

Steven W. Peters

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Advisor: Prof. Robert W. Heath, Jr.

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OBJECTIVE Contribute what I can to solve important problems in digital signal processing and wireless.

EDUCATION ♦ **University of Texas at Austin**, Austin, TX.
Ph.D. in Electrical Engineering, expected graduation: May 2010.
M.S.E. in Electrical Engineering, May 2007.
♦ **Illinois Institute of Technology**, Chicago, IL.
B.S. in Electrical Engineering, May 2005.
B.S. in Computer Engineering, May 2005.

WORK EXPERIENCE ♦ **Research Assistant**, University of Texas at Austin (June 2007 – present)
Wrote novel research papers on wireless relaying with multiple antennas.
Wrote Verilog and C++ code towards the implementation of a 4×4 software defined radio.
Gave presentations to multiple corporate research labs in the U.S. and China.
♦ **Graduate Intern**, Huawei Technologies, Inc. (June 2009 – August 2009)
Produced intellectual property and wrote two tutorial surveys on state-of-the-art interference mitigation techniques.
♦ **Private Consultant**, Rearden, Inc. (February 2008 – August 2008)
Conducted confidential research and development in all aspects of practical wireless communication systems.
♦ **Private Consultant**, MIMO Wireless, Inc. (March 2008 – May 2009)
Designed and helped deliver a 3-hour short course on the IEEE 802.16j standard for executives and engineers in Asia.
Conducted confidential research on base station coordination in wireless cellular networks.
♦ **Research Assistant**, Applied Research Laboratories (September 2005 – May 2007)
Designed and implemented a novel multi-threaded turbo decoder in fixed & floating point.
Implemented a real-time parallel Reed-Solomon decoder on a TI 6400 DSP.
♦ **Intern**, Environmental Systems Design, Inc. (Summer 2003-05, Winter 2003-04)
Designed and drafted electrical systems for commercial skyscrapers in downtown Chicago.
Met with clients about electrical needs, surveyed electrical equipment on site before, during, and after construction.

SKILLS ♦ **Radio Platforms:** GNU Radio/USRP
♦ **DSP Platforms:** TI 6400, TI MSP-430
♦ **Languages:** C, C++, Matlab, Octave, Java, Perl, Python, Verilog
♦ **Compilers:** gcc, TI Code Composer, MS Visual Studio, IAR Embedded Workstation
♦ **OSes:** Linux, Mac-OS, MS-DOS, MS-Windows
♦ **Other Software:** AutoCAD, L^AT_EX

PUBLICATIONS ♦ S. W. Peters, A. Y. Panah, K. T. Truong, and R. W. Heath, Jr. “Relay Architectures for 3GPP LTE-Advanced”, *EURASIP Journal on Wireless Communications and Networking*, vol. 2009, Article ID 618787, 2009.

- ◇ S. W. Peters and R. W. Heath, Jr. “The Future of WiMAX: Multihop Relaying with IEEE 802.16j”, *IEEE Communications Magazine*, vol. 47, no. 1, pp. 104–111, Jan. 2009.
- ◇ S. W. Peters and R. W. Heath, Jr. “Nonregenerative MIMO Relaying with Optimal Transmit Antenna Selection”, *IEEE Signal Processing Letters*, vol. 15, pp. 421–424, 2008.
- ◇ O. El Ayach, S. W. Peters, and R. W. Heath, Jr. “Real World Feasibility of Interference Alignment Using MIMO-OFDM Channel Measurements”, *IEEE MILCOM*, October 2009.
- ◇ S. W. Peters and R. W. Heath, Jr. “Interference Alignment Via Alternating Minimization”, *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Taipei, Taiwan, April 19–24, 2009.
- ◇ S. W. Peters and R. W. Heath, Jr. “Switching Between Antenna Selection and Spatial Multiplexing in the MIMO Amplify-and-Forward Relay Channel”, (invited) *Proc. Asilomar Conf. on Signals, Systems, and Computers*, Pacific Grove, CA, October 26–29, 2008.
- ◇ R. C. Daniels, K. Mandke, S. W. Peters, S. M. Nettles, and R. W. Heath, Jr., “Machine Learning for Physical Layer Link Adaptation in Multiple-Antenna Wireless Networks”, *Third ACM International Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization*, San Francisco, CA, September 2008. **1st Place Prize in Demo Contest.**
- ◇ S. W. Peters and R. L. Rogers. “A local stopping criterion for block turbo codes”, 2007 IEEE Sarnoff Symposium student entry.
- ◇ Iterative decoding of product codes for software radio. M.S.E. thesis, University of Texas, 2007.

AWARDS &
SCHOLAR-
SHIPS

- ◇ University of Texas Engineering Thrust Fellowship (September 2007 – present)
- ◇ Omron Scholarship (2004)
- ◇ Grainger Undergraduate Power Engineering Scholarship (2002)
- ◇ IIT Camras Scholar (2001-05)