

Maria Z. A. Pour

Electrical & Computer Engineering, University of Alabama in Huntsville

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Education

2012 Ph.D. University of Manitoba, Electrical Engineering
2006 M.Sc. University of Manitoba, Electrical Engineering
1997 B.Sc. Sharif University of Technology, Electrical Engineering

Position

8/2015 – present: **Assistant Professor**, Department of Electrical and Computer Engineering,
University of Alabama in Huntsville, Huntsville, AL, USA

Professional Membership

- IEEE, Senior member
- IEEE Women in Engineering
- IEEE Antennas and Propagation Society
- International Union of Radio Science (URSI), Commission B

Research Expertise

- Antenna theory, design, and analysis
- Electrically large antennas and their primary feeds
- Virtual aperture antennas
- Antenna measurement techniques
- Adaptive and compact antennas for remote sensing applications
- Applied Electromagnetics

Honors & Awards

- Edward Toporek Graduate Fellowship in Engineering, University of Manitoba, Canada, 2010 and 2011
- University of Manitoba Graduate Fellowship, University of Manitoba, Canada, 2007-2010

Recent Publications

Book chapters:

- L. Shafai, Z. A. Pour, S. Latif, and A. Rashidian. “Circularly Polarized Antennas” in *Handbook of Antenna Technologies*, Springer Reference, October 2014.
- L. Shafai, Z. A. Pour, and S. K. Sharma. “Generalized Asymmetric Reflector Antenna Feeds for Polarization Control and Adaptive Virtual Array Design” in *Handbook of Reflector Antennas and Feed Systems*, Ch. 8, Vol. II, Artech House, July 2013.
- L. Shafai, Z. A. Pour, and S. Latif. “Electrically Small Feeds” in *Handbook of Reflector Antennas and Feed Systems*, Ch. 3, Vol. II, Artech House, July 2013.
- S. K. Sharma, Z. A. Pour, and L. Shafai. “Reflector Antennas with Adaptive Apertures” in *Handbook of Reflector Antennas and Feed Systems*, Ch. 4, Vol. I, Artech House, July 2013.
- L. Shafai, S. K. Sharma, and Z. A. Pour. “Introduction” in *Handbook of Reflector Antennas and Feed Systems*, Ch. 1, Vol. II, Artech House, July 2013.

Journals:

- M. Q. Muala, L. Shafai, and Z. A. Pour, "Investigation of Circular Waveguide Reflector Feeds Loaded with Shaped Dielectric Rods," *Microwave and Optical Technology Letters*, Vol. 57, No. 7, pp. 1568-1573, July 2015.
- M. Q. Muala, L. Shafai, and Z. A. Pour, "Parametric Study and Performance of Compact Dielectric Loaded Circular Waveguide Feeds," *Microwave and Optical Technology Letters*, Vol. 57, No. 6, pp. 1432-1438, June 2015.
- Z. A. Pour and L. Shafai, "Applications of Tri-mode Waveguide Feeds in Adaptive Virtual Array Antennas," (invited paper), *Radio Science Journal*, Vol. 50, No. 3, pp. 202-210, March 2015.
- Z. A. Pour and L. Shafai, "Improved Cross Polarization Performance of a Multi-Phase Center Parabolic Reflector Antenna," *IEEE Antenna and Wireless Propagation Letters*, Vol. 13, pp. 540-543, April 2014.
- M. Q. Muala, L. Shafai, and Z. A. Pour, "A Corrugated Printed Dipole Antenna with Equal Beamwidths," *IEEE Transactions on Antennas and Propagation*, Vol. 62, No. 3, pp. 1469-1474, March 2014.
- Z. A. Pour, L. Shafai, and B. Tabachnick, "A Practical Approach to Locate Offset Reflector Focal Point and Antenna Misalignment using Vectorial Representation of Far-Field Radiation Patterns," *IEEE Transactions on Antennas and Propagation*, Vol. 62, No. 2, pp. 991-996, February 2014.
- Z. A. Pour and L. Shafai, "A Novel Dual-mode Dual-Polarized Circular Waveguide Feed Excited by Concentrically Shorted Ring Patches," *IEEE Transactions on Antennas and Propagation*, Vol. 61, No. 10, pp. 4917-4925, October 2013.
- Z. A. Pour and L. Shafai, "Investigation of Virtual Array Antennas with Adaptive Element Locations and Polarization Using Parabolic Reflector Antennas," *IEEE Transactions on Antennas and Propagation*, Vol. 61, No. 2, pp. 688-699, February 2013.
- Z. A. Pour and L. Shafai, "A Ring Choke Excited Compact Dual-mode Circular Waveguide for Offset Reflector Antennas," *IEEE Transactions on Antennas and Propagation*, Vol. 60, No. 6, pp. 3011-3015, June 2012.
- Z. A. Pour and L. Shafai, "A Simplified Feed Model for Investigating the Cross Polarization Reduction in Circular- and Elliptical-Rim Offset Reflector Antennas," *IEEE Transactions on Antennas and Propagation*, Vol. 60, No. 3, pp. 1261-1268, March 2012.
- Z. A. Pour and L. Shafai, "A Novel Impedance Matched Mode Generator for Excitation of the TE₂₁ Mode in Compact Dual-mode Circular Waveguide Feeds," *IEEE Antenna and Wireless Propagation Letters*, Vol. 10, pp. 427-430, May 2011.
- Z. A. Pour and L. Shafai, "Effect of Feed Phase Errors on the Cross Polarization of Offset Reflector Antennas," *Microwave and Optical Technology Letters*, Vol. 53, No. 1, pp. 231-235, January 2011.
- Z. A. Pour and L. Shafai, "Investigation of Asymmetric Phase Errors of an Optimized Dual-Mode Primary Feed on the Cross Polarization of Offset Reflector Antennas," *IEEE Antennas and Wireless Propagation Letters*, Vol. 9, pp. 872-875, September 2010.

Conferences:

- Z. A. Pour and L. Shafai, "Beam Squint Correction in Offset Reflector Antennas with Circularly-Polarized Tapered Primary Feeds," *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, Vancouver, BC, Canada, July 19-25, 2015.
- M. Q. Muala, Z. A. Pour, L. Shafai, and S. Latif, "Suppressing Higher Order Modes of Cavity Surrounded Microstrip Antennas for Prime Focus Reflectors," *2015 IEEE International Symposium on Antennas and Propagation and North American Radio Science Meeting*, Vancouver, BC, Canada, July 19-25, 2015.
- Z. A. Pour and L. Shafai, "Electronically Controlled Phase Center Locations in Electrically Large Aperture Antennas with Enhanced Cross-Talk Properties," *31st URSI General Assembly and Scientific Symposium (URSI GASS)*, Beijing, China, August 16-23, 2014.

- Z. A. Pour and L. Shafai, "Open-Ended Circular Waveguide Antenna Excitation with Microstrip Patch Elements," *International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Victoria, BC, Canada, July 13-17, 2014.
- Z. A. Pour and L. Shafai, "Some Novel Properties of Asymmetric Adaptive Medium to Large Aperture Antennas," *International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Victoria, BC, Canada, July 13-17, 2014.
- M. Q. Maula, L. Shafai, and Z. A. Pour, "Dielectric Loaded Circular Waveguide Feeds," *International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Victoria, BC, Canada, July 13-17, 2014.
- Z. A. Pour and L. Shafai, "Estimating Focal Points of Offset Reflector Antennas with Misaligned Defocused Primary Feeds," *2014 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*, Memphis, Tennessee, July 6-11, 2014.
- Z. A. Pour and L. Shafai, "An Overview of Latest Advancements in Displaced Phase Centre Antenna (DPCA) Techniques," *2013 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*, Lake Buena Vista, Florida, July 7-12, 2013.
- Z. A. Pour and L. Shafai, "Applications of Tri-Mode Waveguide Feeds in Adaptive Virtual Array Antennas," *2013 URSI Commission B International Symposium on Electromagnetic Theory (EMTS)*, Hiroshima, Japan, May 20-24, 2013.
- Z. A. Pour and L. Shafai, "Exploring Further Potentials of Over-Moded Primary Feeds for Parabolic Reflector Antennas," (Invited Paper) *IEEE International Conference on Wireless Information Technology and Systems (ICWITS)*, Maui, Hawaii, USA, November 11-16, 2012.
- Z. A. Pour and L. Shafai, "Cross Polarization Performance of High Gain Antennas in the Presence of Phase Errors," (Invited Paper) *IEEE International Conference on Wireless Information Technology and Systems (ICWITS)*, Maui, Hawaii, USA, November 11-16, 2012.
- L. Shafai, S. Latif, Z. A. Pour, and C. Shafai, "Antennas in Real, Meta, and Virtual Forms," (Plenary Session) *IEEE International Conference on Wireless Information Technology and Systems (ICWITS)*, Maui, Hawaii, USA, November 11-16, 2012.
- L. Shafai, C. Shafai, Z. A. Pour, and S. Latif, "Mathematics in Antenna Design Innovation," (Plenary Session) *The 10th International Symposium on Antennas, Propagation, and EM Theory (ISAPE)*, Xi'an, China, October 22-26, 2012.
- Z. A. Pour and L. Shafai, "Dual-mode Waveguide Feeds for Polarization Control in Offset Reflector Antennas," *IEEE AP-S/URSI International Symposium*, Chicago, Illinois, USA, July 8-14, 2012.
- Z. A. Pour and L. Shafai, "An Analytical Review of Cross Polarization Reduction in Offset Reflector Antennas," *International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Toulouse, France, June 25-28, 2012.
- Z. A. Pour and L. Shafai, "Displacement of Phase Centre Location of a Tri-mode Stacked Circular Microstrip Antenna," *International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Toulouse, France, June 25-28, 2012.
- Z. A. Pour and L. Shafai, "Adaptive Aperture Antennas with Adjustable Phase Centre Locations," (Invited Paper) *IEEE International Workshop on Antenna Technology (IWAT)*, Tucson, Arizona, USA, March 5-7, 2012.
- Z. A. Pour and L. Shafai, "Crosstalk Degradation Caused by Primary Feed Phase Errors in Offset Reflector Antennas," *IEEE AP-S/URSI International Symposium*, Spokane, Washington, USA, July 3-8, 2011.
- Z. A. Pour, L. Shafai, and A. M. Mehrabani, "Virtual Array Antenna with Displaced Phase Centers for GMTI Applications," *IEEE Radar Conference*, Kansas City, Missouri, USA, May 23-27, 2011.
- Z. A. Pour and L. Shafai, "Effect of Primary Feed Polarization on Phase Centre Location of Parabolic Reflector Antennas," *IEEE AP-S International Symposium*, Toronto, Canada, July 11-17, 2010.
- Z. A. Pour and L. Shafai, "A Novel Dual Mode Circular Waveguide Horn Antenna," *International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Ottawa, Canada, July 5-9, 2010.