

RYAN MEASEL

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EDUCATION

- Doctor of Philosophy, Electrical Engineering** January 2015
Drexel University, Philadelphia, PA
Areas of Research: Wireless Communication, Wireless Propagation Modeling, Software Defined Radios, Reconfigurable Antennas, Cellular infrastructure, Chipless RFID
- Master of Science, Electrical Engineering** June 2011
Drexel University, Philadelphia, PA
Areas of Research: IPv6 Networking, Network Protocols, Adaptive Modulation and Coding
- Bachelor of Science, Computer Engineering** June 2011
Drexel University, Philadelphia, PA
Honors: *Magna Cum Laude*
Areas of Research: Mobile Computing, Ad-hoc Networking, Routing Protocols

PUBLICATIONS

1. **R. Measel**, C. S. Lester, D. J. Bucci, , K. Wanuga, G. R. Tait, R. A. Primerano, K. Dandekar, and M. Kam, "An empirical study on the performance of wireless OFDM communications in highly reverberant environments," *IEEE Transactions on Wireless Communications*, vol. 15, pp. 4802–4812, July 2016
2. **R. Measel**, *Wireless Performance in Reverberant Environments*. PhD thesis, Drexel University, 2015
3. C. S. Lester, D. J. Bucci, **R. Measel**, K. Wanuga, R. A. Primerano, K. Dandekar, and M. Kam, "Performance of reconfigurable antennas in a below-decks environment," *IEEE Antenna and Wireless Propagation Letters*, vol. 14, January 2015
4. **R. Measel**, C. S. Lester, D. J. Bucci, K. Wanuga, G. Tait, R. A. Primerano, K. Dandekar, and M. Kam, "Reconfigurable antennas in highly multipath environments," in *IEEE International Symposium on Antennas and Propagation*, July 2014
5. C. S. Lester, **R. Measel**, D. J. Bucci, K. Wanuga, R. A. Primerano, M. Kam, and K. Dandekar, "Effects of reconfigurable antennas on wireless network performance within a ticonderoga-class engine room," in *American Society of Naval Engineers (ASNE) Electric Machines Technology Symposium (EMTS) 2014*, May 2014
6. **R. Measel**, D. J. Bucci, C. S. Lester, K. Wanuga, R. A. Primerano, K. Dandekar, and M. Kam, "A MATLAB platform for characterizing MIMO-OFDM communications with software-defined radios," in *IEEE International Workshop Technical Committee on Communications Quality and Reliability*, pp. 1–6, May 2014
7. **R. Measel**, C. S. Lester, Y. Xu, R. A. Primerano, and M. Kam, "Detection performance of spread spectrum signatures for passive, chipless RFID," in *IEEE RFID 2014*, April 2014
8. K. Wanuga, **R. Measel**, C. S. Lester, D. J. Bucci, D. Gonzalez, R. A. Primerano, M. Kam, and K. Dandekar, "Performance evaluation of MIMO-OFDM systems in on-ship below deck environments," *IEEE Antennas and Wireless Propagation Letters*, vol. 13, pp. 173–176, January 2014
9. G. D. Sworo, **R. Measel**, M. Kam, and K. Dandekar, "Optimization of adaptive modulation and coding techniques for OFDM systems," in *IEEE International Conference on Signal Processing and Communication Systems*, December 2011
10. **R. Measel**, "IPv6 compression techniques and performance," Master's thesis, Drexel University, 2011
11. J. Wildman, D. Hamel, **R. Measel**, D. Oakum, S. Weber, and M. Kam, "Performance and scaling of wireless ad hoc IPv6 stateless autoconfiguration under mobile gateways," in *IEEE Military Communications Conference*, pp. 1–9, October 2007

INDUSTRY EXPERIENCE

- Fantasma** Santa Monica, CA
Co-Founder // Chief Technical Officer December 2014 to Present
- Data Fusion Laboratory** Philadelphia, PA
Financial Manager August 2012 to December 2014
 - Created, managed, and reconciled budgets for research projects
 - Oversaw laboratory procurement and expenditures
- Drexel Smart House** Philadelphia, PA
Co-Founder // Vice President January 2005 to January 2007
 - Co-founded a student-led initiative to convert a condemned house into a living laboratory for multi-disciplinary research focusing on life sciences and sustainability.

Forward Dynamics, Inc
Consultant

Philadelphia, PA
April 2011 to September 2011

- Consulted on design and development of a passive, chipless RFID system

RESEARCH EXPERIENCE

Below-Deck Electromagnetic Characterization for Wireless Network Operation

Philadelphia, PA

Research Assistant

January 2012 to December 2014

- *Investigators:* Kapil Dandekar, Moshe Kam, and Richard Primerano
- *Sponsor:* Office of Naval Research (ONR)
- Co-developed a MIMO OFDM transceiver framework for WARP software defined radios
- Designed a test protocol for characterizing the electromagnetic environment and communications in reverberant spaces
- Performed characterization experiments inside US Naval vessels and a reverberation chamber
- Investigated the use of reconfigurable antennas to mitigate the effect of multipath interference

GENI WiMAX Infrastructure Deployment

Philadelphia, PA

Research Assistant

July 2012 to December 2014

- *Investigators:* Kapil Dandekar and Moshe Kam
- *Sponsor:* National Science Foundation (NSF)
- Worked with the GENI community to connect the Drexel WiMAX network to the nationwide GENI infrastructure
- Installed and managed software and hardware related to the operation of two WiMAX basestations in Philadelphia

Chipless, Passive RFID

Philadelphia, PA

Research Assistant

April 2011 to January 2014

- *Investigators:* Moshe Kam and Richard Primerano
- *Sponsor:* Drexel University
- Designed a series of gap-coupled multiresonator chipless, passive RFID tags
- Investigated the use of spread spectrum coding techniques for simultaneous interrogation of passive RFID tags
- Developed a simulation for time domain reflectometry RFID tags

Seamless Network Integration using IPv6

Camden, NJ

Research Assistant

January 2008 to June 2011

- *Investigators:* Moshe Kam
- *Sponsor:* U.S. Army Communications-Electronics Research, Development and Engineering Center (CERDEC)
- Implemented the Mobile IPv6 protocol in a wireless testbed
- Evaluated performance of IPv6 header and payload compression algorithms

Secure Wireless Agent Testbed

Camden, NJ

Research Assistant

April 2005 to August 2007

- *Investigators:* Moshe Kam and William Regli
- *Sponsor:* U.S. Army Communications-Electronics Research, Development and Engineering Center (CERDEC)
- Led large scale experimentation of an agent-based, wireless system designed for first responders at Fort Dix, NJ
- Investigated optimization of ad-hoc routing protocols and the wireless MAC layer
- Managed and maintained a wireless testbed of tablets and handheld units

TEACHING EXPERIENCE

Drexel University, ECE Department

Philadelphia, PA

Teaching Assistant

- ECE 491, 492, 493 - Senior Design (*Instructor:* Leon Hrebien, Fall 2011 to Fall 2014)
- ECE 391 - Introduction to Engineering Design (*Instructor:* Leon Hrebien, Winter 2011 to Spring 2014)

Drexel University, ECE Department

Philadelphia, PA

Recitation Instructor/Lab Instructor

- ENGR 232 - Dynamic Engineering Systems II (Summer 2011)
- ENGR 231 - Dynamic Engineering Systems I (Spring 2011)
- ENGR 202 - Evaluation and Presentation of Experimental Data II (Summer 2009)
- ENGR 201 - Evaluation and Presentation of Experimental Data I (Summer 2009)

MEMBERSHIPS & DISTINCTIONS

- Eta Kappa Nu (HKN), National Electrical and Computer Engineering Honor Society
- IEEE, Member

SKILLS AND ASSETS

- Programming Languages: Python, C#, Go, Objective C, Javascript, C++, Java, Bash
- Software: Docker, PCL, OpenCV, Amazon Web Services, Xcode, MATLAB, L^AT_EX, Unity3D, OpenFrameworks, Ableton
- Operating Systems: Mac OS X, Linux (Debian), Microsoft Windows, Android, iOS
- Hardware: Intel RealSense R200, Occipital Structure, Google Project Tango, WARP Software Defined Radio, Agilent Vector Network Analyzer, Agilent Signal Analyzer

Last Updated: February 27, 2017