

Lang Tong

School of Electrical and Computer Engineering,
384 Frank H.T. Rhodes Hall
Cornell University, Ithaca, NY 14853
Email: ltong@ece.cornell.edu
Tel: 607-255-3900, Fax: 607-255-9072

Education

Post-Doctor Stanford University, 1991.
Ph.D. (EE) University of Notre Dame, Notre Dame, IN, 1990.
M.S.E.E. University of Notre Dame, Notre Dame, IN, 1988.
B.S. (EE) Dept. Automation, Tsinghua University, Beijing, China, 1985.

Employment

2006– Irwin and Joan Jacobs Professor in Engineering
1998– Associate Professor, Professor, Cornell University
1993–1997 Assistant, Associate Professor, University of Connecticut
1991–1993 Assistant Professor, West Virginia University
2001 Cor Wit Professor, Delft University of Technology.
1992 Summer Visiting Assistant Professor, Stanford University

Honors and Awards

Fellow, IEEE, 2005.
2004 IEEE Signal Processing Society Best Paper Award (with Min Dong).
2004 Leonard G. Abraham Prize Paper Award, IEEE Communications Society (with P. Venkitasubramaniam and S. Adireddy).
1993 IEEE Circuits and Systems Society Outstanding Young Author Award.
ONR Young Investigator Award, 1996.
Co-author of five student paper awards:

- 2000 IEEE Signal Processing Society Young Author Best Paper Award (Q. Zhao).
- 2005 ICASSP Student Paper Award (Y. Sung).
- 2005 ICASSP Student Paper Award (T. He).
- 2006 ICASSP Student Paper Award (A. Anandkumar).
- 2006 ICASSP Student Paper Award (P. Venkitasubramaniam).

Research and Teaching Interests

Communication systems and wireless networks. Information theory.
Statistical signal processing, Detection and estimation. Signal processing algorithms.
Wireless systems: Cellular, PCS, High Frequency, HDTV.
Security, Privacy, and Anonymity of networking.

Professional Activities

- Associate Editor, *IEEE Transactions on Information Theory*, 2006-present.
- Associate Editor, *IEEE Transactions on Signal Processing*, 1998-2000, 2004-2006.
- Associate Editor, *IEEE Signal Processing Letters*, 2003-2005.
- Co-Guest Editor, Special Issue on Signal Processing for Networking, *IEEE Signal Processing Magazine*, 2004.
- Co-Guest Editor, Special Issue on Cross Layer Design for Communications and Signal Processing Systems, *EURASIP Journal on Applied Signal Processing*, 2004.
- Co-Guest Editor, Special Issue on Ad Hoc Networks: Cross-Layer Issues, *EURASIP Journal on Wireless Communications and Networking*, 2004.
- Co-Guest Editor, Special Issue in Blind Identification and Estimation, *IEEE Proceedings*, 1998.
- Plenary Speaker, *2005 IEEE Intl. Conf. Acoust. Speech Signal Processing (ICASSP'05)*, *IEEE CAS Symposium on Frontiers in Wireless Communications, 2004*, *IEEE SPAWC03*, and *IEEE Workshop on Wireless Communications, Circuits and Systems 1998*.
- Technical Program Co-Chair, *2004 IEEE CAS Symposium on Frontiers of Wireless Communications*, June, 2004.
- Technical Program Co-chair, *IEEE CAS Workshop on Wireless Communications and Networking*, Aug., 2001.
- Co-chair/organizer of the *1st IEEE Workshop on Signal Proc. Advances in Wireless Comm.*, 1997
- Co-chair of ONR/ARL Workshop on Sensor Networks: Theory and Military Applications, 2003.
- Co-chair of the NSF/ONR/ARL Workshop on Future Challenges of Signal Processing and Communications in Wireless Networks, 2002.
- Co-chair/organizer of the NSF/ONR Workshop on “Cross-Layer Design in Adaptive Ad Hoc Networks: From Signal Processing to Global Networking”, 2001.

Sponsored Research

Total funding exceeds 10M since 1993 from NSF, ARO, ARL, ONR, NRL, DARPA, Lockheed, Phillips, etc.

Patents

- [1] S. Adireddy and L. Tong, “Dual equalizer for use in an receiver and method of operation,” US Patent No. 6,754,294, June, 2004.
- [2] S. Adireddy and L. Tong, “System and methods for precursor cancellation of intersymbol interference in a receiver,” US Patent No. 6,912,250, June, 2005.
- [3] S. Adireddy and L. Tong, “System and methods for optimal distribution of symbols in a fixed size data packet to improve receiver performance,” US Patent No. 7,079,586, July, 2006.
- [4] S. Adireddy and L. Tong, “System and methods for optimal symbol spacing to minimize intersymbol interference in a receiver,” US Patent No. 7,428,265, September, 2008.

Publications: Journals (To appear or appeared)

- [1] A. Anandkumar, L. Tong, and A. Swami, "Detection of Gauss-Markov random fields with nearest-neighbor dependency," *IEEE Trans. Information Theory*, to appear.
- [2] T. He and L. Tong, "Detection of information flows," *IEEE Transactions on Information Theory*, to appear.
- [3] A. Anandkumar, L. Tong, and A. Swami, "Optimal Node Density for Detection in Energy-Constrained Random Networks," *IEEE Transactions on Signal Processing*, vol. 56, no. 10, pp. 5232-5245, Oct. 2008.
- [4] T. He and L. Tong, "Distributed detection of information flows," *IEEE Transactions on Information Theory*, *IEEE Transactions on Information Forensics and Security*, vol. 3, no. 3, pp. 390-403 Sept, 2008.
- [5] S. Misra and L. Tong, "Error exponents for the detection of Gauss-Markov signals using randomly spaced sensors," *IEEE Transactions on Signal Processing*, vol. 56, no. 8, pp. 3385-3396, August 2008.
- [6] A. Anandkumar, L. Tong and A. Swami, "Distributed Estimation via Random access," *IEEE Transactions on Information Theory*, vol. 54, no. 7, pp. 3175-3181, July, 2008.
- [7] O. Kosut and L. Tong, "Distributed source coding in the presence of Byzantine sensors," *IEEE Transactions on Information Theory*, vol. 54, no. 6, pp. 2550-2565, June, 2008.
- [8] P. Venkitasubramaniam, T. He, and L. Tong, "Anonymous networking amidst eavesdroppers," *IEEE Transactions on Information Theory*, vol. 54, no. 6, pp. 2770-2784, June, 2008.
- [9] M. Ngo, V. Krishnamurthy, L. Tong, "Optimal channel-aware ALOHA protocol for random access in WLANs with multipacket reception and decentralized channel state information," *IEEE Transactions on Signal Processing*, vol. 56, no. 6, pp. 2575-2588, June, 2008.
- [10] V. Naware and L. Tong. "Cross Layer Design for Multiaccess Communication over Rayleigh Fading Channels," *IEEE Trans. Wireless Communications*, vol. 7, no. 3, pp. 1095-1103, March, 2008.
- [11] P. Venkitasubramaniam, T. He, L. Tong, and S. Wicker, "Toward an analytical approach to anonymous wireless networking," *IEEE Communications Magazine*, vol. 46, no. 2, pp. 140-146, Feb., 2008.
- [12] Y. Sung, X. Zhang, L. Tong, and H. V. Poor, "Sensor configuration and activation for field detection in large sensor arrays," *IEEE Transactions on Signal Processing*, vol. 56, no. 2, pp. 447-463, Feb., 2008
- [13] Q. Zhao, S. Geirhofer, L. Tong, and B. M. Sadler, "Opportunistic spectrum access via periodic channel sensing," *IEEE Transactions on Signal Processing*, vol. 36, no. 2, pp. 785-796, Feb., 2008.
- [14] S. Geirhofer, L. Tong, and B. Sadler, "Cognitive medium access: constraining interference based on experimental models," *IEEE J. Select. Areas Communications*, vol. 26, no. 1, pp. 95-105, Jan. 2008.
- [15] M. Dong, L. Tong, and B. Sadler, "Information retrieval and processing in sensor networks: Deterministic scheduling vs. random access," *IEEE Transactions on Signal Processing*, vol. 55, no. 12, pp. 5806-5820, Dec., 2007.
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- [17] A. Anandkumar and L. Tong, "Type-based random access for distributed detection over multiaccess fading channels," *IEEE Trans. Signal Processing*, vol. 55, no. 10, pp. 5032-5043, Oct., 2007.
- [18] Z. Yang and L. Tong, "On the error exponent and the use of LDPC codes for cooperative sensor networks with misinformed nodes," *IEEE Transactions on Information Theory*, vol 53, no. 9, pp. 265-3274, Sept., 2007.
- [19] Q. Zhao, L. Tong, and D. Council, "Energy-aware adaptive routing for large-scale ad hoc networks: protocol and performance analysis," *IEEE Transactions on Mobile Computing*, vol. 7, no. 9, pp. 1048-1059, Sept. 2007.

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