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PROFESSOR GEOFFREY YE LI

FREng, Chair Professor of Wireless Systems
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Imperial College London
United Kingdom

RESEARCH AREA: *Intelligent Signal Processing and Communications*

TABLE OF CONTENTS

I. EARNED DEGREES

- Ph.D., Electrical Engineering, Auburn University, Auburn, Alabama, December 1994.
- M.Eng, Wireless Engineering, Southeast University, Nanjing, China, March 1986.
- B.Sci, Wireless Engineering, Southeast University, Nanjing, China, June 1983.

II. EMPLOYMENT HISTORY

- *Chair Professor in Wireless Systems*, October 2020 – present,
  Department of Electrical and Electronic Engineering, Imperial College London, UK
  Research Area: *Machine learning and signal processing for communications*

- *Associate/Full Professor*, August 2000 – September 2020,
  School of Electrical and Computer Engineering, Georgia Tech, Atlanta, GA, USA
  Research Area: *Machine learning and signal processing for communications*

- *Senor/Principal Technical Staff Member*, May 1996 – August 2000,
  AT&T Labs - Research (part of former AT&T Bell Labs), Red Bank, NJ, USA
  Research Area: *Wireless communications*

- *Post-Doctoral Research Associate*, September 1994 – May 1996,
  Electrical Engineering Department, University of Maryland, College Park, MD, USA
  Research Area: *Signal processing and wireless communications*

- *Research /Teaching Assistant*, September 1991 – August 1994,
  Department of Electrical Engineering, Auburn University, Auburn, AL, USA
  Research Area: *Statistical signal processing*

- *Lecturer/Teaching Assistant*, March 1986 – May 1991,
  Department of Wireless Engineering, Southeast University, Nanjing, Jiangsu, China.
  Research Area: *Wireless communications*

III. HONORS AND AWARDS

A. Major Recognitions

- **Fellow of the Royal Academic of Engineering (FREng)** since 2024 for outstanding contributions to wireless signal processing, transmission, and standardization.
- **2024 IEEE Eric E. Sumner Award** for fundamental contributions to frequency domain communications including orthogonal frequency division multiplexing (OFDM).
- **2019 IEEE Communications Society Edwin Howard Armstrong Achievement Award** for outstanding contribution to wireless signal transmission and processing.
- **2013 James E. Avant Garde Award** from the *IEEE Vehicular Technology Society* for advancing the state-of-art in OFDM-aided wireless communications.
- **IEEE Fellow** since 2006 for contribution in *Signal Processing for Wireless Communications*.
- **IET Fellow** since October 2021.
- **World's Most Influential Scientific Mind**, also known as **Highly Cited Researcher,** by Web of Science in 2001, 2014, 2016 – 2025.
- **Over 80,000 citations** with an **H-index over 130** based on the Google Scholar.

B. Selected Recognitions

- **Thank a Teacher Certificate** for being a great teacher *in appreciation the teaching style and dedication to helping students learn in Digital Communications* by the *Center for the Enhancement of Teaching and Learning* (CETL) of Georgia Tech., March 2008.
- **2010 Stephen O. Rice Prize Paper Award** from the *IEEE Communications Society* in the field of Communication Theory.
- **2014 Jack Neubauer Memorial Award** from the *IEEE Vehicular Technology Society*.
- **2015 Distinguished ECE Faculty Achievement Award** from *Georgia Institute of Technology,* Atlanta, USA.
- **2017 Award for Advances in Communication** from the *IEEE Communications Society* for an outstanding paper that opens the new line of work in any *IEEE ComSoc* publication in the previous 15 years.
- **2017 IEEE SPS Donald G. Fink Overview Paper Award** for a journal article that has had substantial impact over several years on a subject within the technical scope of the SP Society.
- **2022 Fred W. Ellersick Prize Paper Award** from the *IEEE Communications Society*.
- **2023 IEEE SPS Best Paper Award.**
- **2025 Best Tutorial Paper Award** from the *IEEE Communications Society*.

- **Distinguished Lecturer**
  - *IEEE Communications Society* (2009 – 2010)
  - *IEEE Vehicular Technology Society* (2016 – 2020)

- **Best Conference Paper Awards:**
  - *IEEE PIMRC'14* Best Paper Award.
  - *IEEE Globecom'18* Best Paper Award.
  - *2019 IEEE TCGCC* Best Conference Paper Award.
  - *IEEE Globecom'19* Best Paper Award

- **Technical Recognitions:**
  - 2013 Wireless Communications Recognition Award from the *IEEE Communications Society Wireless Communications Technical Committee* for outstanding technical contributions in the field and service to the scientific and engineering communities.
  - 2017 Distinguished Technical Achievement Recognition Award from the *IEEE Communications Society Technical Committee on Green Communications and Computing* (TCGCC) for outstanding technical leadership and achievement in green wireless communications and networks.
  - 2017 SPEC Technical Recognition Award from the *IEEE Communications Society Signal Processing and Communications Electronics* (SPCE) *Technical Committee* for outstanding contributions to the technological advancement of signal processing for communications.
  - 2019 TCCN Recognition Award for outstanding contributions to cooperative signal processing in cognitive radio from the *IEEE Communications Society Technical Committee on Cognitive Networks* (TCCN).

- **Service Recognitions:**
  - Certificate of Merit for as a General Co-Chair of *GlobalSIP 2014* "for dedication and leadership in organizing the Global Conference on Signal and information Processing (GlobalSIP)" from *IEEE Signal Processing Society*.
  - Vehicular Technology Conference General Co-Chair Recognition for exemplary contributions to the success of the *2019 IEEE VTC'19* Fall from *IEEE Vehicular Technology Society*

IV. RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

A. Books and Book Chapters

A.1 Books
1. Z. Ding and Y. (G.) Li, *Blind Equalization and Identification*, Marcel Dekker*,* Inc., New York, December 2000. (418 pp.)
2. C.-L. I, G.-D. Yu, S.-F. Han, and G. Y. Li, *Green and Software-Defined Wireless Networks: From Theory to Practice*, Cambridge University Press, Cambridge, UK, 2019. (289 pp.)
3. L. Liang, S. Jin, H. Ye, and G. Y. Li, *Wireless Communications and Machine Learning*, Cambridge University Press, Cambridge, UK, 2025.

A.2 Book Chapters
1. U. Onunkwo and Y. (G.) Li, "Modulation and signal detection in UWB," in *Ultra-Wideband Wireless Communications and Networks*, edited by S. Shen, *et al,* Wiley, New York, April 2006.
2. G. Y. Li, X. Wang, H.-J. Hu, L. Qin, A. C. K. Soong, "Timing and iterative IBI and ICI cancellation," in *Orthogonal Frequency Division Multiplexing with Diversity for Future Wireless Systems*, edited by Khoa Le, Bentham e-books, Bentham Science Publishers Ltd., January 2011
3. X. Zhou, G. Y. Li, D. Li, D. Wang, and A. Soong, "Bandwidth-efficient cooperative spectrum sensing," in *Cognitive Radio for Wireless Cellular and Vehicular Networks*, edited by H. Venkataraman and G.-M. Muntean, Boston, MA: Springer, 2012.
4. C. Xiong and G. Y. Li, "Energy-Efficient Wireless OFDMA Networks", in *Towards 5G: Applications, Requirements and Candidate Technologies*, edited by R. Vannithamby and S. Talwar, Wiley, NewYork, February 2016.

A.3 Edited Volumes
1. Y. (G.) Li and G. Stüber, *OFDM for Wireless Communications* (edited), Springer, Inc., Boston, MA, January 2006. (306pp.)
2. G. Y. Li, J. Hoydis, E. d. Carvalho, A. Balatsoukas-Stimming, and Z.-J. Qin, *Best Readings in Machine Learning in Communications*, at https://www.comsoc.org/publications/best-readings/ machine-learning communications, *IEEE ComSoc*, March 2019, revised July 2021.

B. Refereed Paper/Article Publications

B.1 Published/Accepted Articles
1. Z. Ding and Y. Li, "On channel identification based on second order cyclic spectra," *IEEE Transactions on Signal Processing*, vol. 42, pp. 1260-1264, May 1994.
2. Y. Li and Z. Ding, "A new nonparameter method for linear system phase recovery from bispectrum," *IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing*, vol. 41, pp. 415-419, June 1994.
3. Y. Li and Z. Ding, "ARMA system identification based on second order cyclostationarity," *IEEE Transactions on Signal Processing*, vol. 42, pp. 3483-3494, December 1994.
4. Y. Li and Z. Ding, "A simplified approach to optimum diversity combining and equalization in digital data transmission," *IEEE Transactions on Communications*, vol. 43, pp. 2285-2288, August 1995.
5. Y. Li and Z. Ding, "Convergence analysis of finite length blind adaptive equalizers," *IEEE Transactions on Signal Processing*, vol. 43, pp. 2120-2129, September 1995.
6. Y. Li and Z. Ding, "Global convergence of fractionally spaced Godard adaptive equalizers," *IEEE Transactions on Signal Processing*, vol. 44, pp. 818-826, April 1996.
7. Y. Li, K. J. R. Liu, and Z. Ding, "Length and cost dependent local minima of blind channel equalizers," *IEEE Transactions on Signal Processing*, vol. 44, pp. 2726-2735, November 1996.
8. Y. Li and K. J. R. Liu, "Static and dynamic convergence of adaptive blind equalizers," *IEEE Transactions on Signal Processing*, vol. 44, pp. 2736-2745, November 1996.

9.   Y. Li and K. J. R. Liu, "Blind adaptive spatial-temporal equalization algorithms for wireless communications using antenna arrays," *IEEE Communication Letters*, vol. 1, pp. 25-27, January 1997.

10.   Y. Li, K. J. R. Liu, and J. Razavilar, "An improved parameter estimation scheme for damped sinusoidal signals based on low-rank Hankel approximation," *IEEE Transactions on Signal Processing*, vol. 45, pp. 481-487, February 1997.

11.   Y. (G.) Li, J. Razavilar, and K. J. R. Liu, "A high-resolution technique for multi-dimensional NMR spectroscopy," *IEEE Transactions on Biomedical Engineering*, vol. 45, pp. 78-86, January 1998.

12.   J. Razavilar, Y. Li, and K. J. R. Liu, "A structured low-rank matrix pencil for spectral estimation and system identification," *Signal Processing*, vol. 65/issue 3, pp. 363-372, March 1998.

13.   Y. (G.) Li, L. J. Cimini, Jr., and N. R. Sollenberger, "Robust channel estimation for OFDM systems with rapid dispersive fading channels," *IEEE Transactions on Communications*, vol. 46, pp. 902-915, July 1998.

14.   Y. (G.) Li and K. J. R. Liu, "Adaptive blind multi-channel equalization for multiple signal separation," *IEEE Transactions on Information Theory*, vol. 44, pp. 2864-2876, November 1998.

15.   S. Ariyavisitakul and Y. (G.) Li, "Joint coding and decision feedback equalization for broadband wireless channels," *IEEE Journal on Selected Areas in Communications*, vol. 16, pp. 1670-1678, December 1998.

16.   Y. (G.) Li and N. R. Sollenberger, "Adaptive antenna arrays for OFDM systems with co-channel interference," *IEEE Transactions on Communications*, vol. 47, pp. 217-229, February 1999.

17.   Y. (G.) Li, N. Seshadri, and S. Ariyavisitakul, "Channel estimation for OFDM systems with transmitter diversity in mobile wireless channels," *IEEE Journal on Selected Areas in Communications*, vol. 17, pp. 461-471, March 1999.

18.   Y. (G.) Li, J. H. Winters, and N. Sollenberger, "Spatial-temporal equalization for IS-136 TDMA systems with rapid dispersive fading and co-channel interference," *IEEE Transactions on Vehicular Technology*, vol. 48, pp. 1182-1194, July 1999.

19.   Y. (G.) Li, J. Chuang, and N. R. Sollenberger, "Transmitter diversity for OFDM systems and its impact on high-rate data wireless networks," *IEEE Journal on Selected Areas in Communications*, vol. 17, pp. 1233-1243, July 1999.

20.   J. Chuang, L. J. Cimini, Jr., Y. (G.) Li, B. McNair, N. Sollenberger, H. Zhao, L. Lin, and M. Suzuki, "High-speed wireless data access based on combining EDGE with wideband OFDM," *IEEE Communications Magazine*, vol. 37, pp. 92-98, November 1999.

21.   Y. (G.) Li, "Pilot-symbol-aided channel estimation for OFDM in wireless systems," *IEEE Transactions on Vehicular Technology*, vol. 49, pp. 1207-1215, July 2000.

22.   Y. (G.) Li and L. J. Cimini, Jr., "Bounds on the interchannel interference of OFDM in time-varying channels," *IEEE Transactions on Communications*, vol. 49, pp. 401-404, March 2001.

23.   B. Sampath, K. J. R. Liu, and Y. (G.) Li, "Error correcting least squares subspace algorithm for blind identification and equalization," *Signal Processing*, vol. 81, no. 10, pp. 2069-2087, September 2001.

24.   R. S. Blum, Y. (G.) Li, J. H. Winters, and Q. Yan, "Improved space-time coding for MIMO-OFDM wireless communications," *IEEE Transactions on Communications*, vol. 49, pp. 1873-1878, November 2001.

25.   Y. (G.) Li and N. R. Sollenberger, "Clustered OFDM with channel estimation for high rate wireless data," *IEEE Transactions on Communications*, vol. 49, pp. 2071-2076, December 2001.

26.   H. Zeng, Y. (G.) Li, and J. H. Winters, "Improved spatial-temporal equalization for EDGE: a fast MMSE timing recovery algorithm and 2-Stage soft-output equalizer," *IEEE Transactions on Communications*, vol. 49, pp. 2124-2134, December 2001.

27.   Y. (G.) Li, "Simplified channel estimation for OFDM systems with multiple transmit antennas," *IEEE Transactions on Wireless Communications*, vol. 1, pp. 67-75, January 2002.

28.   B. Lu, X.-D. Wang, and Y. (G.) Li, "Iterative receivers for space-time block coded OFDM systems in dispersive fading channels," *IEEE Transactions on Wireless Communications*, vol. 1, pp. 213-225, April 2002.

29.   B. Sampath, K. J. R. Liu, and Y. (G.) Li, "Deterministic blind subspace MIMO equalization," *EURASIP Journal on Applied Signal Processing*, pp. 538-551, May 2002.

30. Y. (G.) Li, J. H. Winters, and N. R. Sollenberger, "MIMO-OFDM for wireless communications: signal detection with enhanced channel estimation," *IEEE Transactions on Communications*, vol. 50, pp. 1471-1477, September 2002. (once among top 100 documents downloaded of all papers in 300 journals in *IEEE Xplore*)

31. H. Zhang and Y. (G.) Li, "Optimum frequency-domain partial response encoding in OFDM system," *IEEE Transactions on Communications*, vol. 51, pp. 1064-1068, July 2003.

32. G. L. Stuber, J. Barry, S. McLaughlin, Y. (G.) Li, M. A. Ingram, and T. Pratt, "Broadband MIMO-OFDM wireless communications," *The Proceedings of IEEE,* vol. 92, pp.271-294, February 2004.

33. J.-X. Du and Y. (G.) Li, "D-BLAST OFDM with channel estimation," *EURASIP Journal on Applied Signal Processing*, pp. 605-611, May 2004.

34. Y. (G.) Li, "Spatial-temporal processing for wireless systems with ISI and CCI," *IEEE Transactions on Communications*, vol. 52, pp. 1514-1522, September 2004.

35. A. Vielmon, Y. (G.) Li, and J. R. Barry, "Performance of transmit diversity over time-varying Rayleigh-fading channels," *IEEE Transactions on Wireless Communications,* vol. 3, no. 5, pp. 1369-1373, September 2004.

36. H. Zhang and Y. (G.) Li, "Clustered OFDM with adaptive antenna array for interference suppression," *IEEE Transactions on Wireless Communications*, vol. 3, no. 6, pp. 2189-2197, November 2004.

37. Z. Jiang, Y. Ge, and Y. (G.) Li, "Max-utility wireless resource management for best effort traffic," *IEEE Transactions on Wireless Communications*, vol. 4, no. 1, pp. 100-111, January 2005.

38. J.-N. Yang and Y. (G.) Li, "Tentative chip decision-feedback equalizer for multicode wideband CDMA," *IEEE Transactions on Wireless Communications,* vol. 4, no. 1, pp. 131-148, January 2005.

39. G.-C. Song and Y. (G.) Li, "Cross-layer optimization for OFDM wireless networks – Part I: theoretical framework," *IEEE Transactions on Wireless Communications*, vol. 4, no. 2, pp. 614 – 624, March 2005.

40. G.-C. Song and Y. (G.) Li, "Cross-layer optimization for OFDM wireless networks – Part II: algorithm development," *IEEE Transactions on Wireless Communications*, vol. 4, no. 2, pp. 625 – 634, March 2005.

41. A. F. Molisch, Y. (G.) Li, Y.-P. Nakache, P. Orlik, M. Miyake, Y. Wu, S. Gezici, H. Sheng, S. Y. Kung, H. Kobayashi, H. V. Poor, A. Haimovich, and J. Zhang, "A low-cost time-hopping impulse radio for high data rate transmission," *EURASIP Journal on Applied Signal Processing*, pp. 397-412, March 2005.

42. U. Onunkwo and Y. (G.) Li, "On the optimum pulse-position modulation index for ultra-wideband communications," *International Journal of Dynamics of Continuous, Series B: Applications & Algorithms,* special issue on *Ultra-Wideband Wireless Communications*, vol. 12, no. 3, pp. 353-362, June 2005.

43. J.-X. Du and Y. (G.) Li, "Optimization of antenna configuration for MIMO systems," *IEEE Transactions on Communications,* vol.53, no. 9, pp. 1451-1454, September 2005.

44. I. R. Capoglu, Y. (G.) Li, and A. Swami, "Effect of Doppler spread in OFDM based UWB systems," *IEEE Transactions on Wireless Communications*, vol. 4, no. 2, pp. 2559 - 2567, September 2005.

45. G.-C. Song and Y. (G.) Li, "Utility-based resource allocation and scheduling in OFDM-based wireless networks," *IEEE Communications Magazine*, vol. 43, no. 12, pp. 127 - 135, December 2005. (in best readings at http://www.comsoc.org/best-readings)

46. T. Hwang and Y. (G.) Li, "Novel iterative equalization based on energy spreading transform," *IEEE Transactions on Signal Processing*, vol. 54, no. 1, pp. 190-203, January 2006.

47. U. Onunkwo, Y. (G.) Li, and A. Swami, "Effect of timing jitter on OFDM based UWB systems,'' *IEEE Journal on Selected Areas in Communications,* vol. 24, no. 4, pp. 787-793, April 2006.

48. T. Hwang, Y. (G.) Li, and H. Sari "Energy spreading transform based iterative signal detection for MIMO fading channels," *IEEE Transactions on Wireless Communications,* vol. 5, no. 7, pp. 1746-1756, July 2006.

49. Y. (G.) Li, A. Molisch, J. Zhang, "Practical approaches to channel estimation and interference suppression for OFDM based UWB communications," *IEEE Transactions on Wireless Communications*, vol. 5, no. 9, pp. 2317-2320, September 2006.

50.   H. Zhang, Y. (G.) Li, J. Terry, and A. Reid, "Optimal training symbol design for MIMO OFDM in correlated fading channels," *IEEE Transactions on Wireless Communications*, vol. 5, no. 9, pp. 2343-2347, September 2006.

51.   G.-C. Song and Y. (G.) Li, "Asymptotic throughput analysis for channel-aware scheduling," *IEEE Transactions on Communications*, vol. 54, no. 10, pp. 1827-1834, October 2006.

52.   J.-X. Du and Y. (G.) Li, "Parallel detection of space-time codes by predictive soft interference cancellation," *IEEE Transactions on Communications,* vol. 54, no. 12, pp. 2150-2154, December 2006.

53.   H. Zhang, Y. (G.) Li, V. Stolpamn, and N. van Waes, "A reduced CSI feedback approach for precoded MIMO-OFDM systems," *IEEE Transactions on Wireless Communications*, vol. 6, no. 1, pp. 55-59, January 2007.

54.   J. B. Kim, G. L. Stuber, and Y. (G.) Li, "Low-complexity iterative channel estimation for serially concatenated systems over flat fading channels," *IEEE Transactions on Wireless Communications,* vol. 6, no. 2, pp. 438-442, February 2007.

55.   T. Hwang and Y. (G.) Li, "Optimum filtering for energy spreading transform based equalization,'' *IEEE Transactions on Signal Processing,* vol. 55, no. 3, pp. 1182-1187, March 2007.

56.   J. Du, Y. (G.) Li, D. Gu, A. Molisch, and J. Zhang, "Statistical rate allocation for layered space-time system," *IEEE Transactions on Communications*, vol. 55, no. 3, pp. 489-496, March 2007.

57.   W. Jiang, Y. (G.) Li, and X.-X. Yu, "Truncation for low complexity MIMO signal detection," *IEEE Transactions on Information Theory*, vol. 53, no. 4, pp. 1564-1571, April 2007.

58.   J. S. Kwak, H. Kang, Y. (G.) Li, G. L. Stuber, and H. Shin, "Effects of spatial correlation on a MIMO adaptive antenna system with optimum combining," *IEEE Transactions on Wireless Communications*, vol. 6, no. 5, pp. 1722-1731, May 2007.

59.   G. Ganesan and Y. (G.) Li, "Cooperative spectrum sensing in cognitive radio: Part I: two user networks," *IEEE Transactions on Wireless Communications*, vol. 6, pp. 2204-2213, June 2007. (in best readings at http://www.comsoc.org/best-readings)

60.   G. Ganesan and Y. (G.) Li, "Cooperative spectrum sensing in cognitive radio: Part II: multiuser networks," *IEEE Transactions on Wireless Communications*, vol. 6, pp. 2214-2222, June 2007. (in best readings at http://www.comsoc.org/best-readings)

61.   G. Ganesan, Y. (G.) Li, and Frederick W. Vook, "Stability region of multicarrier channel aware Aloha," *IEEE Transactions on Information Theory*, vol. 53, no. 9, pp. 3212-3218, September 2007.

62.   J. B. Kim, G. L. Stuber, and Y. (G.) Li, "Iterative channel estimators in V-BLAST OFDM systems," *IEEE Transactions on Wireless Communications,* vol. 7, pp. 65 – 71, January 2008.

63.   G. Ganesan, Y. (G.) Li, B. Bing, and S.-Q. Li, "Spatial-temporal sensing in cognitive radio networks," *IEEE Journal on Selected Areas in Communications*, vol. 26, pp. 5 – 12, January 2008.

64.   T. Hwang, Y. (G.) Li, and Y. Yuan-Wu, "Energy spreading transform for down-link MC-CDMA," *IEEE Transactions on Wireless Communications*, vol. 7, no. 5, pp. 1522-1526, May 2008.

65.   Y. Yuan-Wu and Y. (G.) Li, "Iterative and diversity techniques for uplink MC-CDMA mobile systems,'' *IEEE Transactions on Vehicular Technology*, vol. 57, no. 2, pp. 1040-1048, March 2008.

66.   V. K. Y. Wu, Y. (G.) Li, M. Green, A. Reid, and P. Wang, "Power allocation for OFDM-based cooperative relay systems," *Journal of Communications and Networks*, vol. 10, no. 2, pp. 156 – 162, June 2008.

67.   H. Zhang, Y. (G.) Li, and Y. Yuan-Wu, "Practical considerations on channel estimation for up-link MC-CDMA system," *IEEE Transactions on Wireless Communications*, vol. 7, no. 11, pp. 4384 – 4392, November 2008.

68.   J. Ma, G.-D. Zhao, and Y. (G.) Li, "Soft combination and detection for cooperative spectrum sensing in cognitive radio networks," *IEEE Transactions on Wireless Communications*, vol. 7, no. 11, pp. 4502 – 4507, November 2008. (*Web of Science* highly cited paper)

69.   G.-W. Miao, N. Himayat, G. Y. Li, and A. Swami, "Cross-layer optimization for energy-efficient wireless communications: A survey," (**invited paper**) *Wiley Journal Wireless Communications and Mobile Computing*, vol.9, no.4, pp. 529-542, April 2009. (*Web of Science* highly cited paper)

70. T. Hwang, C.-Y. Yang, G. Wu, S.-Q. Li, and G. Y. Li, "OFDM and its wireless applications: a survey," (**invited paper**) *IEEE Transactions on Vehicular Technology,* vol. 58, no. 4, pp. 1673 – 1694, May 2009. (*Web of Science* highly cited paper)

71. J. Ma, G. Y. Li, and B.-H. Juang, "Signal processing in cognitive radio," *The Proceedings of IEEE*, vol. 97, no. 5, pp. 805 – 823, May 2009. (*Web of Science* highly cited paper)

72. G. Song, Y. (G.) Li, and L. J. Cimini, Jr., "Joint channel- and queue-aware scheduling for multiuser diversity in wireless multicarrier networks," *IEEE Transactions on Communications*, vol. 57, no. 7, pp. 2109 – 2121, July 2009. (2010 IEEE ComSoc Stephen O. Rice Prize Paper Award)

73. J. Lee, T. Hwang, and G. Y. Li, "Signal detection for EST-based modulation and signal in doubly-selective channels," *IEEE Transactions on Signal Processing*, vol. 57, no. 8, pp. 3287 – 3291, August 2009.

74. G.-D. Zhao, G. Y. Li, and C.-Y. Yang, "Proactive detection of spatial spectrum opportunities in primary systems with power control," *IEEE Transactions on Wireless Communications*, vol. 8, no. 9, pp. 4815 – 4823, September 2009.

75. X.-W. Zhou, J. Ma, Y. (G.) Li, Y. H. Kwon, and A. C. K. Soong, "Probability-based optimization of inter-sensing duration and power control in cognitive radio," *IEEE Transactions on Wireless Communications*, vol. 8, no. 10, pp. 4922 – 4927, October 2009.

76. G.-D. Zhao, J. Ma, G. Y. Li, T. Wu, Y. H. Kwon, A. Soong, and C.-Y. Yang, "Spatial spectrum holes for cognitive radio with relay-assisted directional transmission," *IEEE Transactions on Wireless Communications*, vol. 8, no. 10, pp. 5270 – 5279, October 2009.

77. G.-W. Miao, G. Y. Li, and A. Swami, "Decentralized optimization for multichannel random access," *IEEE Transactions on Communications*, vol. 57, no. 10, pp. 3012 – 3023, October 2009.

78. G.-W. Miao, G. Y. Li, N. Himayat, and S. Talwa, "Cochannel interference avoidance MAC in wireless cellular networks," *IEEE Transactions on Communications*, vol. 57, no. 11, pp. 3892 – 3405, November 2009.

79. W. Jiang, Y. Li, and X.-X. Yu, "Maximum IPP codes of length 3," *Annuals of Combinatorics*, pp. 491-510, vol. 13, January 2010.

80. X.-W. Zhou, J. Ma, G. Y. Li, Y. H. Kwon, and A. C. K. Soong, "Probability-based combination for cooperative spectrum sensing," *IEEE Transactions on Communications*, vol. 58, no. 4 pp. 463 – 466, February 2010.

81. G.-W. Miao, N. Himayat, and G. Y. Li, "Energy-efficient link adaptation in frequency-selective channels," *IEEE Transactions on Communications,* vol. 58, no. 4 pp. 545 – 554, February 2010. (*Web of Science* highly cited paper)

82. X. Wang, G. Y. Li, H.-J. Hu, L. Qin, and A. C. K. Soong, "Pre-processing optimization for IBI mitigation in an OFDM system over channels with extra-large delay spreads," *Elsevier Journal on PHYCOM: Physical Communication*s, vol. 3, pp. 198-204, March 2010.

83. J. Ma, X.-W. Zhou, and Y. (G.) Li, "A probability-based periodic spectrum sensing during secondary communication," *IEEE Transactions on Communications,* vol. 58, no. 2, pp. 1291 – 1301, April 2010.

84. X.-W. Zhou, G. Y. Li, D.-D. Li, D.-D. Wang, and A. C. K. Soong, "Probabilistic resource allocation for opportunistic spectrum access," *IEEE Transactions on Wireless Communications*, vol. 9, no. 9, pp. 2870 – 2879, September 2010.

85. S. A. Hassan, G. Y. Li, P. S. S. Wang, and M. Green, "A full rate dual relay cooperative approach for wireless systems," *IEEE Journal on Communications and Networks*, vol. 12, no. 5, pp. 442 – 448, October 2010.

86. L.-Y. Li, X.-W. Zhou, H.-B. Xu, and G. Y. Li, D.-D. Wang, and A. C. K. Soong, "Simplified relay selection and power allocation in cooperative cognitive radio system," *IEEE Transactions on Wireless Communications*, vol. 10, no. 1, pp. 33 – 36, January 2011. (*Web of Science* highly cited paper)

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88. M. S. A. Bashar, Z. Ding, and G. Y. Li, "On secrecy capacity of codebook-based transmission beamforming under receiver limited feedback," *IEEE Transactions on Wireless Communications*, vol. 10, no. 4, pp. 1212 – 1223, April 2011.

89. G.-W. Miao, N. Himayat, G. Y. Li, S. Talwar, "Distributed interference-aware energy-efficient power optimization," *IEEE Transactions on Wireless Communications*, vol. 10, no. 4, pp. 1323 – 1333, April 2011. (*Web of Science* highly cited paper)

90. Y. Chen, S.-Q. Zhang, S.-G. Xu, and G. Y. Li, "Fundamental tradeoffs on green wireless networks," *IEEE Communications Magazine*, vol. 49, no. 6, pp. 30 – 37, June 2011. (*Web of Science* highly cited paper, in best readings at http://www.comsoc.org/best-readings, once among top 100 documents downloaded of all papers in 300 journals in *IEEE Xplore*, and 2017 *IEEE ComSoc Award for Advances in Communication*)

91. J. Ma, P. Orlik, J. Zhang, and G. Y. Li, "Pilot matrix design for estimating cascaded channels in two-hop MIMO AF relay systems," *IEEE Transactions on Wireless Communications*, vol. 10, no. 6, pp. 1956 – 1965, June 2011.

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C. Patents

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D. Presentations

D.1 Keynote Addresses and Plenary Lectures

- *Multi-Carrier and Multi-User Diversity*, <u>Keynote Talk</u> at *2005 International Conference on Communications, Circuits, and Systems* (ICCCAS'05), Hong Kong, May 2005.
- *Cross-Layer Optimization for Spectrum- and Energy-Efficient Wireless Networks*
  - ❑ <u>Keynote Talk</u> at *Wireless Communications Workshop* at National Chiao Tung University, Taiwan, December 2008.
  - ❑ <u>Keynote Talk</u> at *International Conference on Wireless Communications and Signal Processing*, Suzhou, China, October 2010.
- *Device-to-Device Communications: Resource Allocation and Mode Selection*
  - ❑ <u>Keynote talk</u> at *IEEE WCNC'15*, New Orleans, LA, USA, March 2015.
  - ❑ <u>Plenary talk</u> at *IEEE ICNC'16*, Kauai, Hawaii, USA, February 2016.
  - ❑ *IEEE VTS Distinguished Lecture* at Peking University, Beijing, China, March 2017.
  - ❑ *IEEE VTS Distinguished Lecture* at Aalborg University, Aalborg, Denmark, June 2017.
  - ❑ *IEEE VTS Distinguished Lecture* at Lund University, Lund, Sweden, March 2018.
- *LTE in Unlicensed Spectrum*
  - ❑ <u>IEEE VTS Distinguished Lecture</u> at University of Waterloo, Waterloo, Canada June 2016.
  - ❑ <u>Keynote talk</u> at *IEEE/CIC ICCC 2016* at Chengdu, China, July 2016.
  - ❑ <u>IEEE VTS Distinguished Lecture</u> at National Cheng Kung University, Tainan, Taiwan, January 2017.
  - ❑ <u>Keynote talk</u> at *National Symposium on Telecommunications* at Sun Moon Lake, Taiwan, January 2017.
  - ❑ <u>IEEE VTS Distinguished Lecture</u> at University of Manitoba, Winnipeg, Canada, February 2017.
  - ❑ <u>IEEE VTS Distinguished Lecture</u> at Seoul National University, Seoul, South Korea, March 2017.
  - ❑ <u>Keynote speech</u> at *the 2nd Wireless Silk Road* at Beijing, China, July 2017.
  - ❑ <u>Keynote talk</u> at *Workshop on 5G Networks Using Unlicensed Spectrum* at *IEEE Globecom'17,* Singapore, December 2017.
- *Signal Transmission and Processing for mmWave and Teraherze Communications*
  - ❑ <u>Keynote Speech</u> at *IEEE INFOCOM 2017* Workshop on 5G New Radio (NR) Technologies, May 2017.
- *Spatial-Wideband Effect in Massive MIMO (with B.-L. Wang, F.-F. Gao, S. Jin, and H. Lin)*
  - ❑ <u>Plenary Talk</u> at the *23rd Asian-Pacific Conference on Communications*, December 2017, Perth, Australia.
- *Resource Allocation for Vehicular Communications*
  - ❑ <u>IEEE VTS Distinguished Lecture</u> at Chalmers University of Technology, Gothenburg, Sweden, March 2018.
  - ❑ <u>IEEE VTS Distinguished Lecture</u> at Linköping University, Linköping, Sweden, March 2018.
  - ❑ <u>Keynote Speech</u> at *the 14th International Wireless Communications and Mobile Computing Conference (IWCMC 2018)*, Limassol, Cyprus, June 2018.

- ❑   <u>IEEE VTS Distinguished Lecture</u> at Carleton University, Ottawa, Canada, June 2018.
- ▪ *Deep Learning in Physical Layer Communications*
  - ❑ <u>IEEE VTS Distinguished Lecture</u> at University College London, London, UK, August 2018.
  - ❑ <u>Keynote Talk</u> at *International Conference on Wireless Communications and Signal Processing*, Hangzhou, China, October 2018.
  - ❑ <u>Keynote Talk</u> at *the 16th IEEE International Conference on Communications Systems*, Chengdu, China, December 2018.
  - ❑ <u>ACCESS Distinguished Lecture</u> at KTH, Stockholm, Sweden, April 2019.
  - ❑ <u>Keynote Talk (Virtual)</u> at Workshop on ISCC, IEEE/ICIC ICCC, Xiamen, China, July 2021.
- ▪ *Deep Learning based Wireless Resource Allocation*
  - ❑ <u>Keynote Talk</u> at IEEE/CIC ICCC 2019, Changchun, China, August 2019.
- ▪ *Deep Learning in (Wireless) Communications*
  - ❑ <u>Keynote Talk (Virtual)</u> at International Workshop on 5G Long Term Evolution and Intelligent Communication, IEEE ICC'2020, June 2020.
  - ❑ <u>Keynote Speech</u> at the 2nd Tsinghua-Berkey Shenzhen Institute Workshop on Learning Theory, Shenzhen, China, July 2020.
  - ❑ <u>Keynote Speech (Virtual)</u> at the Workshop on Integrated Sensing, Computation and Communications toward 6G at the IEEE/CIC ICCC 2021, Xiamen, China, July 2021.
  - ❑ <u>Keynote Speech (Virtual)</u> at the Workshop on Artificial Intelligence for Autonomous Vehicular Mobile Networks at the IEEE VTC2021-Fall, September 2021.
- ▪ *From Conventional to Semantic Communications based on Deep Learning*
  - ❑ Keynote talk (Virtual) at IEEE Globecom'21 Workshop, Madrid, Spain, December 2021.

D.2 Invited Conference and Workshop Presentations
- ▪ *From Physical to Cross Layer Optimization,* <u>Invited talk</u> at Future Mobile Communication Forum, Dunhuang, China, July 2007.
- ▪ *OFDM, SC-FDE, and EST-based Modulation,* <u>invited talk</u> at OFDM Workshop at Santa Clara University, Santa Clara, CA, October 2008.
- ▪ *Signal Processing for Cognitive Radio,* <u>Invited talk</u> at Huawei Dynamic Spectrum Sharing Symposium, Chengdu, China, April 2010.
- ▪ *Device-to-Device Communications: Resource Allocation and Mode Selection,* <u>Invited talk</u> at IEEE ChinaSIP, Chengdu, China, July 2015.
- ▪ *LTE in Unlicensed Spectrum*
  - ❑ <u>Distinguished invited talk</u> at IEEE WCNC'16, Doha, Qatar, April 2016.
  - ❑ <u>Invited talk</u> at Sino-Finland Wireless Workshop in Nanjing, China, May 2016.
  - ❑ <u>Invited talk</u> at Intel Semi-Annual Meeting at Hefei, China, July 2016.
- ▪ *Deep Learning in Physical Layer Communications*
  - ❑ <u>Invited talk</u> at Machine Learning for 5G at ITU Meeting, Santa Clara, CA, July 2018.

D.3 Invited Seminar Presentations
- ▪ *OFDM for wireless communications*, <u>Invited seminar</u> at
  - ❑ University of Maryland, College Park, MD, April 1998.
  - ❑ Southeast University, Nanjing, Jiangsu, China, June 1999.
  - ❑ Yangzhou University, Yangzhou, Jiangsu, China, June 1999.
  - ❑ Hughes Networks, Germantown, MD, February 2001.
  - ❑ Philips Research, Briarcliff Manor, NY, February 2001.
  - ❑ L. G. Electronics, Inc., San Diego, CA, April 2002.
  - ❑ Agere Systems, Murray Hill, NJ, May 2002.
- ▪ *OFDM for wireless communications: Techniques for capacity improvement*, <u>Invited seminar</u> at
  - ❑ New Jersey Institute of Technology, Newark, NJ, December 1998.
  - ❑ Bell Labs of Lucent Technologies, Holmdel, NJ, May 2000.

- ❑ Nortel Networks at Ottawa, Canada, October 2000.
- ❑ Conexant Systems, Inc. at Orange County, CA, November 2000.
- ❑ Chinese Academy of Sciences (CAS), Shanghai, China, July 2003.
- *Spatial-temporal receivers for wireless communications with ISI and CCI,* <u>Invited seminar</u> at Conexant Systems, Inc. at Orange County, CA, November 2000.
- *Blind channel identification and equalization,* <u>Invited seminar</u> at Intel Corp., Morganville, NJ, February 2001.
- *MIMO-OFDM,* <u>Invited seminar</u> at
  - ❑ University of Maryland, College Park, MD, February 2002.
  - ❑ Mitsubishi Electric Research Lab., Murray Hill, NJ, September 2002.
  - ❑ Bell Labs of Lucent Technologies, Holmdel, NJ, September 2002.
  - ❑ Dept. of Communication Eng., National Chiao Tung University, Taiwan, November 2002.
- *OFDM for wireless communications: MIMO techniques and joint physical-MAC layer optimization,* <u>Invited seminar</u> at
  - ❑ Motorola Labs, Schaumburg, IL, December 2002.
  - ❑ Nokia Research Center, Irving, TX, February 2003.
  - ❑ Texas Instruments, Dallas, TX, February 2003.
  - ❑ Samsung, Seoul, Korea, April 2003.
  - ❑ L. G. Electronics, Korea, April 2003.
  - ❑ Southeast University, Nanjing, Jiangsu, China, July 2003.
  - ❑ Chinese Academy of Sciences (CAS), Shanghai, China, July 2003.
  - ❑ Tsinghua University, Beijing, China, September 2003.
- *Advanced OFDM access technology,* <u>Invited seminar</u> at Nortel Networks at Ottawa, Canada, March 2002.
- *Overview of UWB System,* <u>Invited seminar</u> at
  - ❑ National Taiwan University, Taiwan, November 2002,
  - ❑ University of Electronic Science and Technology of China, Chengdu, Sichuan, China, July 2003.
- *Advanced MIMO-OFDM technology,* <u>Invited seminar</u> at Nortel Networks at Ottawa, Canada, November 2003.
- *Cross-layer Optimization for OFDM based Wireless Networks,* <u>Invited seminar</u> at
  - ❑ Nortel Networks at Ottawa, Canada, May 2004.
  - ❑ University of Waterloo, Waterloo, Canada, May 2004.
  - ❑ Vienna University of Technology, Vienna, Austria, June 2004.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, June 2006.
- *MIMO-OFDM for wireless communications*, <u>Invited seminar</u> at
  - ❑ L. G. Electronics, San Diego, CA, November 2004.
  - ❑ University of Victoria, Melbourne, Australia, May 2006.

- *Limit-Approaching Signal Detection and Equalization based on Energy Spreading Transform*, <u>Invited seminar</u> at
  - ❑ National Sun Yat-Sen University, Taiwan, May 2005.
  - ❑ National Taiwan University, Taiwan, May 2005.
  - ❑ Electronics and Telecommunication Research Center, Korea, May 2005.
  - ❑ City University of Hong Kong, Hong Kong, China, December 2005.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, December 2005.
  - ❑ Beihang University, Beijing, China, May 2005.
  - ❑ The National ICT Australia Wireless Winter School, Melbourne, Australia, May 2006.
  - ❑ Hong Kong University of Science and Technology, Hong Kong, China, June 2007.
  - ❑ Xidian University, Xian, China, June 2007.
  - ❑ Southeast University, Nanjing, China, June 2007.
- *Multi-Carrier and Multi-User Diversity*, <u>Invited seminar</u> at
  - ❑ Electronics and Telecommunication Research Center, Korea, May 2005.
  - ❑ Beihang University, Beijing, China, May 2005.

- ❑ Nanyang Technical University, Singapore, June 2005.
- ❑ Tsinghua University, Beijing, China, June 2005.
- ❑ Intel Corp., Santa Clara, CA, July 2005.
- ❑ Communication Research Labs, Motorola, Inc., Chicago, IL, October 2005.
- ❑ University of Delaware, Newark, DE, November 2005.
- ❑ Nokia Research Center, Dallas, TX, December 2005.
- ❑ University of Electronic Science and Technology of China, Chengdu, China, June 2006.
- *Cognitive Radio with Cooperative Diversity*, <u>Invited seminar</u> at
  - ❑ National Sun Yat-Sen University, Taiwan, May 2005.
  - ❑ National Taiwan University, Taiwan, May. 2005.
  - ❑ Beihang University, Beijing, China, May 2005.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, June 2006.
- *Recent Results in MIMO OFDM for Wireless Communications*, <u>Invited seminar</u> at
  - ❑ Electronics and Telecommunication Research Center, Korea, May 2005.
  - ❑ Yonsei University, Korea, May 2005.
  - ❑ Beihang University, Beijing, China, May 2005.
  - ❑ Beijing University of Posts and Telecommunications, Beijing, China, May 2005.
  - ❑ Shanghai Jaotong University, Shanghai, China, May 2005.
  - ❑ Institute for Inforcomm Research, Singapore, May 2005.
  - ❑ Intel China Research Center Ltd., Beijing, China, June 2005.
  - ❑ Global Telecom Solutions Sector, Motorola, Inc., Chicago, IL, October 2005.
  - ❑ Personal Communication Sector, Motorola, Inc., Chicago, IL, October 2005.
  - ❑ Future Wei Technologies, Plano, Texas, December 2005.
  - ❑ Applied Science and Technology Institute, Hong Kong, China, December 2005.
  - ❑ Huawei Technologies Co., Ltd., Shenzhen, China, December 2005.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, June 2006.
- *Some Issues in Wireless Communications*, <u>Invited seminar</u> at
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, September 2004.
  - ❑ Southeast University, Nanjing, China, December 2005.
  - ❑ Huawei Technologies Co., Ltd., Shanghai, China, May 2008.
- *MIMO and Cross-Layer Optimization for Wireless Communications*, <u>Invited seminar</u> at
  - ❑ Nortel Networks at Ottawa, Canada, November 2006.
  - ❑ Texas Instruments, Dallas, TX, January 2007.
- *MIMO Techniques for Wireless Communications*, <u>Invited seminar</u> at
  - ❑ Huawei Technologies Co., Ltd., Shenzhen, China, June 2006.
- *MIMO OFDM for Wireless Communications,* <u>Invited seminar</u> at
  - ❑ Beihang University, Beijing, China, June 2007.
  - ❑ Xidian University, Xian, China, June 2007.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, June 2007.
- *Channel-Aware Random Access in Wireless Multicarrier Networks,* <u>Invited seminar</u> at
  - ❑ Beihang University, Beijing, China, June 2007.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, June 2007.
  - ❑ Carleton University, Ottawa, Canada, August 2007.
  - ❑ Motorola Labs, Schaumburg, IL, October 2007.
- *Channel-Aware Access in Wireless Networks,* <u>Invited seminar</u> at Intel Corporation, Santa Clara, CA, October 2007.
- *Signal Processing for Cognitive Radio,* <u>Invited seminar</u> at
  - ❑ Fururewei Technologies, Dallas, TX, December 2007.
  - ❑ Beihang University, Beijing, China, May 2008.
  - ❑ National Chiao Tung University, Taiwan, December 2008.
  - ❑ National Dong Hwa University, Hualien, Taiwan, December 2008.
  - ❑ National Tsing Hua University, Hsinchu, Taiwan, December 2008.

- ❑ Fujitsu Laboratories Ltd., Kanagawa, Japan, October 2009.
- *US Universities: Students, Faculty, and Research,* <u>Invited seminar</u> at University of Electronic Science and Technology of China, Chengdu, China, September 2008.
- *Cross-Layer Optimization for Spectrum- and Energy-Efficient Wireless Networks,* <u>Invited seminar</u> at
  - ❑ Fururewei Technologies, Dallas, TX, October 2008.
  - ❑ Beihang University, Beijing, China, March 2009.
  - ❑ Intel Corporation, Santa Clara, CA, July 2009.
  - ❑ Tohoku University, Sendai, Japan, October 2009.
  - ❑ Institute for Inforcomm Research, Singapore, March 2010.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, March 2010.
  - ❑ Huawei University Day, Chicago, IL, July 2010.
  - ❑ Xi'an Jiaotong University, Xi'an, China, October 2010.
  - ❑ University of British Columbia, Vancouver, CA, November 2010.
- *OFDM, SC-FDE, and EST-based Modulation,* <u>invited seminar</u> at
  - ❑ Intel Corporation, Santa Clara, CA, October 2008.
  - ❑ Huawei University Day, Shanghai, China, December 2008.
  - ❑ Industrial Technology Research Institute, Hsinchu, Taiwan, December 2008.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, December 2008.
  - ❑ Oak Ridge National Lab., Oak Ridge, TN, February 2009.
  - ❑ Beijing Jiaotong University, Beijing, China, March 2009.
  - ❑ Panasonic, San Jose, CA, July 2009.
  - ❑ Osaka Prefecture University, Osaka, Japan, October 2009.
- *Physical Layer and Cooperation Techniques for Broadband Wireless Transmission,* <u>invited seminar</u> at
  - ❑ University of McGill, Montreal, Canada, September 2009.
  - ❑ University of Electronic Science and Technology of China, Chengdu, China, October 2009.
  - ❑ Institute for Inforcomm Research, Singapore, March 2010.
  - ❑ Southeast University, Nanjing, China, October 2010.
  - ❑ Peking University, Beijing, China, March 2011.
  - ❑ Zhejiang University, Hanzhou, China, March 2011.
  - ❑ Huawei Technologies Co., Ltd., Chengdu, China, March 2011.
  - ❑ IBM China Research Lab., Beijing, China, March 2011.
  - ❑ Yonsei University, Seoul, South Korea, August 2012.
- *Cross-Layer Optimization for Energy-Efficiency Communications,* <u>invited seminar</u> at
  - ❑ Huawei Green Radio Workshop, Shanghai, China, May 2011.
  - ❑ Southwestern Jiaotong University, Chengdu, China, June 2011.
- *Energy- and Spectral-Efficiency Trade-off in Wireless Communications,* <u>invited seminar</u> at
  - ❑ Huawei University Day, Chicago, IL, November 2011.
  - ❑ China Mobile, Beijing, China, August 2013.
- *Potential Techniques for Future Wireless Networks,* <u>invited seminar</u> at
  - ❑ Huawei University Days, Ottawa, Canada, August 2012.
- *Spatial-Frequency Signal Alignment for Opportunistic Transmission,* <u>invited seminar</u> at
  - ❑ Huawei North America 5G Workshop, November 2013.
- *Device-to-Device Communications: Resource Allocation and Mode Selection*
  - ❑ The University of Southampton, Southampton, UK, June 2015.
  - ❑ Oxford University, Oxford, UK, June 2015.
  - ❑ The University of Reading, Reading, UK, June 2015.
  - ❑ Southeast University, Nanjing, China, July 2015.
  - ❑ Zhejiang University, Hangzhou, China, July 2015.
  - ❑ National University of Singapore, Singapore, January 2016.
  - ❑ Nanyang Technological University, Singapore, January 2016.
  - ❑ University of New South Wales, Sydney, Australia, January 2016.
  - ❑ Nanjing University of Post and Telecommunications, Nanjing, China, May 2016.

- ❑ Intel Lab, Portland, Oregon, June 2016.
- ❑ Yonsei University, Seoul, South Korea, March 2017.
- ❑ Beijing University of Post and Telecommunications, July 2017.
- ❑ Shanghai University, July 2017
- ▪ *LTE in Unlicensed Spectrum,* <u>Invited talk</u> at
  - ❑ Southeast University, Nanjing, China, May 2016.
  - ❑ King Abdullah University of Science and Technology (KAUST), Thuwal, Kingdom of Saudi Arabia, June 2016.
  - ❑ University of Agder, Grimstad, Norway, June 2017.
  - ❑ University of Electronic Science and Technology of China (UESTC), Chengdu, China, July 2017.
  - ❑ Beijing University of Post and Telecommunications, Beijing, China, July 2017.
  - ❑ Queen Mary University of London, UK, November 2017.
  - ❑ Institute for Inforcomm Research, Singapore, December 2017.
- ▪ *Intelligent Processing for Future Communication Systems,* <u>Invited talk</u> at
  - ❑ University of Lancaster, Lancaster, UK, November 2017.
  - ❑ Cambridge University, Cambridge, UK, November 2017.
  - ❑ University of Electronic Science and Technology of China, December 2017.
- ▪ *Resource allocation for Vehicular Communications,* <u>Invited talk</u> at
  - ❑ Intel Lab, Santa Clara, CA, January 2018.
  - ❑ Beijing University of Post and Telecommunications, Beijing, China, April 2018.
  - ❑ Zhejiang University, Zhoushan, China, April 2018.
  - ❑ Hong Kong Chinese University in Shenzhen, Shenzhen, China, July 2018.
- ▪ *Deep Learning in Physical Layer Communications*
  - ❑ Southeast University, Nanjing, China, December2018.
  - ❑ Peking University, Beijing, China, December2018.
  - ❑ Beijing University of Post and Telecommunications, June 2019.
  - ❑ Hong Kong Polytechnique University, August 2019.
  - ❑ National Chiao Tung University, Taiwan, November 2019.
  - ❑ Nanjing University of Post and Telecommunications, January 2020.
  - ❑ Nanjing University of Science and Technology, January 2020.
  - ❑ Sun Yat-Sen University, Guangzhou, January 2020.
- ▪ *Deep Learning based Wireless Resource Allocation*
  - ❑ Hong Kong Polytechnique University, HK, August 2019.
  - ❑ Beijing University of Post and Telecommunications, Beijing, October 2019.
  - ❑ Ryerson University, Toronto, October 2019.
  - ❑ National Chiao Tung University, Taiwan, November 2019.
- ▪ *Deep Learning in (Wireless) Communications*
  - ❑ IEEE ComSoc TCCN Invited (Virtual) Talk, July 2020.
  - ❑ Imperial College London, July 2020.
  - ❑ Invited (Virtual) Talk at a workshop in Xidian University, Xi'an, China, October 2020.
  - ❑ Invited (Virtual) Talk at a workshop in Zhejian University, Hangzhou, China, November 2020.
  - ❑ Invited (Virtual) Talk at Xi'an Jiaotong University, Xi'an, China, November 2020.
  - ❑ Invited (Virtual) Talk at Beijing University of Post and Telecommunications, Beijing, China, November 2020.
  - ❑ Invited (Virtual) Talk at a workshop in Harbin Institute of Technology, Shenzhen, China, November 2020.
  - ❑ Invited (Virtual) Talk at University of Taxes, Austin, USA, April 2021.
  - ❑ Invited (Virtual) Talk at Qualcomm, San Diego, USA, May 2021.
  - ❑ Invited (Virtual) Talk at University of Glasgow, Scotland, UK, May 2021.
  - ❑ Invited (Virtual) Talk at Toshiba, Bristol, UK, May 2021.
  - ❑ Invited (Virtual) Talk at MediaTek, Cambridge, UK, June 2021.
  - ❑ Invited (Virtual) Talk at A-Star, Singapore, June 2021.

- ❑ Invited (Virtual) Talk at Furturewei University, Chicago, August 2021.
- ▪ *MmWave Massive MIMO: Spatial-Wideband Effect and ML-based Processing*
  - ❑ Invited (Virtual) Talk at Huawei Workshop, Stockholm, Sweden, April 2021.
- ▪ *From Conventional to Semantic Communications based on Deep Learning*
  - ❑ Invited (Virtual) Talk at Huawei Workshop, Paris, France, December 2021.
  - ❑ Invited (Virtual) Talk at Nanjing University of Post and Telecommunications, Nanjing, China, December 2021.

D4. Others – Tutorials and Panel Presentations

- ▪ *OFDM for wireless communications*, (**tutorial**) (with Prof. L. Cimini, Jr. of U. of Delaware and Prof. Gordon Stuber)
  - ❑ *IEEE 1998 Global Telecommunications Conference*, Sydney, Australia, November 1998.
  - ❑ *IEEE 1999 (Spring) Vehicular Technology Conference*, Houston, TX, May 1999.
  - ❑ *IEEE 1999 International Conference on Communications*, Vancouver, Canada, June 1999.
  - ❑ *IEEE 1999 Global Telecommunications Conference*, Rio de Janeiro, Brazil, December 1999.
  - ❑ *IEEE 2000 (Spring) Vehicular Technology Conference*, Tokyo, Japan, May 2000.
  - ❑ *IEEE 2000 (Fall) Vehicular Technology Conference*, Boston, MA, September 2000.
  - ❑ *IEEE 2000 Global Telecommunications Conference*, San Francisco, CA, November 2000.
  - ❑ *IEEE 2001 International Conference on Communications*, Helsinki, Finland, June 2001.
  - ❑ *IEEE 2001 (Fall) Vehicular Technology Conference*, Atlantic City, NJ, September 2001.
  - ❑ *IEEE 2001 Global Telecommunications Conference*, San Antonio, TX, November 2001.
  - ❑ *IEEE 2002 International Conference on Communications*, New York, NY, May 2002.
  - ❑ *IEEE 2002 (Spring) Vehicular Technology Conference*, Birmingham, AL, May 2002.
  - ❑ *IEEE 2002 Global Telecommunications Conference*, Taipei, Taiwan, November 2002.
  - ❑ *IEEE 2003 International Conference on Communications*, Anchorage, Alaska, May 2003.
  - ❑ *IEEE 2003 (Spring) Vehicular Technology Conference*, Jeju, Korea, April 2003.
  - ❑ *IEEE 2003 Global Telecommunications Conference*, San Francisco, CA, December 2003.
  - ❑ *IEEE 2004 Wireless Communications and Networking Conference,* Atlanta, Georgia, March 2004.
  - ❑ *IEEE 2004 International Conference on Communications*, Paris, France, June 2004.
  - ❑ *IEEE 2004 Global Telecommunications Conference*, Dallas, TX, December 2004.
- ▪ *Cross-Layer Optimization for Spectrum- and Energy-Efficient Wireless Networks*, (**tutorial**) (with Dr. G.-W. Miao of KTH, Royal Institute of Technology, Sweden)
  - ❑ *2011 IEEE Global Telecommunications Conference*, Houston, TX, December 2011.
  - ❑ *23rd IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, Sydney, Australia, September 2012.
  - ❑ *2012 IEEE Global Telecommunications Conference*, Anaheim, CA, December 2012.
  - ❑ *2018 IEEE International Conference on Communications,* Kansas City, MO, June 2018.
- ▪ *Technology/Business Application Panel: Practical MIMO* (**penal member**)
  - ❑ *IEEE WCNC'07* in Hong Kong, March 2007.
  - ❑ ASTRI Forum, in Hong Kong, March 2007.
- ▪ *Big Data Signal Processing for Communication Networks* (with H. Zhu and Z.-J. Zheng, tutorial)
  - ❑ *IEEE 2017 Global Telecommunications Conference*, Singapore, December 2017.
- ▪ *Deep Learning for Communications* (**tutorial**) (with Dr. Z.-J. Qin, Queen Mary University London)
  - ❑ *2020 IEEE Global Communications Conference* (Globeom'20), Taipei, Taiwan, December 2020.
  - ❑ *2021 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications* (PIMRC'21), Virtual Conference, September 2021.
  - ❑ *2021 IEEE 94th Vehicular Technology Conference* (VTC'21 Fall), Virtual Conference, September 2021.
- ▪ *Semantic Communications: Communication beyond Shannon Paradigm* (**tutorial**) (with Dr. Z.-J. Qin, Queen Mary University London)
  - ❑ *2021 IEEE Global Communications Conference* (Globeom'21), Madrid, Spain, December 2021.

- *2022 IEEE Wireless Communications and Networking Conference* (WCNC'22), Austin, TX, USA, April 2022.
- *2022 IEEE International Conference on Communications* (ICC'22*)*, Seoul, Korea, May 2022.

E. Grants and Contracts

1. **Title of Project:** Special-Temporal Processing for EDGE System
   Agency/Company: Mobilink Telecomm.
   Total Dollar Amount: $25,000
   Role: PI
   Collaborators: No.
   Period of Contractor: unrestricted gift since September 2000
   Candidate's Share: $25,000

2. **Title of Project:** Spatial-Temporal Processing for Wideband CDMA Systems
   Agency/Company: Bell Labs of Lucent Tech.
   Total Dollar Amount: $36,000
   Role: PI
   Collaborators: No.
   Period of Contractor: unrestricted gift since January 2001
   Candidate's Share: $36,000

3. **Title of Project:** MIMO-OFDM Techniques
   Agency/Company: Hughes Network Systems
   Total Dollar Amount: $36,884
   Role: PI
   Collaborators: No.
   Period of Contractor: unrestricted gift since June 2001
   Candidate's Share: $36,884

4. **Title of Project:** MIMO OFDM for Wireless Communications
   Agency/Company: Yamacraw
   Total Dollar Amount: $20.463
   Role: PI
   Collaborators: No.
   Period of Contractor: July 2001 – June 2002
   Candidate's Share: $20,463

5. **Title of Project:** Broadband MIMO OFDM Wireless Access
   Agency/Company: National Science Foundation
   Total Dollar Amount: $1,969,569
   Role: co-PI
   Collaborators: Gordon Stuber, John Barry, Mary Ingram, and Steven McLaughlin.
   Period of Contractor: October 2001 – September 2005
   Candidate's Share: $350,756

6. **Title of Project:** Cross-Layer Optimization for Better Resource Allocation in Future Wireless Home Networks
   Agency/Company: Georgia Tech Broadband Institute
   Total Dollar Amount: $30,000
   Role: PI

Collaborators: Jun Xu and Benny Bing
Period of Contractor: July 2002 – June 2003
Candidate's Share: $30,000

7. **Title of Project:** MIMO OFDM for Wireless Communications
   Agency/Company: Yamacraw
   Total Dollar Amount: $22,800
   Role: PI
   Collaborators: No.
   Period of Contractor: July 2002 – June 2003
   Candidate's Share: $22,800

8. **Title of Project:** Advanced OFDM Access Technology
   Agency/Company: Nortel Network Systems
   Total Dollar Amount: $132,260
   Role: PI
   Collaborators: No.
   Period of Contractor: August 2002 – July 2004
   Candidate's Share: $132,260

9. **Title of Project:** Delay Profile based Location Estimation with New Wireless Application
   Agency/Company: Georgia Tech Broadband Institute
   Total Dollar Amount: $20,000
   Role: PI
   Collaborators: Fred Juang
   Period of Contractor: July 2003 – June 2004
   Candidate's Share: $20,000

10. **Title of Project:** Cross-Layer Optimization for Better Resource Allocation in Future Wireless Home Networks
    Agency/Company: Georgia Tech Broadband Institute
    Total Dollar Amount: $20,000
    Role: PI
    Collaborators: Jun Xu and Benny Bing
    Period of Contractor: July 2002 – June 2003
    Candidate's Share: $20,000

11. **Title of Project:** MIMO-OFDM for Wireless LAN
    Agency/Company: Nokia Research Center
    Total Dollar Amount: $40,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since March 2004
    Candidate's Share: $40,000

12. **Title of Project:** Standard Activities in IEEE 802.11n
    Agency/Company: Mitsubishi Electric Research Laboratories
    Total Dollar Amount: $15,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since November 2004
    Candidate's Share: $15,000

13. **Title of Project:** MIMO-OFDM for Broadband Wireless Communications
    Agency/Company: Nokia Research Center
    Total Dollar Amount: $30,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since May 2005
    Candidate's Share: $30,000

14. **Title of Project:** Exploiting Diversity in Wireless Communications
    Agency/Company: Motorola SABA Program
    Total Dollar Amount: $94,000
    Role: PI
    Collaborators: No.
    Period of Contractor: August 2005 – July 2008
    Candidate's Share: $94,000

15. **Title of Project:** Research Alliance in Communications
    Agency/Company: Army Research Laboratory (ARL).
    Total Dollar Amount: $2,702,882
    Role: co-PI
    Collaborators: Gordon Stuber, G.-T. Zhou, etc. (over 10 people from different universities)
    Period of Contractor: October 2002 – September 2009
    Candidate's Share: $467,000

16. **Title of Project:** MIMO-OFDM for Broadband Wireless Communications
    Agency/Company: Nokia Research Center
    Total Dollar Amount: $30,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since 2006
    Candidate's Share: $30,000

17. **Title of Project:** Cognitive Radio (with Prof. B.-H. Juang and Dr. Benny Bing)
    Agency/Company: Georgia Tech Broadband Institute
    Total Dollar Amount: ~$10,000
    Role: PI
    Collaborators: No.
    Period of Contractor: July 2006 – June 2007
    Candidate's Share: equivalent to GRA support of 1 Ph.D. student for 1 semester.

18. **Title of Project:** Cross-Layer Optimization in Wireless Networks
    Agency/Company: Intel Co.
    Total Dollar Amount: $150,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since December 2006
    Candidate's Share: $150,000

19. **Title of Project:** Cooperative Diversity in Wireless Communications
    Agency/Company: Nokia Research Center
    Total Dollar Amount: $20,000

Role: PI
Collaborators: No.
Period of Contractor: unrestricted gift since 2007
Candidate's Share: $20,000

20. **Title of Project:** COGNET: Cognitive Radio Networks based on OFDM
    Agency/Company: National Science Foundation
    Total Dollar Amount: $600,000
    Role: co-PI
    Collaborators: Ian Akyildiz
    Period of Contractor: August 2007 – August 2011
    Candidate's Share: $210,000

21. **Title of Project:** Basic Issues in Cognitive Radio
    Agency/Company: Huawei Inc.
    Total Dollar Amount: $90,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since September 2007
    Candidate's Share: $90,000

22. **Title of Project:** Cooperative Relay for Wireless Networks
    Agency/Company: Nokia Siemens Networks
    Total Dollar Amount: $21,600
    Role: PI
    Collaborators: No.
    Period of Contractor: January 2008 – July 2008
    Candidate's Share: $21,600

23. **Title of Project:** Multi-user MIMO for IEEE 802.16m
    Agency/Company: Mitsubishi Electric Research Laboratories
    Total Dollar Amount: $45,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since April 2009
    Candidate's Share: $45,000

24. **Title of Project:** Modulation and Signal Detection for Wireless Communications for High-Speed Train
    Agency/Company: Mitsubishi Electric Research Laboratories
    Total Dollar Amount: $20,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since April 2010
    Candidate's Share: $20,000

25. **Title of Project:** Cross-Layer Optimization
    Agency/Company: Huawei Inc.
    Total Dollar Amount: $40,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since July 2010
    Candidate's Share: $40,000

26. **Title of Project:** Application of Cognitive Radio for Multi-Radio Femtocell Networks
    Agency/Company: Intel Co.
    Total Dollar Amount: $50,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since Sept. 2010
    Candidate's Share: $50,000

27. **Title of Project:** Distributed PHY/MAC Optimization for Energy and Spectral Efficient Wireless Networks
    Agency/Company: National Science Foundation
    Total Dollar Amount: $470,000
    Role: PI
    Collaborators: Len Cimini, Jr.
    Period of Contractor: August 2010 – August 2013
    Candidate's Share: $250,000

28. **Title of Project:** Cognitive Radio Techniques and Its Applications
    Agency/Company: Sandia National Labs/ Sandia Corp.
    Total Dollar Amount: $45,000
    Role: PI
    Collaborators: No.
    Period of Contractor: January 25 2011 – September 2011
    Candidate's Share: $45,000

29. **Title of Project:** Cross-Layer Optimization
    Agency/Company: Huawei Inc.
    Total Dollar Amount: $30,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since February 2011
    Candidate's Share: $30,000

30. **Title of Project:** Cross-Layer Optimization
    Agency/Company: Huawei Inc.
    Total Dollar Amount: $30,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since September 2011
    Candidate's Share: $30,000

31. **Title of Project:** Efficient Management and Opportunistic Usage of Radio Spectrum based Graph Theory
    Agency/Company: National Science Foundation
    Total Dollar Amount: $396,000
    Role: PI
    Collaborators: X.-X. Yu
    Period of Contractor: September 2012 – August 2015
    Candidate's Share: $226,949

32. **Title of Project:** MIMO-VFDM for 5G Networks
    Agency/Company: Huawei Inc.
    Total Dollar Amount: $30,000

Role: PI
Collaborators: No.
Period of Contractor: unrestricted gift since January 2013
Candidate's Share: $30,000

33. **Title of Project:** Ultra-broadband communication networks in the TeraHertz
    Agency/Company: National Science Foundation
    Total Dollar Amount: $300,000
    Role: co-PI
    Collaborators: Ian Akyildiz and Mary Ann Weitnauer
    Period of Contractor: September 2013 – August 2015
    Candidate's Share: $86,228

34. **Title of Project:** MIMO-VFDM for 5G Networks
    Organization: Huawei Inc.
    Total Dollar Amount: $40,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since November 2013
    Candidate's Share: $40,000

35. **Title of Project:** MIMO-VFDM for 5G Networks
    Agency/Company: Huawei Inc.
    Total Dollar Amount: $30,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since May 2014
    Amount Funded: $30,000

36. **Title of Project:** D2D Wireless Networks: An Interference Nightmare or Resource Allocation Auspice
    Agency/Company: National Science Foundation
    Total Dollar Amount: $370,000
    Role: co-PI
    Collaborators: Han Zhu
    Period of Contractor: August 2014 – August 2017
    Candidate's Share: $184,662

37. **Title of Project:** Integrated (Licensed-Unlicensed) Spectrum Access in 5G Networks
    Agency/Company: Huawei Inc.
    Total Dollar Amount: $30,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since August 2014
    Candidate's Share: $30,000

38. **Title of Project:** Collaborative Research: Overcoming Technological Challenges for Spectrum Trading
    Agency/Company: National Science Foundation
    Total Dollar Amount: $455,000
    Role: PI
    Collaborators: X.-X. Yu
    Period of Contractor: October 2014 – September 2017
    Candidate's Share: $227,499

39. **Title of Project:** D2D Communications
    Agency/Company: Intel Co.
    Total Dollar Amount: $75,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since May 2016
    Candidate's Share: $75,000

40. **Title of Project:** D2D-based Vehicular Network Design with Machine Learning
    Agency/Company: Intel Co.
    Total Dollar Amount: $75,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since April 2017
    Candidate's Share: $75,000

41. **Title of Project:** Collaborative Research: Energy-Efficient Heterogeneous Network Virtualization with Spectrum-Power Trading
    Agency/Company: National Science Foundation
    Total Dollar Amount: $300,000
    Role: PI
    Collaborators: Han Zhu
    Period of Contractor: August 2017 – July 2020
    Candidate's Share: $300,000

42. **Title of Project:** Machine Learning for Signal Detection in Massive MIMO Applications in mmWave Systems
    Agency/Company: Intel Co.
    Total Dollar Amount: $75,000
    Role: PI
    Collaborators: No.
    Period of Contractor: unrestricted gift since June 2018
    Candidate's Share: $75,000

43. **Title of Project:** NeTS Small: Collaborative Research: Improving Spectrum Efficiency for Hyper-Dense IoT Networks
    Agency/Company: National Science Foundation.
    Total Dollar Amount: $500,000
    Role: PI
    Collaborators: Ismail Guvenc and Eyuphan Bulut
    Period of Contractor: September 2018 – September 2021
    Candidate's Share: $175,000

44. **Title of Project:** Donation for Chair in Wireless Systems
    Agency/Company: Huawei Technologies
    Total Dollar Amount: £8,000,000
    Role: PI
    Period of Contractor: upto May 2031

45. **Title of Project:** Donation for Imperial Workshop in Intelligent Communications
    Agency/Company: Huawei Technologies, Co.

Total Dollar Amount: £49,800
Role: PI
Period of Contractor: November 2020

46. **Title of Project:** mmWave Communications
    Agency/Company: Qualcomm
    Total Dollar Amount: $80,000=£60,000
    Role: PI
    Period of Contractor: August 2021

47. **Title of Project:** Native Intelligent Communication Systems
    Agency/Company: Huawei Technologies, Co.
    Total Dollar Amount: £844,771
    Role: PI
    Period of Contractor: August 2021

48. **Title of Project:** Subproject Title: Semantic Communications and Sensing in 3D Open Networks
    Agency/Company: Funded by UK EPSRC DCMS via University of Surrey
    Total Dollar Amount: £ 649,446.4
    Role: PI
    Collaborator: Dr. Wei Dai, Imperial College
    Period of Contractor: March 2023 – March 2025

V. TEACHING/STUDENT GUIDENCE

A. Post-Doc Fellows

1. Dr. Shenglong Zhou, June 2021 – June 2023, research topic: Statistics and machine learning for signal processing and communications.
2. Dr. Sifaou Houssen, June 2021 – August 2023, research topic: Deep Meta-learning for communications.
3. Dr. Huynh Van Nguyen, November 2021 – August 2022, research topic: Intelligent wireless communications.
4. Dr. Shixiong Wang, May 2023 – April 2025: research topic: join sensing and communications
5. Dr. Jingzhi Hu, September 2024 – August 2026: research topic: semantic communications

B. PhD. Students

B.1 Graduated
1. Hua Zhang: Graduated in fall 2004. Research topic: *OFDM for wireless communications*. First place of employment: SkyWorks Solutions, Inc. 5231-1 California Ave., Irvine, CA 92617; Current place of employment: Professor, Department of Radio Engineering, Southeast University, Nanjing, China.
2. Guocong Song: Graduated in summer 2005. Research topic: *Utility based cross-layer optimization for wireless networks*. First place of employment: Motorola Labs, 600 North U.S. Highway 45, MD: AS-220, Libertyville, IL, USA.
3. Jianxuan Du: Graduated in summer 2005. Research topic: *Layered space-time structure for MIMO-OFDM systems*. First place of employment: Anritsu Company, Corporate Office, 490 Jarvis Dr., Morgan Hill, CA, USA.
4. Taewon Hwang, Graduated in in fall 2005. Research topic: *Iterative techniques based on energy spreading transform for wireless communications*. First place of employment: Assistant Professor (Professor now), Department of Electrical and Electronic Engineering, Yonsei University, Korea, USA.

5. Uzoma A. Onunkwo, Graduated in spring 2006. Research topic: *Time jitter in ultra-wideband (UWB) systems*. Place of employment: Sandia National Laboratories, MS 0806, P. O. Box 5800, Albuquerque, NM, USA.
6. Joon Beom Kim, (Co-advised with Prof. Gordon Stüber), Graduated in fall 2006, Research topic: *Channel estimation for OFDM over wireless channels*. First place of employment: Nortel Network, Richardson, TX 75083, Current place of employment: Intel Lab, Portland, Organ, USA.
7. Wen Jiang, (Co-advised with Prof. Xingxing Yu, Dept. of Math), Graduated in fall 2006, Research topic: *Space-time coding*.
8. Ghurumuruhan Ganesan, Ph.D. thesis defended in Fall 2007. Research topic: *Distributed MAC protocols for channel-aware systems and cognitive radio.*
9. Guowang Miao, Graduated in fall 2009. Research topic: *Cross-layer optimization for spectrum- and energy-efficient networks.* Current place of employment: Associate Professor, KTH, Royal Institute of Technology, Sweden, since November 2011.
10. Jun Ma, Graduated in fall 2010, Research topic: *Signal Processing in Wireless Communications,* Place of employment: MediaTek, CA, USA.
11. Xiangwei Zhou, Graduated in fall 2011, Research topic: *Efficient spectrum sensing and utilization for cognitive radio,* Current place of employment: Associate Professor, School of Electrical Engineering and Computer Science, Louisiana State University (LSU), Baton Rouge, LA, USA.
12. Cong Xiong, Graduated in summer 2014, Research topic: *Energy-efficient design in wireless communications networks*, Place of employment: MediaTek, LA, CA; Current place of employment: Intel Lab, Portland, Oregon, USA
13. Lu Lu, Graduated in 2015, Research topic: *Spectral-efficient design in modern wireless communications networks,* Place of employment: Intel Lab, Portland, Oregon, USA (Received 2014 Excellent GRA Award from the School of ECE, Georgia Tech)
14. Deawon Lee, Graduated in 2016, Research topic: *Inter-Cell Interference Management for Cellular Networks*, Place of employment: Intel Lab, Portland, Oregon, USA.
15. Cen Lin, Graduated in Spring 2017, Research topic: *Physical layer techniques for TeraHertz communications,* Place of employment: Apple, Inc., CA, USA.
16. Le Liang, Fall 2018, Research topic: *Resource allocation for vehicle communications,* Place of employment: Intel Lab, Portland, Oregon, USA; Current place of employment: Professor at Southeast University, Nanjing, China.
17. Hao Ye, Graduated Fall 2020, Research Topic: *Machine learning in wireless communications,* Place of employment: University of California at Santa Cruz, CA, USA.
18. Bowen Zhang, September 2021 – March 2025, research topic: semantic communications and sensing.
19. Kaidi Xu, July 2021 – present, research topic: multi-agent reinforcement learning for wireless networks.

B.2. In Progress
1. Ouya Wang, December 2021 – present, research topic: few-shot learning for communications.
2. Yanzhen Liu, September 2022 – present, research topic: spike neural networks for communications
3. Yangjing Wang, September 2025 – present, research topic: TBD
4. Zeru Fang, September 2025 – present, research topic: TBD

C. Master Students with Thesis
1. Jian Zhu, Fall 2001 – Summer 2003, Research topic: *Resource allocation for home networks*. Place of employment: Ph.D. candidate at Space-Time Propagation Laboratory of the School of ECE, Georgia Tech.
2. Antony Vielmon, (Co-advised with Prof. John Barry), Fall 2000 – Summer 2001, Research topic: *Transmit diversity in wireless communications*, Place of employment: Prosilog s. a., 8 rue Traversiere, Cergy Prefecture 95000, France.
3. Victor Wu, Fall 2005 – Fall 2006, Research Topic: *Cooperative diversity in wireless communications*. Place of employment: Ph.D. candidate at UIUC.
4. Juho Lim, Spring 2015 – Summer 2016, Research topic: signal detection for faster-than-Nyquist rate modulation.

D. Hosted Visiting Scholars/Students

(@ *Georgia Institute of Technology*)

1. Prof. Houjun Wang, September 2002 – March 2003, Visiting professor from UESTC, China.
2. Prof. Hongbin Xu, March 2004 – September 2004, Visiting professor from UESTC, China.
3. Dr. Jinsam Kwak, September 2004 – September 2005, Post-doctoral fellow from National Seoul University, Korea.
4. Mr. Gang Lin, March 2006 – July 2006,Visiting scholar from the Norwegian University of Science and Technology, Norway.
5. Dr. EunJeong Yim, August 2006 – August 2007, Post-doctoral fellow, Korea
6. Mr. Guodong Zhao, September 2007 – October. 2008, Visiting scholar from Beihang University, China
7. Mr. Jian Liu, September 2007 – September 2008, Visiting scholar from Shandong University, China
8. Mr. Haibo Wang, February 2008 – July 2008, Visiting scholar from Aalborg University, Denmark.
9. Dr. Jong Ho Lee, September 2008 – August 2010, Post-doctoral fellow, Korea.
10. Prof. Xia Wang, October 2008 – October 2009, Visiting professor from Xian Jiaotong University, China.
11. Ms. Ying Zhang, October 2008 – October 2009, Visiting scholar from Xian Jiaotong University, China.
12. Ms. Liying Li, October 2008 – October 2010, Visiting scholar from UESTC, China.
13. Mr. Jiancun Fan, August 2009 – August 2011, Visiting scholar from Xian Jiaotong University, China.
14. Mr. Zhikun Xu, September 2009 – September 2010, Visiting scholar from Beihang University, China
15. Mr. Deli Jia, September 2009 – September 2011, Visiting scholar from UESTC, China.
16. Prof. Gang Wu, October 2009 – October 2010, Visiting professor from UESTC, China.
17. Ms. Fangfang Liu, September 2010 – March 2012, Visiting scholar from BUPT, China.
18. Mr. Hao He, November 2010 – November 2012, Visiting scholar from UESTC, China.
19. Mr. Daquan Feng, August 2011 – August 2013, Visiting scholar from UESTC, China.
20. Ms. Jinping Niu, September 2011 – August 2013, Visiting scholar from Xidian University, China.
21. Prof. Jianhua Shao, September 2011 – March 2012, Visiting professor from Nanjing Normal University, China.
22. Prof. Jiancun Zuo, April 2012 – April 2013, Visiting professor from Shanghai Second Polytechnic University, China.
23. Dr. Jianchun Li, April 2012 – April 2013, Visiting scholar from the State Radio Monitoring Center, China.
24. Mr. Chunlong He, September 2012 – September 2014, Visiting scholar from Southeast University, China.
25. Mr. Yinsheng Liu, Novermber 2012 – June 2013, Visiting scholar from Beijing Jiaotong University, China.
26. Prof. Rugui Yao, January 2013 – December 2013, Visiting professor from Northwestern Polytechincal University, China.
27. Prof. Xingle Feng, January 2013 – December 2013, Visiting professor from Chang'an University, China.
28. Prof. Zhisong Bie, June 2013 – May 2014, Visiting professor from Beijing University of Post and Telecommunications, China.
29. Prof. Guanding Yu, July 2013 – June 2015, Visiting professor from Zhejiang University, China.
30. Prof. Dianwu Yue, September 2013 – February 2014, Visiting professor from Dalian Maritime University, China.
31. Mr. Jian Yu, Spetember 2013 – September 2015, Visiting scholar from Beijing University of Post and Telecommunications, China.
32. Mr. Wei Guo, October 2013 – October 2015, Visiting scholar from Xian Jiaotong University, China.
33. Dr. Xu Bao, November 2013 – November 2014, Visiting professor from Jiangsu University, China.
34. Dr. Liang Chang, May 2014 – May 2015, Visiting scholar from the State Radio Monitoring Center, China.
35. Prof. Yin Rui, August 2014 – August 2016, Visiting professor from Zhejiang Gongshang University, China.
36. Mr. Yinjun Liu, Sept. 2014 – Aug. 2016, Visiting scholar from Beijing University of Post and Telecommunications, China.
37. Mr. Qingqing Wu, Aug. 2015 – Aug. 2016, Visiting scholar from Shanghai Jiaotong University, China.
38. Mr. Xiaoyu Sun, Sept. 2015 – Sept. 2017, Visiting scholar from Southeast University, China.
39. Prof. Hung-Ta Pai, March 2016 – Augest. 2016, Visiting professor from National Taipei University, Taiwan
40. Prof. Yinsheng Liu, March 2016 – March 2017, Visiting professor from Beijing Jiaotong University, China.

41. Prof. Deli Qiao, Aug. 2016, Visiting professor from East China Normal University, China.
42. Prof. Yunlong Cai, Aug. 2016 – Jan. 2017, Visiting professor from Zhejiang University, China.
43. Mr. Hua Shao, Aug. 2016 – Nov. 2016, Visiting scholar from Beijing University of Post and Telecommunications, China.
44. Prof. Youngtao Ma, December 2016 – December 2017, Visiting scholar from Tianjin University, China.
45. Mr. Ziyi Chen, September 2017 – September 2019, Visiting scholar from Jilin University, China.
46. Mr. Peihao Dong, October 2017 – October 2019, Visiting student from Southeast University, China.
47. Prof. Chongtao Guo, December 2017 – December 2018, Visiting scholar from Shenzhen University, China.
48. Prof. Liang Wang, October 2018 – October 2019, Visiting scholar from Shanxi Normal University, China.
49. Mr. Bolei Wang, October 2018 – October 2019, Visiting student from Tsinghua University, China.
50. Mr. Hengtao He, October 2018 – January 2020, Visiting student from Southeast University, China.
51. Mr. Rui Liu, November 2018 – July 2020, Visiting student from Zhejiang University, China.
52. Mr. Mingjing Wang, October 2019 – December 2020, Visiting student from Tsinghua University, China.
53. Mr. Junchao Shi, October 2019 – December 2020, Visiting student from Southeast University, China.

(@ *Imperial College London*)
54. Mr. Jiabao Gao, September 2021 – March 2023, Visiting student from Zhejiang University, China.
55. Mr. Guangyao Ding, September 2021 – March 2023, Visiting student from Zhejiang University, China.
56. Mr. Hui Zhang, December 2021 – June 2022, visiting student from Beijing Jiaotong University, China.
57. Ms. Tianxin Wang, November 2023 – January 2025, visiting student from Shanghai Jiaotong University, China.
58. Mr. Jiawei Cao, December 2023 – June 2024, visiting student from University of Electronic Science and Technology of China, China.
59. Ms. Shan Sha, December 2023 – December 2024, visiting student from Beijing Jiaotong University, China.
60. Mr. Zhijin Cao, November 2024 – November 2025, visiting student from Southeast University, China.

E. Other Teaching Activities

- Developed and taught a new graduate course entitled *Spatial-Temporal Processing for Wireless Communications* (ECE8823) in fall 2002: This course introduces current research results in spatial-temporal processing for wireless communication systems to improve performance and increase capacity. It includes receive antenna arrays for diversity and interference suppression, transmit diversity approaches (including linear filter based approaches, space-time block coding, and space-time trellis coding), and MIMO techniques.

- Developed and taught a new graduate course entitled *Fundamental Broadband Communications* (ECE8853) in spring 2011: This course examines the fundamental issues of broadband communications and it covers optimal sequence detection, time- and frequency-domain equalization, OFDM and DMT, MIMO techniques, multi-user systems.

- Reshaping existing undergraduate course *Circuits Analysis* (ECE2040): As Curriculum committee member of the course, worked with other members to revise the curriculum of ECE2040. Helped add experimental elements in the course.

VI. SERVICE

A. Editorial Board Membership

- Associate Editor for Wireless Communication Theory for *IEEE Transactions on Communications*, April 1998 – August 2006.

- Leading Guest Editor for *IEEE Journal on Selected Areas in Communications*: Special Issues on *Signal Processing for Wireless Communications I/II*, vol. 16, No. 8, October and No. 9, December 1998.
- Leading Guest Editor for *EURASIP Journal on Applied Signal Processing*: Special Issue on *Multi-carrier Communications and Signal Processing*, vol. 14, no. 10, August 2004.
- Editorial Board Member of *EURASIP Journal on Applied Signal Processing,* February 2001 –June 2004.
- Leading Guest Editor for Special Issues on *Cognitive Wireless Networks* for *Elsevier Journal of Computer Networks,* vol. 52, issue 4, March 2008.
- Guest Editor for Special Issues on *Cognitive Radio* for the *Proceedings of IEEE,* vol. 97, no. 4, April and no. 5, May 2009. (in best readings at http://www.comsoc.org/best-readings)
- Associate Editor for Signal Processing for Communications for *IEEE Transactions on Signal Processing*, April 2009 – April 2011.
- Guest Editor for special issues on *Cognitive Radio* for *IEEE Communications Magazine,* vol. 48, issue 9, September 2010 and vol. 49, issue 3, March 2011.
- Guest Editor for special issue on *Practical Physical Layer Techniques for 4G Systems & Beyond* for *Journal of Communications,* vol. 6, no. 2, July 2011.
- Area Editor of Transmission I for *IEEE Transactions on Wireless Communications*, December 2009 – September 2013.
- Guest Editor for *IEEE Journal on Selected Areas in Communications*: Special Issues on *Cognitive Radio Networks,* vol. 29, no. 2, February and no. 4, April 2011. (in best readings at http://www.comsoc.org/best-readings)
- Leading Guest Editor for *IEEE Journal on Selected Areas in Communications*: Special Issues on *Energy-Efficiency Wireless Communications*, vol. 29, no. 8, September 2011. (in best readings at http://www.comsoc.org/best-readings)
- Member of the Steering Committee of *IEEE ComSoc China Communications* (2012 – 2015).
- Leading Guest Editor for *IEEE Journal on Selected Topics in Signal Processing*: Special Issues on *Signal Processing for Large-Scale MIMO Communications*, October 2014. (in best readings at http://www.comsoc.org/best-readings)
- Guest Editor on feature topic: cognitive radio networks in *IEEE/CIC China Communications*, vol. 10, no. 8, August 2013.
- Steering Committee Member (Jan. 2014 – Dec. 2015) and Chair (Jan. 2016 – Dec. 2017) of *IEEE Transactions on Cognitive Communications and Networks*.
- Leading Guest Editor for special issues on *Full-duplex communications* for *IEEE Communications Magazine,* May 2015.
- Guest Editor on feature topic: 5G ultra-dense networks in *IEEE/CIC China Communications*, February 2016.
- Guest Editor for special issue on *New Waveforms and Multiple Access Methods for 5G Networks* for *IEEE Communications Magazine,* November 2016.
- Guest Editor for *IEEE Wireless Communications Featured Topic on LTE in Unlicensed Spectrum*, December 2016.
- Founding Editor-in-Chief of *IEEE 5G Tech Focus* (September 2016 – March 2020)
- Guest Editor for *IEEE Communications Magazine Featured Topic on Key Technologies for 5G New Radio*, March 2018.
- Steering Committee Member (Jan. 2018 – 2019) of *IEEE Journal on Selected Areas in Communication* Series on *Network Softwarization & Enablers.*
- Leading Editor of *IEEE ComSoc Best Readings in Machine Learning in Communications,* March 2019.
- Founding Editor-in-Chief of *IEEE JSAC Special Series on ML in Communications and Networking* (March 2020 – February 2022).
- Leading Editor for updating *IEEE ComSoc Best Readings in Machine Learning in Communications,* July 2021.
- Leading Guest Editor for feature topic on *Semantic Communications: Transmission beyond Shannon* for *IEEE Communications Magazine,* December 2023.

B. Society Officers, Activities, and Membership

- Member of the *Fellow (Evaluation) Committee* of *IEEE Vehicular Technology* Society (2006 - 2016).
- Member of the *Award Committee* of *IEEE Communications Society* (2014 – 2016).
- Member of the *Conference Board* of *IEEE Signal Processing Society* (2015 – 2016).
- *IEEE Fellow Committee Member* (January – December 2017)
- *TCCN Publication Award Committee Chair* of *IEEE Communications Society* (2017-2018)
- *IET Fellow Assessor* since March 2022

C. Organization of Workshops and Conferences

- Treasurer of *IEEE 2002 Communication Theory Workshop* (CTW'02) in Florida.
- Vice-Chair for tutorials of *The 5th International Symposium on Wireless Personal Multimedia Communications* (WPMC'02) at Honolulu, Hawaii.
- Vice-Chair of the TPC of *IEEE 2003 International Conference on Communications* (ICC'03) at Anchorage, Alaska.
- Co-Chair of the TPC of *2007 IEEE Radio and Wireless Conference.*
- Tutorial Chair of *IEEE 2007 Wireless Communications and Networking Conference.*
- Co-Chair of *Signal Processing Symposium* at *IEEE 2007 Global Telecommunications Conference.*
- Track Chair of Wireless Communications at *IEEE 2007 Military Communications Conference.*
- Technical Program Chair of *2008 International Conference on Communications, Circuits, and Systems* (ICCCAS'08).
- Technical Program Chair of *2009 International Conference on Communications, Circuits, and Systems* (ICCCAS'09).
- Tutorial Chair of *IEEE 2010 International Conference on Communications.*
- Technical Program Co-Chair of *2011 IEEE Workshop on Signal Processing Advances in Wireless Communications.* (SPAWC'11), San Francisco, CA.
- Panel Chair of *IEEE 2013 Global Telecommunications Conference* (Globecom'13), Atlanta, GA.
- General Chair of *IEEE 2014 Global Conference on Signal and Information Processing* (GlobalSIP'14), Atlanta, GA.
- Technical Program Co-Chair of *IEEE 2016 (Spring) Vehicular Technology Conference* (VTC'16 Spring), Nanjing, China.
- Award Chair of *IEEE 2017 Global Telecommunications Conference* (Globecom'17), Singapore.
- Plenary Sessions Chair of *IEEE 2019 International Conference on Acoustic, Speech, and Signal Processing* (ICASSP'19), Brighton, UK.
- General co-chair of *IEEE 2019 (Fall) Vehicular Technology Conference* (VTC'19 Fall), Hawaii, USA, September 2019.
- General Co-Chair of *2020 IEEE Workshop on Signal Processing Advances in Wireless Communications* (SPAWC'20), Atlanta, USA, May 2020.
- General co-chair of *Workshop on Native-AI Empowered Wireless Networks* at *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications* (PIMRC'21), Virtual Conference, September 2021.
- General co-chair of *IEEE 2022 (Fall) Vehicular Technology Conference* (VTC'22 Fall), London, UK, September 2022.
- Technical Program Co-Chair of *IEEE International Conference on Machine Learning for Communications and Networking* (ICMLCN'24), Stockholm, Sweden, May 2024.
- General co-chair of *IEEE International Workshop on Machine Learning for Signal Processing* (MLSP) 2024, London, UK, October 2024.
- General Co-Chair of *2025 IEEE Workshop on Signal Processing Advances in Wireless Communications* (SPAWC'25), London, UK, September 2025.