

# Liang (Leon) Dong

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## Appointments

2011–present Baylor University  
Associate Professor of Electrical and Computer Engineering  
Summer 2015 Stanford University  
Visiting Scholar of Electrical Engineering  
Summer 2007-09 Shanghai Jiao Tong University  
Visiting Professor of Microelectronics  
2004–2011 Western Michigan University  
Assistant/Associate Professor of Electrical and Computer Engineering

## Education

2004 Post-Doctoral in Electrical Engineering University of Notre Dame  
2002 Ph.D. in Electrical and Computer Engineering University of Texas at Austin  
1998 M.S. in Electrical and Computer Engineering University of Texas at Austin  
1996 B.S. in Applied Physics and B.S. in Computer Engineering Shanghai Jiao Tong University

## Research Interests

Signal Processing and Communications  
Wireless Communications and Networking  
Cyber-Physical System and Security  
Artificial Intelligence/Machine Learning Applications

## Honors and Awards

2023 Active Learning Fellow Baylor University  
2022 Data Scholar Award Baylor University  
2015, 2022 KEEN Faculty Innovators Program Kern Entrepreneurial Education Network  
2015 University Research Committee Award Baylor University  
2013 ECS Research Initiation Award Baylor University  
2011 Faculty Scholars Award Western Michigan University  
2008 Research Development Award Western Michigan University  
2008 Faculty Research & Creative Activities Award Western Michigan University  
1999 Graduate Fellowship University of Texas at Austin  
1994 Hua-Xin Scholarship Shanghai Jiao Tong University

## Membership of Associations

Senior Member Institute of Electrical and Electronics Engineers (IEEE)  
Member Institute of Electronics, Information and Communication Engineers (IEICE)  
Member American Physical Society (APS)  
Member American Society for Engineering Education (ASEE)  
Member Sigma Xi, The Scientific Research Society

## Funded Research

1. "SLES: Robust and Interpretable Safety Mechanisms for Learning-Enabled Autonomous Systems," Sponsor: National Science Foundation (NSF), P.I., Performing organization: Baylor University, Amount Pending: \$800,000.
2. "Collaborative Research: SCH: Navigating Molecular Spaces: An Insightful and Trustworthy AI Approach for Structure Leads in Highly Specific PET Imaging Probe Development," Sponsor: National Science Foundation (NSF), P.I., Baylor University (Lead Institute) Portion: \$480,000 Pending.
3. "Deciphering Imbalanced Learning-Hardness in Data Science," Sponsor: National Science Foundation (NSF), Co-P.I., Performing organization: Baylor University, Amount Pending: \$947,311. (My share of the amount: \$315,000.)
4. "SCH: Reproducible High-Dimensional Mislabeled Learning and Neuromorphic Computing Algorithm Design," Sponsor: National Science Foundation (NSF), Co-P.I., Performing organization: Baylor University, Amount Pending: \$900,000. (My share of the amount: \$300,000.)
5. "Spectrum Management with Adaptive and Reconfigurable Technologies (SMART) Hub," Sponsor: Army Research Laboratory (ARL), co-P.I., Performing organization: Baylor University (Lead Institute), May 20, 2024–May 19, 2025, Total Collaborative Funding: \$5 Million. (My share of the funded amount: \$132,446.)
6. "AI Vision for Industrial Inspection and Automation: Irregularity Inspection and Detection of Falling Objects on a Drilling Rig," Sponsor: ExxonMobil, Co-P.I., Performing organization: Baylor University, November 1, 2022–May 31, 2024, Funding: \$164,629. (My share of the funded amount: \$82,314.)
7. "IUCRC Planning Grant Baylor University: Center for Standards and Ethics in Artificial Intelligence (CSEAI)," Sponsor: National Science Foundation (NSF), Co-P.I., Performing organization: Baylor University, February 15, 2022–July 31, 2023, Funding: \$19,996.
8. "An 'Entrepreneurial Leap' Module for Engineering Courses Digital Signal Processing and Deep Learning," Sponsor: Kern Entrepreneurial Education Network, The Kern Family Foundation, P.I., Performing organization: Baylor University, December 15, 2022–December 14, 2023, Funding: \$2,000.
9. "Deep Learning and Its Applications to Signal Processing," Sponsor: Intel, P.I., Performing organization: Baylor University, September 1, 2018–August 31, 2019, Funding: \$20,000.
10. "In-flight Wireless Multimedia Delivery System," Sponsor: L3Harris Technologies (formerly L-3 Communications), P.I., Performing organization: Baylor University, January 1, 2015–December 31, 2017, Funding: \$340,000.
11. "Data Collection and Analysis for Connected Health," Baylor University Research Committee Award, P.I., Performing organization: Baylor University, December 15, 2015–May 31, 2016, Funding: \$7,500.
12. "Onboard Wireless High-definition Content Delivery System," Sponsor: L3Harris Technologies (formerly L-3 Communications), P.I., Performing organization: Baylor University, October 21, 2012–December 31, 2014, Funding: \$300,000.
13. "Noninvasive Brain-computer Interface based on Electroencephalography," Baylor Faculty Research Grant, P.I., Performing organization: Baylor University, June 1, 2013–May 31, 2014, Funding: \$25,000.
14. "Development of an Intelligent Vehicle Health Management System for Light Tactical Vehicles," Sponsor: U.S. Army Tank-Automotive Research, Development and Engineering Center (TARDEC),

- Co-P.I., Performing organization: Western Michigan University, May 2008–December 2010, Funding: \$353,684. (My share of the funded amount: \$117,895.)
15. “Development of Smart Vehicles Laboratory for Future Engineering Workforce,” Sponsor: DENSO North America Foundation, P.I., Performing organization: Western Michigan University, July 2009–June 2010, Funding: \$20,000.
  16. “Cooperative Localization and Communication,” Sponsor: Michigan Space Grant Consortium – NASA, P.I., Performing organization: Western Michigan University, June 2008–May 2009, Funding: \$5,000 (plus \$5,000 matching).
  17. “Application of Unmanned Aerial Vehicles (UAVs) to Traffic and Emergency Surveillance: Demonstration and System Design,” Sponsor: Michigan Department of Transportation, Co-P.I., Performing organization: Western Michigan University, September 2005–August 2006, Funding: \$110,663.

### Professional Activities

- Conference Technical Program Committee Member
  - The Southwest Data Science Conference at Baylor University (2022)
  - IEEE Global Conference on Signal & Information Processing (GlobalSIP) (2015–2017)
  - IEEE Int. Conference on E-health Networking, Application and Services (HealthCom) (2015, 2023, 2024)
  - Texas Symposium on Wireless & Microwave Circuits & Systems (2012–2022)
- Conference Session Chair
  - IEEE Wireless Communications and Networking Conference (WCNC) (2013, 2018, 2024)
  - IEEE International Conference on Machine Learning for Communication and Networking (ICMLCN) (2024)
  - IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS) (2017)
  - IEEE Global Conference on Signal & Information Processing (GlobalSIP) (2016)
- Professional Society Executive Board Member
  - IEEE West Michigan Section (2006–2011)
  - ASEE North Central Section (2007–2008)
- Academic Journal Editor
  - Wireless Communications and Mobile Computing (2018–present)
- Panelist and Reviewer
  - National Science Foundation (NSF) Panel (2016, 2020, 2021, 2023)
  - IEEE Transactions on Signal Processing, IEEE Journal of Selected Areas in Communications, IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, IEEE Transactions on Vehicular Technology, IEEE Transactions on Green Communications and Networking, IEEE Transactions on Cognitive Communications and Networking, IEEE Communications Letters, IEEE Transactions on Smart Grid, IEEE Transactions on Industrial Informatics, IEEE Systems Journal, IET Communications, Wiley Wireless Communications and Mobile Computing.
- University Committee Member

- Baylor Centennial Faculty Development Review Committee (2016–present)
- ECE Department Graduate Committee (2012–present)
- ECE Department Faculty Search Committee (2015–2017)
- ECE Department Systems Committee (2018–present, Chair 2018–2020)
- School of Engineering and Computer Science Systems Committee (2018–2020)
- Data Science Ph.D. Program Committee (2022–present)
- Data Science Faculty Search Committee (2022–2023)

## Courses Taught

- At Baylor University:
  - EGR 1302: Introduction to Engineering Analysis
  - ELC 2330: Electronic Circuit Theory
  - ELC 4350: Principles of Communication
  - ELC 4351: Digital Signal Processing
  - ELC 4438: Embedded Systems Design
  - EGR 4390: Engineering Design II
  - ELC 4396/5396-06: Deep Learning
  - ELC 5356: Statistical and Adaptive Signal Processing
  - ELC 5396-02: Digital Communications
  - ELC 5396-04: Wireless Communications
- At Western Michigan University:
  - ECE 1000: Fundamentals of Circuits and Electronics
  - ECE 2210: Electronics I
  - ECE 3200: Electronics II
  - ECE 3510: Engineering for Real-Time Systems
  - ECE 3570: Computer Architecture
  - ECE 4550: Digital Signal Processing
  - ECE 5150: Real-Time Computing
  - ECE 5510: Application-Specific Integrated Circuits Design
  - ECE 5550: Advanced Digital Signal Processing
  - ECE 7250: Doctoral Research Seminar
- At Shanghai Jiao Tong University:
  - School of Microelectronics: Analog and Digital Integrated Circuits

## Current and Past Ph.D. Students

- Current Ph.D. Students:
  - Akram Entezami (M.S. Ferdowsi University of Mashhad, Iran)
  - Tianqi (Kirk) Ding (B.S. Baylor University)
- Past Ph.D. Students:

- Michal Trnka (Ph.D. 2023) - Co-Advising  
Dissertation: “Context-aware Security of Internet of Things Applications”
  - Yuchen Qian (Ph.D. 2020), Research Scientist, Meta (Facebook), CA  
Dissertation: “Deep Learning Methods in Molecule Design for Drug Discovery”
  - Yuan Xing (Ph.D. 2020), Assistant Professor, Engineering & Technology Department, University of Wisconsin-Stout  
Dissertation: “Deep Learning for Energy-efficient Wireless Communications and Spectrum Management”
  - Yanqing Liu (Ph.D. 2015), Associate Professor, Director of the Department of Software Engineering of the School of Software, Jiangxi University of Finance and Economics, China  
Dissertation: “Resource Management of Cognitive Radio Networks with Optimization Methods”
  - Ma’em S. Saleh (Ph.D. 2012), Professor, Department of Computer Engineering, Tafila Technical University, Jordan  
Dissertation: “Adaptive Security-aware Scheduling for Packet Switched Networks Using Real-time Multi-agent Systems”
  - Abdel Ilah Noor Alshbatat (Ph.D. 2010), Professor, Department of Communications, Electronics and Computer Engineering, Tafila Technical University, Jordan  
Dissertation: “Cross-layer Design for Mobile Ad-Hoc Unmanned Aerial Vehicle Communication Networks”
  - Ahmad Falah msfouh Alja’afreh (Ph.D. 2010), Professor, Department of Electrical and Computer Engineering, Tafila Technical University, Jordan  
Dissertation: “Collaborative Classification of Multiple Ground Vehicles in Wireless Sensor Networks Based on Acoustic Signals”
  - Yao Zhao (Ph.D. 2009), Chief Scientist, Youxinyi Electronics, Inc., Beijing, China  
Dissertation: “Communications and Positioning in Wireless Networks”
- Some Past M.S. and B.S. Research Students:
    - Jedidiah West (B.S. 2023), Engineer, L3Harris, Fort Worth, TX
    - Riley Dehann (B.S. 2018) continued to pursue a graduate degree at Stanford University, CA
    - Dedong Zhang (M.S. 2018) continued to pursue a Ph.D. degree at University of Waterloo, ON, Canada  
Thesis: “Semi-supervised Learning for Electrocardiography Signal Classification”
    - Yixuan Zhang (B.S. 2016) continued to pursue a Ph.D. degree at University of Rochester, NY
    - Yan Shi (M.S. 2015) continued to pursue a Ph.D. degree at Southern Methodist University, Dallas, TX
    - Fan Zhang (M.S. 2014), Engineer, Cummins, Inc., Columbus, IN
    - Ashwin Vijayakumar (M.S. 2011), Product Manager – AI Computer Vision Products, Intel, Portland, OR
    - Valli Murugesan (M.S. 2007), Engineer, ResMed, Sydney, Australia

## Publications

H-index by Google Scholar: 22

### Journal Articles

1. L. Dong, Y. Qian, P. Gonzalez, O. K. Öz, and X. Sun, "Advancing drug discovery with deep learning: Harnessing reinforcement learning and one-shot learning for molecular design in low-data situations," *ACM SIGAPP Applied Computing Review*, vol. 23, no. 1, pp. 36–48, Mar. 2023. doi: 10.1145/3594264.3594267
2. L. Dong, Y. Qian, and Y. Xing, "Dynamic spectrum access and sharing through actor-critic deep reinforcement learning," *EURASIP Journal on Wireless Communications and Networking*, 2022:48, Jun. 2022. doi: 10.1186/s13638-022-02124-4
3. Y. Xing, R. Young, G. Nguyen, M. Lefebvre, T. Zhao, H. Pan, and L. Dong, "Optimal path planning for wireless power transfer robot using area division deep reinforcement learning," *Wireless Power Transfer*, vol. 2022, Article ID 9921885, Mar. 2022, doi: 10.1155/2022/9921885
4. R. Li, F. Zhao, D. Pan, and L. Dong, "Speech enhancement based on binaural sound source localization and cosh measure Wiener filtering," *Circuits, Systems, and Signal Processing*, vol. 41, pp. 395–424, July 2021, doi: 10.1007/s00034-021-01786-7
5. Y. Xing, Y. Qian, and L. Dong, "A multi-armed bandit approach to wireless information and power transfer," *IEEE Communications Letters*, vol. 24, no. 4, pp. 886–889, Apr. 2020, doi: 10.1109/LCOMM.2020.2969658
6. M. Saleh, L. Dong, A. Aljaafreh, and N. Al-Oudat, "Secure location-aided routing protocols with Wi-Fi direct for vehicular ad hoc networks," *International Journal of Communication Networks and Information Security*, vol. 12, no. 1, pp. 10–18, Apr. 2020.
7. R. Li, X. Sun, Y. Liu, D. Yang, and L. Dong, "Multi-resolution auditory cepstral coefficient and adaptive mask for speech enhancement with deep neural network," *EURASIP Journal on Advances in Signal Processing*, 2019:22, Dec. 2019. doi: 10.1186/s13634-019-0618-4
8. L. Dong, "Optimization of multiple wireless transmissions for radio-frequency energy harvesting," *IEEE Communications Letters*, vol. 22, no. 10, pp. 2140–2143, Oct. 2018. doi: 10.1109/LCOMM.2018.2859221
9. L. Dong and X. Meng, "Energy efficiency in multiuser transmission over parallel frequency channels," *IEEE Transactions on Communications*, vol. 66, no. 9, pp. 4234–4248, Sept. 2018. doi: 10.1109/TCOMM.2018.2827957
10. Z. Lin and L. Dong, "Clarifying trust in social Internet of Things," *IEEE Transactions on Knowledge and Data Engineering*, vol. 30, no. 2, pp. 234–248, Feb. 2018.
11. Y. Liu and L. Dong, "Distributed QoS based robust transmission design for MISO wiretap channel with cooperative jamming," *Wireless Personal Communications*, vol. 95, no. 4, pp. 3671–3686, Aug. 2017.
12. Y. Liu and L. Dong, "Iterative reduction of out-of-band power and peak-to-average power ratio for non-contiguous OFDM systems based on POCS," *IEICE Transactions on Communications*, vol. E100.B, no. 8, pp. 1489–1497, Aug. 2017.
13. L. Dong, "Transmission game in MIMO interference channels with radio-frequency energy harvesting," *CoRR*, arXiv:1703.09670v2, Apr. 2017.
14. R. Li, Y. Liu, Y. Shi, L. Dong, and W. Cui, "ILMSAF based speech enhancement with DNN and noise classification," *Speech Communication*, vol. 85, pp. 53–70, Dec. 2016.

15. A. I. N. Alshbatat, L. Dong, and P. J. Vial, "Controlling an unmanned quad-rotor aerial vehicle with model parameter uncertainty and actuator failure," *International Journal of Intelligent Systems Technologies and Applications*, vol. 15, no. 4, pp. 295–322, 2016.
16. Abdel Ilah N. Alshbatat1a, Liang Dong, and Peter J. Vial, "AirServer: a mind-controlled assistive quadrotor drone aided by an intelligent fuzzy PD controller," *Jordan Journal of Electrical Engineering*, vol. 2, no. 3, pp. 181–198, 2016.
17. L. Dong and Y. Liu, "Parallel sub-channel transmission for cognitive radios with multiple antennas," *Wireless Personal Communications*, vol. 79, no. 3, pp. 2069–2087, Dec. 2014.
18. Y. Liu and L. Dong, "Spectrum sharing in MIMO cognitive radio networks based on cooperative game theory," *IEEE Transactions on Wireless Communications*, vol. 13, no. 9, pp. 4807–4820, Sept. 2014.
19. L. Dong, "Receiver design for single-carrier block transmission over doubly selective channels," *Wireless Personal Communications*, vol. 77, no. 3, pp. 1833–1845, Aug. 2014.
20. A. I. Alshbatat, P. J. Vial, and L. Dong, "Effect of polytetrafluoroethylene material on dynamic behaviour of an underactuated unmanned aerial vehicle," *International Journal of Science and Advanced Technology*, vol. 4, no. 6, pp. 36–44, June 2014.
21. M. Saleh and L. Dong, "Real-time scheduling with security enhancement for packet switched networks," *IEEE Transactions on Network and Service Management*, vol. 10, no. 3, pp. 271–285, Sept. 2013.
22. L. Dong, "Opportunistic media access control and routing for delay-tolerant mobile ad hoc networks," *Wireless Networks*, vol. 18, no. 8, pp. 946–965, Nov. 2012.
23. L. Dong, "Cooperative localization and tracking of mobile ad hoc networks," *IEEE Transactions on Signal Processing*, vol. 60, no. 7, pp. 3907–3913, July 2012.
24. J. Wang, L. Dong, and Y. Fu, "Modeling of UHF voltage multiplier for radio-triggered wake-up circuits," *International Journal of Circuit Theory and Applications*, vol. 39, no. 11, pp. 1189–1197, Nov. 2011.
25. A. Alshbatat and L. Dong, "Low latency routing algorithm for unmanned aerial vehicles ad-hoc networks," *World Academy of Science, Engineering and Technology*, vol. 5, no. 8, pp. 629–635, Aug 2011.
26. L. Dong, "Turbo equalization with prediction and iterative estimation of time-varying frequency-selective channels," *Wireless Personal Communications*, vol. 55, no. 4, pp. 631–644, Dec. 2010.
27. A. Alshbatat and L. Dong, "Performance analysis of mobile ad-hoc unmanned aerial vehicle communication networks with directional antennas," *International Journal of Aerospace Engineering*, vol. 2010, Dec. 2010.
28. K. Ro, J. Oh, and L. Dong, "A study on vehicular positioning technologies for smart/green cars," *Journal of Korea Institute of Information and Telecommunication Facilities Engineering*, vol. 9, no. 3, pp. 92–101, Sept 2010.
29. L. Dong, "Open-loop beamforming for frequency-division duplex mobile wireless access," *IEEE Transactions on Vehicular Technology*, vol. 56, no. 4, pp. 1845–1849, July 2007.
30. L. Dong, H. Choo, R. W. Heath, and H. Ling, "Simulation of MIMO channel capacity with antenna polarization diversity," *IEEE Transactions on Wireless Communications*, vol. 4, no. 4, pp. 1869–1873, July 2005.
31. L. Dong, G. Xu, and H. Ling, "Predictive downlink beamforming for wideband CDMA over Rayleigh fading channels," *IEEE Transactions on Wireless Communications*, vol. 4, no. 2, pp. 410–421, Mar. 2005.

## Patents

1. L. Dong, J. Hu, and Y. Li, "Multipoint wireless network," Patent No.: US20220077924A1, US11716136B2, Date of Patent: August 1, 2023.
2. L. Dong, J. Hu, and Y. Li, "Virtual wireless network," Patent No.: US20200322039A1, US11211998B2, Date of Patent: Dec. 28, 2021.
3. J. Hu, L. Dong, and Y. Li, "Modeling wireless signal strength within a defined environment," Patent No.: US20190380044A1, US10506449B1, Date of Patent: Dec. 12, 2019.

## Book Chapters

1. Brown, L. J., L. Dong, and A. G. Cerullo (July 2011). *Technology engineering and management in aviation: Advancements and discoveries*. IGI Global. Chap. The evaluation of wireless communication devices: To improve in-flight security on-board commercial aircraft, pp. 190–202.

## Conference Papers

1. C. Thomas, M. Abderezai, L. Dong, V. Leung, "An all-digital synthesizer enabled by a convolutional neural network," In *IEEE MTT-S International Microwave Symposium (IMS)*, June 2024.
2. L. Dong, "Leveraging Transformers for Enhanced Resource Allocation in Multi-Carrier NOMA Wireless Communication Systems," In *IEEE International Conference on Machine Learning for Communication and Networking (ICMLCN)*, Stockholm, Sweden, May 2024.
3. L. Dong, "Transformer-Driven Resource Allocation for Enhanced Multi-Carrier NOMA Downlink," In *IEEE Wireless Communications and Networking Conference (WCNC)*, Dubai, UAE, April 2024.
4. C. Thomas, L. McCubbin, R. DiCiro, L. Dong, and V. Leung, "A Convolutional Neural Network Mapping Enabling an All Digital Synthesizer," In *Government Microcircuit Applications & Critical Technology Conference (GOMACTech)*, Charleston, SC, March 2024.
5. P. Gonzalez, S. Raut, Y. Yang, S. Debnath, L. Dong, O. Öz, and X. Sun, "Evaluation of a predictive AI algorithm for imaging probe design and development," In *Innovations in Cancer Prevention and Research Conference*, Galveston, TX, October 2-3, 2023.
6. W. Kuang, W. Dong, and L. Dong, "The effect of training dataset size on SAR automatic target recognition using deep learning," In *IEEE 12th International Conference on Electronics Information and Emergency Communication (ICEIEC)*, Beijing, China, July 2022, pp. 13-16.
7. G. Amigo Galán, L. Dong, and R. Marks, "Forecasting pseudo random numbers using deep learning," In *15th International Conference on Signal Processing and Communication Systems (ICSPCS)*, December 2021.
8. Y. Qian, Y. Xing, and L. Dong, "Deep learning for a low-data drug design system," In *Proc. IEEE International Conference on E-health Networking, Application & Services (Healthcom)*, Hybrid Conference, 12-15 December 2020.
9. Y. Qian, Y. Xing, and L. Dong, "Deep learning for radio-frequency energy harvesting with multiple wireless transmitters," In *Proc. IEEE Vehicular Technology Conference (VTC2018-Fall)*, Chicago, IL, 27-30 August 2018.
10. Y. Xing, Y. Qian, and L. Dong, "Deep learning for optimized wireless transmission to multiple RF energy harvesters," In *Proc. IEEE Vehicular Technology Conference (VTC2018-Fall)*, Chicago, IL, 27-30 August 2018.
11. Z. Lin and L. Dong, "Clarifying trust in social Internet of Things," In *Proc. IEEE International Conference on Data Engineering (ICDE)*, Paris, France, 16-20 April 2018.



12. Y. Qian, Y. Xing, and L. Dong, "Wireless transmission design with neural network for radio-frequency energy harvesting," In *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Barcelona, Spain, 15-18 April 2018.
13. Y. Xing and L. Dong, "Passive radio-frequency energy harvesting through wireless information transmission," In *Proc. International Conference on Distributed Computing in Sensor Systems (DCOSS)*, Ottawa, Canada, June 2017, pp. 73–80.
14. L. Dong, "Spectral- and energy-efficient transmission with joint bandwidth assignment and transmit power allocation," In *Proc. IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, Washington D.C., Dec. 2016, pp. 703–707.
15. L. Dong, "Spectral- and energy-efficient transmission over frequency-orthogonal channels," In *Proc. IEEE Online Conference on Green Communications (OnlineGreenComm)*, Nov. 2016, pp. 13–20.
16. B. Xu, F. Zhang, L. Dong, and Y. Li, "Wideband propagation channel measurement in an indoor environment," in *Proc. IEEE Texas Symposium on Wireless and Microwave Circuits and Systems (WMCS)*, Waco, TX, Apr. 2014.
17. Y. Liu, L. Dong, and R. J. Marks II, "Joint reduction of out-of-band power and peak-to-average power ratio for non-contiguous OFDM systems," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Atlanta, GA, Dec. 2013, pp. 3493–3498.
18. L. Dong, Y. Liu and R. J. Marks II, "Reduction of out-of-band power and peak-to-average power ratio in OFDM-based cognitive radio using alternating projections," in *Proc. IEEE 2013 Texas Symposium on Wireless and Microwave Circuits and Systems (WMCS)*, Apr. 2013.
19. L. Dong, "Single carrier block transmission with cyclic prefix over doubly selective channels," in *Proc. IEEE Texas Symposium on Wireless and Microwave Circuits and Systems (WMCS)*, Apr. 2013.
20. J. Grantner, B. Bazuin, C. Fajardo, R. Hathaway, J. Al-shawawreh, L. Dong, M. Castanier and S. Husain, "Linguistic model for engine power loss," in *Proc. IEEE Symposium Series on Computational Intelligence (SSCI)*, Apr. 2013.
21. Y. Liu and L. Dong, "Network utility maximization of MIMO cognitive radio network with total interference-power constraints," in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Apr. 2013.
22. Y. Liu, L. Dong, and R. J. Marks II, "Common control channel assignment in cognitive radio networks using potential game theory," in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Apr. 2013.
23. L. Dong, "MIMO cognitive radio with channel covariance feedback," in *Proc. IEEE International Conference on Communications (ICC)*, June 2012.
24. M. Salen and L. Dong, "Adaptive security-aware scheduling using multi-agent system," in *Proc. IEEE International Conference on Communications (ICC)*, June 2012.
25. J. Grantner, B. Bazuin, L. Dong, J. Al-shawawreh, R. Hathaway, C. Fajardo, M. Castanier, and S. Husain, "Linguistic model for axle fatigue," in *Proc. IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*, June 2012.
26. M. Saleh and L. Dong, "Real-time scheduling with security awareness for packet switched networks," in *Proc. IEEE Radio and Wireless Week (RWW)*, Jan. 2012.
27. S. Xi, M. D. Zoltowski, Y. Zhao, and L. Dong, "Single-node MMSE for MMSE cooperative positioning," in *Proc. SPIE - The International Society for Optical Engineering*, vol. 8061, Apr. 2011.

28. J. Grantner, B. Bazuin, L. Dong, J. Al-shawawreh, R. Hathaway, C. Fajardo, M. P. Castanier, and S. Hussain, "Condition based maintenance for light trucks," in *Proc. IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, Oct. 2010.
29. A. Alja'afreh and L. Dong, "Ground vehicle classification based on hierarchical hidden Markov model and Gaussian mixture model using wireless sensor networks," in *Proc. IEEE International Conference on Electro/Information Technology (EIT)*, May 2010.
30. S. Xi, M. D. Zoltowski, and L. Dong, "Iterative MMSE cooperative localization with incomplete pair-wise range measurements," in *Proc. SPIE - The International Society for Optical Engineering*, vol. 7706, Apr. 2010.
31. A. Alshbatat and L. Dong, "Cross layer design for mobile ad-hoc unmanned aerial vehicle communication networks," in *Proc. IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Apr. 2010.
32. A. Alshbatat and L. Dong, "Adaptive MAC protocol for UAV communication networks using directional antennas," in *Proc. IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Apr. 2010.
33. A. Alja'afreh and L. Dong, "Hidden Markov model based classification approach for multiple dynamic vehicles in wireless sensor networks," in *Proc. IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Apr. 2010.
34. A. Alja'afreh and L. Dong, "Cooperative detection of moving targets in wireless sensor network based on fuzzy dynamic weighted majority voting decision fusion," in *Proc. IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Apr. 2010.
35. A. Alja'afreh and L. Dong, "An evaluation of feature extraction methods for vehicle classification based on acoustic signals," in *Proc. IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Apr. 2010.
36. M. S. Saleh and L. Dong, "Comparing FCFS & EDF scheduling algorithms for real-time packet switching networks," in *Proc. IEEE International Conference on Networking, Sensing and Control (ICNSC)*, Apr. 2010.
37. L. Wu, Y. Fu, and L. Dong, "End-to-end throughput optimization in multi-hop wireless ad hoc networks," in *Proc. The 15th Asia-Pacific Conference on Communications*, Oct. 2009.
38. L. Dong, "Turbo equalization with channel prediction and iterative channel estimation," in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Apr. 2009.
39. L. Dong, "Cooperative network localization via node velocity estimation," in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Apr. 2009.
40. Y. Zhao, L. Dong, J. Wang, B. Hu, and Y. Fu, "Implementing indoor positioning system via ZigBee devices," in *Proc. 42nd Asilomar Conference on Signals, Systems, and Computers*, Oct. 2008.
41. L. Dong, "Doppler measurements rendering random routing," in *Proc. 42nd Asilomar Conference on Signals, Systems, and Computers*, Oct. 2008.
42. S. H. Mousavinezhad and L. Dong, "Digital signal processing: theory and practical considerations," in *Proc. ASEE Annual Conference & Exposition*, June 2007.
43. N. V. Khambekar, L. Dong, and V. Chaudhary, "Utilizing OFDM guard interval for spectrum sensing," in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Mar. 2007.
44. L. Dong and F. L. Severance, "Position estimation with moving beacons in wireless sensor networks," in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Mar. 2007.

45. Y. M. Chen, L. Dong, and J.-S. Oh, "Real-time video relay for UAV traffic surveillance systems through available communication networks," in *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, Mar. 2007.
46. K. Ro, J.-S. Oh, and L. Dong, "Lessons learned: application of small UAV for urban highway traffic monitoring," in *Proc. 45th AIAA Aerospace Sciences Meeting and Exhibit*, Jan. 2007.
47. L. Dong and Y. Zhao, "Frequency-domain Turbo equalization for single carrier mobile broadband systems," in *Proc. IEEE Military Communications Conference (MILCOM)*, Oct. 2006.
48. L. Dong, "Robust beamforming for FDD mobile systems over Rayleigh fading channels," in *Proc. IEEE International Conference on Electro Information Technology (EIT)*, May 2005.
49. L. Dong and M. Atashbar, "An FPGA experience in ASIC design," in *Proc. ASEE North Central Section Spring Conference*, Apr. 2005.
50. L. Dong, T. Li, and Y.-F. Huang, "Opportunistic transmission scheduling for multiuser MIMO systems," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Apr. 2003, vol. 5, pp. 65-68.
51. L. Dong, H. Ling, and R. W. Heath, "Multiple-input multiple-output wireless communication systems using antenna pattern diversity," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Nov. 2002, pp. 997-1001.
52. L. Dong, G. Xu, and H. Ling, "Prediction of fast fading mobile radio channels in wideband communication systems," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, Nov. 2001, pp. 3287-3291.
53. L. Dong, G. Xu, and H. Ling, "Subspace-based channel estimation for wideband CDMA communication systems," in *Proc. IEEE Military Communications Conference (MILCOM)*, Oct. 2001, pp. 1205-1209.
54. L. Dong and G. Xu, "Dynamic uplink power control for cellular radio systems over fast fading channel," in *Proc. IEEE Vehicular Technology Conference (VTC)*, May 2001, pp. 2849-2853.

#### Ph.D. Dissertation

1. Dong, L. (Aug. 2002). Adaptive antenna systems for mobile broadband communications. *Ph.D. Dissertation, The University of Texas at Austin.*

#### Invited Talks and Seminars

1. "Understanding AI and AI Applications," Inaugural Event in the Panel Discussion Series, The Office of the Provost and the Academy for Teaching and Learning, Baylor University, October 26, 2023.
2. "Actor-critic deep reinforcement learning and its application in wireless communications," Data Science Seminar, Baylor University, April 8, 2022.
3. "Deep learning for medical image processing," Physics Colloquium Series, Baylor University, April 2, 2019.
4. "Enhancing positron emission tomography (PET) images with deep learning methods," University of Texas Southwestern Medical Center, Dallas, December 10, 2018.
5. "Cyber-physical systems: Enabling technologies and applications," Electrical & Computer-Baylor Engineering & Research Seminars, February 15, 2011.
6. "Dedicated short-range communication for intelligent transportation system," Department of Electrical and Computer Engineering, Western Michigan University, September 28, 2009.

7. "Wireless sensor networks with energy harvesting technology – A green revolution," School of Microelectronics, Shanghai Jiao Tong University, July 10, 2009.
8. "Pervasive communication and computing: Fusing the digital and physical worlds," School of Microelectronics, Shanghai Jiao Tong University, July 18, 2008.
9. "Cognitive radio: Versatile wireless communication systems," Department of Electrical and Computer Engineering, Western Michigan University, Oct. 15, 2007.
10. "Mobile broadband wireless access from a cross-layer perspective," Department of Computer Science, Wayne State University, Nov. 28, 2006.
11. "Software-defined radio: Reconfigurable wireless technology," Department of Electrical and Computer Engineering, Western Michigan University, September 8, 2005.
12. "Transmit diversity in mobile broadband communication systems," Department of Electrical and Computer Engineering, Western Michigan University, June 17, 2004.
13. "Improving link quality and capacity of wireless systems through transmit diversity," Department of Electrical Engineering, University of Michigan-Ann Arbor, March 19, 2004.
14. "Exploring multiuser diversity for MIMO broadcast channels," Department of Electrical Engineering, Stanford University, August 20, 2003.
15. "Space-time processing for wireless communications," Department of Electrical Engineering, University of Notre Dame, September 12, 2002.
16. "MIMO wireless systems using antenna pattern diversity," Wireless Networking and Communications Seminar, The University of Texas at Austin, April 5, 2002.

### Engineering Unleashed Teaching Innovations

1. L. Dong, "From Code to Creativity: Nurturing an Entrepreneurial Mindset in Deep Learning". Engineering Unleashed. March 5, 2023.
2. L. Dong, "The Symphony of Signals: A Journey into Digital Signal Processing". Engineering Unleashed. Sunday, March 5, 2023.
3. L. Dong, "Transmitting Innovation: Infusing the Principles of Communication with an Entrepreneurial Mindset". Engineering Unleashed. Friday, May 12, 2023.