

Daniele Piazza

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Education

Ph. D. in Electrical and Computer Engineering

University of Drexel at Philadelphia

June 2009

Thesis Title: "Reconfigurable Antennas for Adaptive MIMO Wireless Communications"

Advisor: Prof. K.R. Dandekar

Major: Antennas/MIMO

G.P.A.: 3.97/4.0

Laurea Degree in Telecommunication Engineering

Politecnico di Milano, Italy

October 2006

Thesis Title: "Reconfigurable Antenna Solution for MIMO OFDM systems"

Advisor: Prof. M. D'Amico

High Honors: 110/110 cum laude

M.S. in Electrical and Computer Engineering

University of Drexel at Philadelphia

June 2006

Advisor: Prof. K.R. Dandekar

G.P.A.: 3.9/4.0

Bachelor Degree in Telecommunication Engineering

Politecnico di Milano, Italy

October 2003

Advisor: Prof. C. Capsoni

High Honors: 110/110 cum laude

Research Interests

- Adaptive antennas for MIMO wireless communications
- Wireless Communications
- Metamaterial Antennas
- Reconfigurable Antennas
- RFID
- Ultra wide band antennas
- 60 GHz wireless communications

Teaching Interests

- Wireless communications.
- Antennas
- Microwaves
- Electromagnetism

Research Experience

Researcher

Politecnico di Milano

October 2006 - Present

Graduate Student Researcher

Drexel University

September 2004 - July 2006

Teaching Experience

Graduate Teaching Assistant

Politecnico di Milano

April– June 2009

Course: Laboratorio sperimentale di tecnologie radio (Experimental laboratory of radio technologies)

Graduate Student Instructor

Politecnico di Milano

2008

Course: Onde elettromagnetiche (Electromagnetic waves)

Graduate Teaching Assistant

Politecnico di Milano

2008-2009

Courses: Propagazione (Wireless Propagation)

Laboratorio sperimentale di tecnologie radio (Experimental laboratory of radio technologies)

Graduate Teaching Assistant

Drexel University

2005- 2006

Courses: ECE - 200 Fundamental of Intelligent Systems

ECE - 302 Fundamental of Systems

ECE - S521 Probability and Random Variables

ECE - S522 Random Processes and Spectral Analysis

ENGR - 361 Statistic & Engineering Systems

Skills

Languages: Fluent in English and Italian (Native speaker). Basic in Croatian.

Computer Skills: Matlab, HFSS ,FEKO, ADS, Ansoft Designer, C++, Labview, Microsoft Office, LaTeX.

RF measurements: confident in using Network Analyzer, Spectrum Analyzer, Oscilloscope, Vector Generator, Channel Sounder, Anechoic chamber for antenna and EMC measurements.

Publications

Journal Papers

D. Piazza, P. Mookiah, M. D'Amico, and K.R. Dandekar, "Experimental analysis of pattern and polarization reconfigurable circular patch antennas for MIMO systems" to appear in *IEEE Transactions on Vehicular Technology*.

D. Piazza, M. D'Amico, and K.R. Dandekar, "Performance improvement of a wideband MIMO system by using two-port RLWA," *IEEE Antennas and Wireless Propagation Letters*, vol. 8, pp. 830-834, 2009.

D. Piazza, J. Kountouriotis, M. D'Amico, and K.R. Dandekar, "A technique for antenna configuration selection for reconfigurable circular patch arrays," *IEEE Transactions on Wireless Communications*, vol. 8, no. 3, 2009.

D. Piazza, N.J. Kirsch, A. Forenza, R.W. Heath, Jr., and K.R. Dandekar, " Design and evaluation of a reconfigurable antenna array for MIMO systems ," *IEEE Transactions on Antennas and Propagation*, vol. 56, no. 3, pp. 869 - 881, March 2008.

D. Piazza and K.R. Dandekar, "Reconfigurable antenna solution for MIMO-OFDM systems," *IEE Electronics Letters*, vol. 42, no. 8, pp. 446-447, April 2006.

Conference Papers

D. Piazza, and M. D'Amico, "Pattern and polarization reconfigurable CRLH leaky wave antenna", *Proceedings of the 2010 European Conference on Antennas and Propagation (EuCAP)*, 2010.

D. Piazza, M. Capacchione, and M. D'Amico, "CRLH leaky wave antenna with tunable polarization", *Proceedings of the 2010 European Conference on Antennas and Propagation (EuCAP)*, 2010.

D. Piazza, M. D'Amico and K.R. Dandekar, "Two port reconfigurable CRLH leaky wave antenna with improved impedance matching and beam tuning," *Proceedings of the 2009 European Conference on Antennas and Propagation (EuCAP)*, 2009.

D. Piazza, M. Capacchione, J. Kountouriotis, M. D'Amico, and K.R. Dandekar, "Stacked reconfigurable circular patch for adaptive MIMO systems", Invited paper to the *2009 International Conference on Electromagnetics in Advanced Applications (ICEAA)*, 2009.

D. Piazza, P. Mookiah, M. D'Amico and K.R. Dandekar, "Pattern and polarization reconfigurable circular patch for MIMO systems," *Proceedings of the 2009 European Conference on Antennas and Propagation (EuCAP)*, 2009.

D. Piazza, P. Mookiah, M. D'Amico, and K.R. Dandekar, "Pattern reconfigurable circular patch antenna for MIMO communications", *Proceedings of the RiNEm Conference*, 2008.

P. Mookiah, D. Piazza and K.R. Dandekar, "Reconfigurable Spiral Antenna Array for Pattern Diversity in Wideband MIMO Communication Systems", *Proceedings of the IEEE Symposium on Antennas and Propagation*, 2008.

D. Piazza, M. D'Amico and K.R. Dandekar, "MIMO Communication System with Reconfigurable Circular Patch Antennas", *Proceedings of the IEEE Symposium on Antennas and Propagation*, 2008.

J. Kountouriotis, D. Piazza, P. Mookiah, M. D'Amico, and K.R. Dandekar, "Reconfigurable antennas for MIMO ad-hoc networks", *Proceedings of the 2008 IEEE Radio and Wireless Symposium*, 2008.

R. Bhagavatula, R. Heath, A.W. Forenza, D. Piazza, and K.R. Dandekar, "Impact of Mutual Coupling and Antenna Efficiencies on Adaptive Switching Between MIMO Transmission Strategies" *Proceedings of the 2007 Vehicular Technology Conference*, 2007.

D. Piazza, P. Mookiah, K.R. Dandekar, and M. D'Amico, "Two port reconfigurable circular patch antenna for MIMO systems," *Proceedings of the 2007 European Conference on Antennas and Propagation (EuCAP)*, 2007.

D. Piazza, P. Mookiah, M. D'Amico, and K.R. Dandekar, "Computational electromagnetic analysis of a reconfigurable multiport circular patch antenna for MIMO communications," Invited paper to the *2007 URSI Electromagnetic Theory Symposium*, 2007.

Inventions

D. Piazza, J. Kountouriotis, M. D'Amico, and K.R. Dandekar, "Selection Algorithm for Reconfigurable Antennas in MIMO Systems", U.S. Patent Application No. 61,147/365

D. Piazza, and M. D'Amico, "Reconfigurable antenna system for radio frequency identification", U.S. Provisional Patent Application No. 61,286/786

D. Piazza, J. Kountouriotis, P. Mookiah, M. D'Amico, and K.R. Dandekar, "Multi element reconfigurable antennas in ad hoc networks", U.S. Invention Disclosure, 2009

Professional Activities

Founder and CTO of Adant (2010 – present).

Adant is a startup that aims at the development and commercialization of reconfigurable antenna systems for MIMO wireless communications and RFID systems.

System integrator in the field of RFID for the "RFID Solution Center" founded by Politecnico di Milano in collaboration with Hewlett Packard and Intel (2007).

Awards and Honors

High Honors in 2006 Graduates from Politecnico di Milano (2006).

Outstanding service as a TA to the ECE Dept. at the University of Drexel at Philadelphia (2006).

Dean's Fellowship at the University of Drexel at Philadelphia (2005-2006).

Best business idea – Scouting ICT – Milan June 2009

First prize business plan competition Start-cup Milano Lombardia – Milan October 2009

Bright future ideas award – UK consulate, UK Trade & Investment – Milan January 2010

Second prize Premio Nazionale Innovazione (PNI) – Perugia December 2009