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Formal Education

Ph.D.	2005	Northeastern University <i>Boston, MA</i> (Electrical Engineering)
MS	1999	Tsinghua University <i>Beijing, People's Republic of China</i> (Electrical Engineering)
BS	July	Northwestern University <i>Evanston, IL</i> (Electrical Engineering)

Relevant Professional Experience

2005-Present	• Software Engineer <i>Paralogic Corporation, Sterling VA</i>
2004-2005	• Research Intern <i>Mitsubishi Electric Research Laboratories, Cambridge MA</i> <i>IEEE 802.11n Standardization Group</i>
2000-2004	• Research Assistant <i>Northeastern University, Boston MA</i> <i>Re-Configurable Wireless Networking and Communications Lab</i> <i>Dept. of Electrical and Computer Engineering</i>
1997-1999	• Hardware Design Engineer <i>Huahuan Electronics, Beijing People's Republic of China</i> <i>Circuit Design and Telecommunications Equipment Test Group</i>
1996-1997	• Research Assistant <i>Tsinghua University, Beijing People's Republic of China</i> <i>National Lab of Microwave and Digital Communications</i>

Patents in Wireless Communications

- Fang, Y., Gu, D. and Zhang, J., *Two-Level Carrier Sensing in Overlapping Basic Service Sets (BSSs)*," MERL, Patent-Pending.
- Fang, Y., Gu, D. and Zhang, J., *A Novel Solution to the Hidden Terminal Problem in Contention-Based Multi-Polling Mechanism — The ACK/Restart Counting Scheme.*" MERL, Patent No. 1670.

Archival Journal Submissions

- McDonald, A.B., Fang, Y., Gu, D., Lee, J., Ozdemir, M., Ramanathan, R. and Zhang, J., *The Shrinking Rate of Return Problem: Enhancing MAC Efficiency in High Capacity Wireless LANs.* Submitting to **IEEE Transactions on Mobile Computing**, (Target Dates: Oct. 15-22, 2005).
- Fang, Y. and McDonald, A.B., *The Deferral Set Framework Part One: Modeling and Analysis of MAC-layer Wireless Channel Capacity.* Submitting for Peer Review to **IEEE Transactions on Wireless Communications**, (Target Dates: October 29 - November 5, 2005).
- Fang, Y. and McDonald, A.B., *The Deferral Set Framework Part Two: Modeling and Analysis of MAC-layer Wireless Network Capacity.* Submitting for Peer Review to **IEEE Transactions on Wireless Communications**, (Target Dates: October 29 - November 5, 2005).
- Lee, J., McDonald, A.B. and Fang, Y., *Dynamic-Adaptive Code Word Routing (DACR): A Cross-Layer Approach for Enhancing Generalized Ad Hoc Network Routing.* Submitting for Peer Review to **IEEE Transactions on Mobile Computing**, (Target Dates: Dec. 17, 2005).

Refereed Conference Proceedings

- Fang, Y., Gu, D., McDonald, A.B. and Zhang, J., *On the Performance Enhancement of Wireless LANs — a Multipolling Mechanism with Hidden Terminal Solution*, To Appear in **Proceedings of IEEE Global Telecommunications Conference (GLOBECOM'05)**. St. Louis, MO., November 28 - December 2, 2005.
- Fang, Y., Gu D., McDonald, A.B. and Zhang, J., *A Two-level Carrier Sensing Mechanism for the Overlapping BSS Problem in Wireless LANs*, **Proceedings of 14th IEEE Workshop of Local and Metropolitan Area Networks (LANMAN'05)**. Crete, Sept. 18-21.
- Fang, Y. and McDonald, A.B., *Theoretical Network Capacity of Multi-hop Wireless Ad Hoc Networks.* **Proceedings of The Sixth IEEE Conference on Mobile and Wireless Communications Networks (MWCN'04)**, Paris, France, October 25-27, 2004, pp. 311-322.
- Fang, Y. and McDonald, A.B., *Dynamic Codeword Routing (DCR): A Cross-Layer Approach for Performance Enhancement of General Ad Hoc Routing.* **Proceedings of The First IEEE International Conference of Sensor and Ad Hoc Communications Networks (SECON'04)**, Santa Clara, CA, October 4-7, 2004, pp. 255-263.
- Fang, Y. and McDonald, A.B., *Theoretical Channel Capacity in Multi-hop Ad Hoc Networks.* **Proceedings of the 13th IEEE Workshop on Local and Metropolitan Area Networks (LANMAN'04)**, San Francisco, CA, April 25-28, 2004, pp. 181-186.
- Fang, Y. and McDonald, A.B., *Performance Analysis of Multi-hop Wireless Ad Hoc Networks using IEEE 802.11 DCF.* **Proceedings of the 23rd IEEE International Performance, Computing, and Communications Conference , Workshop on Multihop Wireless Networks (MWN'04)** Phoenix, AZ, April 15-17, 2004, pp. 321-322.
- Fang, Y. and McDonald, A.B., *Cross-layer Performance Effects of Path-Coupling in Wireless Ad Hoc Networks: Implications for Throughput, Power and Scalability.* **Proceedings of The 21st Annual IEEE International Performance, Computing and Communications Conference (IPCCC'02)**, Phoenix AZ, April 3-5 2002, pp. 281-290.