xiaojun Lin, School of Electrical and Computer Engineering, Purdue University, USA
8) Prof. Qian Zhang, Department of Computer Science and Engineering, Hong Kong University of Science and Technology (HKUST), Hong Kong
9) Prof. Minming Li, Department of Computer Science, City University of Hong Kong
10) Prof. Jianwei Huang, Dept. of Information Engineering, The Chinese University of Hong Kong, Shenzhen
11) Prof. Biying Shou, Dept. of Management Sciences, City University of Hong Kong, Hong Kong
12) Prof. Costas Courcoubetis, School of Data Science, The Chinese University of Hong Kong, Shenzhen, China
13) Prof. Rui Zhang, Dept. of Electrical and Computer Engineering, National University of Singapore (NUS)
14) Prof. Tony Quek, Pillar of Information Systems Technology and Design, Singapore University of Technology and Design (SUTD), Singapore
15) Prof. Yung Yi, Department of Electrical Engineering, KAIST, South Korea
16) Prof. Jiming Chen, Department of Control, Zhejiang University, China
17) Dr. Kenichi Maruhashi, Smart Energy Research Labs, NEC Corporation, Japan
18) Dr. Alex W. Min, Research Scientist, System Architecture Lab, Intel Labs, USA
19) Dr. Teruyuki Hasegawa, Senior Research Engineer, KDDI R&D Labs, Tokyo, Japan

10. Taught Courses

1) Lecturer, Network Economics (postgraduate course), 2021–
2) Lecturer, CET Data Science Modelling (CET), 2022–
3) Lecturer, 40.012 Manufacturing & Service Operations (about Markov decision process & queueing), Term 5, 2018–2023.
4) Lecturer, 10.022 Modelling Uncertainty (about probability and statistics), Term 3, 2022–2023.
5) Lecturer, 40.316 Game Theory, Term 8, 2016 – 2022.
6) Lecturer, 40.005 Introduction to Stochastic Modelling, Term 5, 2015–2017.
7) Cohort Instructor, 10.007 Modelling System World (ODE and optimization models), 2013–2020.
8) Cohort Instructor, 01.400 Capstone (Final Year Project), Term 7 & 8, 2015.
9) Lecturer, 01.001 Probability and Statistics, Term 4, 2013–2014.
10) Cohort Instructor, 10.004 Advanced Math II, Term 2, 2012.