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EDUCATION

- Ph.D., Electrical Engineering, Texas A&M University, December 1999.
  Dissertation title*: "Adaptive IIR Anti-Aliasing Filter Design"*
- M.S., Electrical Engineering, Texas A&M University, 1994.
- B.S., Electrical Engineering, Texas A&M University, 1992.

ACADEMIC EXPERIENCE

- *Hudson-Torchmark Presidential Professor,* endowed by Charles Hudson of the Torchmark Corp., University of Oklahoma, April 2010 to present.
- *Director – Defense, Security & Intelligence (DSI) initiative,* Office of the Vice President for Research, University of Oklahoma, Jan 2015 to present.
- *Distinguished Faculty Fellow,* Office of the Vice President for Research, University of Oklahoma, July 2013 to December 2014.
- *Professor,* Department of Electrical & Computer Engineering, University of Oklahoma, July 2012 to present.
- *Visiting Professor,* MIT's Lincoln Laboratory, Massachusetts, Fall 2012 and Spring 2013, sabbatical.
- *Associate Professor,* Department of Electrical & Computer Engineering, University of Oklahoma, July 2008 to 2012. Responsibilities include:
  a. Assoc. Director (rotating), Advanced Radar Research Center
- *Assistant Professor,* Department of Electrical & Computer Engineering, University of Okla., Fall 2002 - June 2008. Responsibilities included:
  a. Principle Manager, Radar Innovations Laboratory, under ARRC
- *Graduate Faculty Member,* University of Oklahoma, Fall 2002 to present
- *Lecturer & Researcher (post-doc),* Department of Electrical Engineering, Texas A&M, Jan, 2000 to August, 2002.
- *Assistant Lecturer,* Department of Electrical Engineering, Texas A&M, Summer 1998 to Fall 1999.
- *Research Assistant,* Department of Electrical Engineering, Texas A&M, Fall 1997 to Spring 1998.
- *Teaching Assistant,* Department of Electrical Engineering, Texas A&M; Jan., 1993 to May, 1996.
- *Undergraduate Summer Research Grant Program,* Texas Engineering Experiment Station, College Station, TX, Summer 1992.

INDUSTRIAL EXPERIENCE

- *Raytheon,* Radar Signal Processing Group (SAS), Dallas, TX. Summer 2019.
- *Raytheon,* Radar Signal Processing Group (SAS), Dallas, TX. Summer 2018
- *Raytheon,* Radar Signal Processing Group (SAS), El Segundo, CA. Sum. 2017.
- *Raytheon,* Radar Signal Processing Group (SAS), Dallas, TX. Summer 2016.
- *Raytheon,* Radar Signal Processing Group (SAS), Dallas, TX. Summer 2015.
- *Raytheon,* Radar Signal Processing Group (SAS), McKinney, TX. Sum. 2014.
- *Raytheon,* Radar Signal Processing Group (SAS), McKinney,TX. Sum. 2013
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2011.
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2010.
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2009.
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2008.
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2007.
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2006.
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2005.
- *Raytheon,* Radar Signal Processing Group (SAS), Plano, TX. Summer 2004.
- *Raytheon,* Radar Signal Processing Group (NCS), Plano, TX. Summer 2003.
- *Raytheon,* Radar Signal Processing Group, Plano, TX. Summer 2002.
- *IBM,* International Business Machines, Austin, Texas; Summer 1995. Responsible for assisting with the floorplaning and place/routing of a PowerPC based ASIC.

PRIMARY RESEARCH INTERESTS

*"*Digital signal processing as applied to radar systems with an emphasis on hardware prototype development. Applications include weather, SAR/ISAR, and target detection." In particular:

- Embedded DSP system design, with emphasis on prototype development
- FPGA implementations of radar digital front-ends (DFE)
- Radar signal processing: target/wx detection, image processing, SAR/ISAR, Kalman filtering, and adaptive filters.

PROFESSIONAL MEMBERSHIPS

- IEEE (*Fellow*)
  Society membership includes:
  - Instrumentation and Measurement Society
  - Aerospace and Electronic Systems Society
  - Signal Processing Society
  - Geoscience and Remote Sensing Society
- Professional Engineer (P.E.), State of Oklahoma
- American Meteorological Society (AMS)
- Tau Beta Pi, engineering honor society
- Eta Kappa Nu, electrical engineering honor society

HONORS

- *Vice President for Research Award for Scholarly Engagement with the Private Sector*, University of Oklahoma, 2019.
- Felgar Society Outstanding Engineering Professor Award, 2018.
- Keynote: M. Yeary, "On array digital beamforming," *Antenna Applications Symposium*, Allerton Park, Illinois, September, 2018.
- University of Oklahoma, Faculty Leadership Academy. Sponsored by OU's Office of the Vice President of Research and OU Senior Vice President

& Provost, Fall 2015- Spring 2016.
- NASA Travel Grant Award & Invited Lecture, Goddard Space Flight Center. Greenbelt, MD. October 2011.
- *2010 National Academy of Engineering's Frontiers of Engineering Symposium*. Invited participant. Irvine, CA.
- ASEE *Midwest Section Outstanding Teaching Award*, September 2010.
- NASA Travel Grant Award. NASA HQ. Washington, DC. August, 2010.
- *Teaching Scholars Initiative Award*, in recognition of excellence in the scholarship of teaching, University of Oklahoma, 2009.
- CIMMS Fellow, August 2007 to present. The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) is a university/federal research consortium.
- IEEE *Outstanding Young Engineer Award*, (citation: "for contributions to radar systems measurements") given by IEEE's Instrumentation and Measurement Society and received in Sorrento, Italy. April, 2006.
- Outstanding Mentor Award, given by the IEEE Student branch at the University of Oklahoma. April 2006.
- NASA Travel Grant Award & Invited Lecture, Goddard Space Flight Center. Greenbelt, MD. November 2006.
- NASA Travel Grant Award & Invited Lecture, Goddard Space Flight Center. Greenbelt, MD. November 2005.
- Sigma Xi, scientific research honor society, full member, 2003.
- National Science Foundation Travel Grant, Career Development Workshop in Tempe, March 2003.
- Who's Who in Engineering Education, member, 2002.
- Collegium Fellowship, Portland, Oregon. June, 2001.
- Outstanding Professor Award, given by the Texas A&M student chapters of IEEE and Eta Kappa Nu, and IBM in Austin, for the academic year of 1999-2000.
- NSF/FIE 1998 New Faculty Fellow.
- Academic Excellence Award Scholarship-Texas A&M University, Fall 1992, Spring 1993, Fall 1993, Spring 1994, Fall 1994, Spring 1995, Fall 1996, Spring 1997, Fall 1997, & Spring 1998.
- Outstanding Teaching Assistant Award, given by the Texas A&M student chapters of IEEE and Eta Kappa Nu at Texas A&M, for the academic year of 1995-96.
- IEEE Graduate Student Paper Contest, by the Texas A&M student chapter, 2nd Place winner, 1996.
- Outstanding Teaching Assistant Award, given by the Texas A&M student chapters of IEEE and Eta Kappa Nu at Texas A&M, for the academic year of 1994-95.
- Alcatel Scholarship, Spring 1993.
- Member of the Engineering Scholars Program at Texas A&M, Undergraduate
- Charter member and officer of the Engineering Scholars Fellowship at Texas A&M, Undergraduate.
- Member of Honors Student Council, Undergraduate.
- College of Engineering Dean's Honor Roll, Spring 1992.
- Electrical Engineering Departmental Scholarships, Fall 1991, Spring 1992, and Fall 1992
- Distinguished Student Award, College of Engineering, Fall 1992.
- Duracell Scholarship, Undergraduate. (Received award in Washington, DC)

SELECTED PEER-REVIEWED JOURNAL PAPERS

- W. Dower and M. Yeary, "Bistatic SAR: forcasting spatial resolution," *IEEE Transactions on Aerospace & Electronic Systems*, accepted & to appear. DOI: 10.1109/TAES.2018.2873076

- N. Peccarelli, B. James, R. Irazoqui, J. Metcalf, C. Fulton, and M. Yeary, ``Survey: characterization and mitigation of spatial/spectral interferers and transceiver nonlinearities for 5G MIMO systems," *Transactions on Microwave Theory and Techniques – Special Issue on 5G*, vol. 67, no. 7, pp. 2829-2846, July 2019. Digital Object Identifier: 10.1109/TMTT.2019.2914382

- P. Chilson, T. Bell, K. Brewster, G. de Azevedo, F. Carr, K. Carson, W. Doyle, C. Fiebrich, B. Greene, J. Grimsley, S. Kanneganti, J. Martin, A. Moore, R. Palmer, E. Pillar-Little, J. Salazar-Cerreno, A. Segales, M. Weber, M. Yeary , and K. Droegemeier, "Moving Towards a Network of Autonomous UAS Atmospheric Profiling Stations for Observations in the Earth's Lower Atmosphere: The 3D Mesonet Concept," MDPI, *Sensors Journal*, vol. 19, pp. 1-24, 2019. doi: 10.3390/s19122720

- J. W. McDaniel, S. Saeedi, M. B. Yeary, and H. H. Sigmarsson, "A low loss fully-board integrated low pass filter using suspended integrated strip-line technology," *IEEE Trans. On Component Packaging Manufacturing Technology*, vol. 8, issue 11, pp. 1948-1955, November 2018. Digital Object Identifier: 10.1109/ TCPMT. 2018.2821061

- J. McDaniel, M. Yeary, H. Sigmarsson, S. Garrison, K. Byers, and A. Wolf, "Integration and Miniaturization of a Ka-Band Stepped Frequency Radar for UAV Applications," *Advancing Microelectronics Magazine*, vol. 45, no. 2, pp. 6-10, Invited Paper. March/April 2018.

- Z. Dunn, M. Yeary, C. Fulton, and R. Rincon, "Impedance dependent wideband digital predistortion of solid-state radar amplifiers," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 53, no. 5, pp. 2290-2303, October 2017.

- C. Fulton, J. Salazar, Y. Zhang, G. Zhang, R. Kelley, J. Meier, M. McCord, D. Schmidt, A. Byrd, L. Bhowmik, S. Karimkashi, D. Zrnic, R. Doviak, A. Zahrai, M. Yeary, R. Palmer, "Cylindrical polarimetric phased array radar (CPPAR): beamforming and calibration for weather applications," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 55, no. 5, pp. 2827-2841, 2017.

- F. Uysal, Z. Dunn, M. Yeary, and R. Rincon, "Application of waveform weighting for a frequency invariant transmit beampattern," *IEEE Aerospace & Electronics Systems Magazine*, vol. 31, no. 12, pp. 4-12, December 2016.

- Z. Dunn, M. Yeary, C. Fulton, N. Goodman, "Bayesian Based Wideband Digital Predistortion of Solid-State Radar Amplifiers for Efficient Spectral

Usage," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 52, issue 5, pp. 2452 - 2466, October 2016.

- C. Fulton, M. Yeary, D. Thompson, J. Lake, and A. Mitchell, "Digital phased arrays: Challenges and opportunities," *Proceedings of the IEEE*, invited paper, vol. 104, no. 3, pp. 487-503, March 2016.

- C. Curtis, M. Yeary, and J. Lake, "Adaptive Beamforming to Mitigate Ground Clutter on the National Weather Radar Testbed Phased Array Radar," *IEEE Transactions on Geoscience & Remote Sensing*, vol. 54, no. 3, pp. 1282-1291, March 2016.

- D. Thompson, M. Yeary, C. Fulton, and B. McGuire, "Optimized beam steering approach for improved sidelobes in phased array radars using a minimal number of control bits," *IEEE Transactions on Antennas and Propagation*, vol. 63, no. 1, pp. 106-112, January 2015.

- B. L. Cheong, R. Kelley, R. D. Palmer, Y. Zhang, M. Yeary, and T.-Y. Yu, "PX-1000: A Solid-State Polarimetric X-Band Weather Radar and Time-Frequency Multiplexed Waveform for Blind Range Mitigation," *IEEE Transactions on Instrumentation and Measurement*, vol. 62, no. 11, pp. 3064-3072, November 2013.

- B. Isom, R. Palmer, R. Kelley, J. Meier, D. Bodine, M. Yeary, B. Cheong, Y. Zhang, T.-Y. Yu, M. Biggerstaff, "The atmospheric imaging radar: simultaneous volumetric observations using a phased array weather radar," *Journal of Atmospheric and Oceanic Technology*, vol. 30, no. 4, pp. 655-675, April 2013.

- M. Yeary, J. Crain, A. Zahrai, C. Curtis, J. Meier, R. Kelley, I. Ivic, R. Palmer, D. Doviak, G. Zhang, and T.-Y. Yu, "Multi-Channel Receiver Design, Instrumentation, and First Results at the National Weather Radar Testbed," *IEEE Transactions on Instrumentation and Measurement*, vol. 61, no. 7, pp. 2022-2033, July 2012.

- M. Gately, M. Yeary, and C. Yang, "Algorithm for Jointly Optimizing Quantization and Multiple Constant Multiplication," *ACM Transactions on Design Automation of Electronic Systems*, Vol. 17, No. 4, Article 42, pp. 1-24, September 2012.

- V. Venkataraman, G. Fan, J. Havlicek, X. Fan, Y. Zhai, and M. Yeary, "Adaptive Kalman filtering for histogram-based appearance learning in infrared imagery," *IEEE Transactions on Image Processing*, vol. 21, no. 11, pp. 4622-4635, November 2012.

- J. Meier, R. Kelley, B. Isom, M. Yeary, and R. Palmer, "Leveraging Software Defined Radio Techniques in Digital Weather Radar Receiver Design," *IEEE Transactions on Instrumentation and Measurement*, vol. 61, no. 6, pp. 1571-1582, June 2012.

- T. Hosman, M. Yeary, and J. Antonio, "Design and Characterization of an MFSK-Based Transmitter/Receiver for Ultrasonic Communication through Metallic Structures," *IEEE Transactions on Instrumentation and Measurement*, vol. 60, no. 12, pp. 3767-3774, December 2011.

- Q. Cao, M. Yeary, G. Zhang, "Helping students learn polarimetry," *IEEE Transactions on Education*, vol. 55, no. 1, pp. 58-68, February 2012.

- C. Davis, M. Yeary, and J. Sluss, "Reversing the trend of engineering enrollment declines with innovative outreach, recruiting, and retention programs," *IEEE Transactions on Education,* vol. 55, no. 2, pp. 157-163, May 2012. (runner-up for the 2012 IEEE Transactions on Education *Best Paper Award.*)

- S. McCarroll, M. Yeary, D. Hougen, V. Lakshman, and S. Smith, "Approaches for Compression of Super-Resolution WSR-88D Data," *IEEE Geoscience and Remote Sensing Letters*, vol. 8, no. 2, pp. 191-195, March 2011.

- B. Root, T.-Y. Yu, and M. Yeary, "Consistent Clustering of Radar Reflectivities using Strong Point Analysis: A Prelude to Storm Tracking," *IEEE Geoscience and Remote Sensing Letters*, vol. 8, no. 2, pp. 273-277, March 2011.

- B. Root, T.-Y. Yu, and M. Yeary, "The added value of surface data to radar-derived rainfall rate estimation using an artificial neural network," *Journal of Atmospheric and Oceanic Technology*, as published by the American Meteorological Society. vol. 27, no. 9, pp. 1547-1554, September 2010.

- M. Yeary, T.-Y. Yu, R. Palmer, H. Monroy, I. Ruin, G. Zhang, P. Chilson, M. Biggerstaff, C. Weiss, K. Mitchell, and L.D. Fink, "Working together for better student learning: A multi-university, multi-federal partner program for asynchronous learning module development for radar based remote sensing systems," *IEEE Transactions on Education*, vol. 53, no. 3, pp. 504-515, August 2010.

- R. Palmer, M. Yeary, M. Biggerstaff, P. Chilson, J. Crain, K. Droegemeier, Y. Hong, A. Ryzhkov, T. Schuur, S. Torres, T.-Y. Yu, G. Zhang, Y. Zhang, "Weather radar education at the University of Oklahoma: An integrated interdisciplinary approach," *Bulletin of the American Meteorological Society*, pp. 1277-1282, September 2009.

- Y. Zhai, M. Yeary, S. Cheng and N. Kehtarnavaz, "An object tracking algorithm based on multiple model particle filtering with state partitioning," *IEEE Transactions on Instrumentation and Measurement*, vol. 58, no. 5, pp. 1797-1809, May 2009.

- M. Yeary, S. Nemati, T.-Y. Yu, Y. Wang, Y. Zhai and A. Fagg, "Support vector machines to simultaneously minimize classification error and maximize geometric margin for RF sensor spectral signatures," *IEEE Transactions on Instrumentation and Measurement*, vol. 58, pp. 221-228, January 2009.

- Y. Zhai, M. Yeary, J. Havlicek, and G. Fan, "A new centralized sensor fusion-tracking methodology based on particle filtering for power-aware systems," *IEEE Transactions on Instrumentation and Measurement*, vol. 57, vol. 10, pp. 2377-2387, October 2008.

- Y. Wang, T.-Y. Yu, M. Yeary, A. Shapiro, S. Nemati, M. Foster, D. Andra, and M. Jain, "Tornado Detection Using a Neuro-fuzzy System to Integrate Shear and Spectral Signatures," *Journal of Atmospheric and Oceanic Technology*, as published by the American Meteorological Society. Vol. 25, pp. 1136-1148, July 2008.

- M. Yeary, "An efficient intermodulation product computing technique for broadband active transmit systems," *IEEE Transactions on Instrumentation & Measurement*, vol. 57, no. 2, pp. 438-443, February 2008.

- T.-Y. Yu, Y. Wang, A. Shapiro, M. Yeary, D. Zrnic, and R. Doviak, "Characterization of Tornado Spectral Signatures Using Higher Order Spectra," *Journal of Atmospheric and Oceanic Technology,* published by the American Meteorological Society. Vol. 24, issue 12, pp. 1997-2013, December, 2007.

- M. Yeary, S. Nemati, T.-Y. Yu, Y. Wang, "Tornadic time series detection using Eigen analysis and a machine intelligence based approach,'' *IEEE Geoscience and Remote Sensing Letters*, vol. 4, no. 3, pp. 335-339, July 2007.

- M. Yeary, T.-Y. Yu, R. Palmer, M. Biggerstaff, L. Fink, C. Ahern, and K. Tarp, "A Hands-on, Interdisciplinary Laboratory Program and Educational Model to Strengthen a Radar Curriculum for Broad Distribution," *ASEE Journal of Advances in Engineering Education*, vol. 1, issue 1, pp. 1-23, invited paper, fall 2007.

- M. Yeary, W. Zhang, O. Alkhouli, and K. Wong-Hagen, "Design of an FPGA Based RF Link for Data and Power Transfer," *IEEE Transactions on Instrumentation and Measurement*, vol. 55, issue 6, pp. 2313-2319, December 2006.

- M. Yeary, W. Zhang, J.Q. Trelewicz, Y. Zhai, and B. McGuire, "Theory and Implementation of a Computationally Efficient Decimation Filter for Power Aware Embedded Systems," *IEEE Transactions on Instrumentation & Measurement*, vol. 55, no. 5, pp. 1839 - 1849, October 2006.

- M. Yeary, Y. Zhai, T.-Y. Yu, S. Nematifar, and A. Shapiro, "Spectral Calculations and Target Tracking for Remote Sensing," *IEEE Transactions on Instrumentation and Measurement,* vol. 55, no. 4, pp. 1430-1442, August 2006.

- W. Zhang, M. Yeary, J.Q. Trelewicz, and M. Tull, "Efficient Computation of Multiplierless Filters in Embedded Systems Employing an Optimal Approximation Method," *International Journal of Computational Methods*, vol. 3, no. 2, pp. 177-204, June 2006.

- M. Yeary, R. Fink, D. Beck, D. Guidry, and M. Burns, "A DSP Based Mixed-Signal Waveform Generator," *IEEE Transactions Instrumentation and Measurement,* vol. 53, no. 3, pp. 665-671, June 2004.

- R. Gopinath, S. Kim, J.-H. Hahn, P. Enjeti, M. Yeary, and J. Howze, "Development of a Low Cost Fuel Cell Inverter System with DSP Control," *IEEE Transactions on Power Electronics,* vol. 19, no. 5, pp. 1256-1262, September 2004.

- B. Jin, N. Park, K.M. George, M. Choi and M.B. Yeary, "Modeling and Analysis of Soft-Test/Repair for CCD-Based Digital X-Ray Systems," *IEEE Trans of Instrumentation and Measurement*, vol. 52, no. 6, pp. 1713-1721. December 2003.

- N. Kim, N. Kehtarnavaz, M. Yeary, S. Thornton, "DSP Based Neural Network Classification of Modulation Schemes," *IEEE Transactions on Neural Networks – Special Issue on Hardware Implementations,* vol. 14, no. 5, pp. 1065-1071, September 2003.

- R. Fink, M. B. Yeary, M. Burns, D. Guidry, "A DSP Based Technique for High-Speed A/D Conversion to Generate Coherently Sampled Sequences," *IEEE Transactions Instrumentation and Measurement,* vol. 52, no. 3, pp. 950-958, June 2003.

- M. B. Yeary, R.J. Fink, H.V. Sundaresan, D.W. Guidry, "Design of a Cordic Processor for Mixed-Signal A/D Conversion," *IEEE Transactions on Instrumentation and Measurement*, vol. 51, No. 4, pp. 804-809, August 2002.

- M. B. Yeary, N.C. Griswold, "Adaptive IIR Filter Design for Single Sensor Applications," *IEEE Transactions on Instrumentation and Measurement*. vol. 51, No. 2, pp. 259-267, April 2002.

- N. C. Griswold, S. Mathur, M. B. Yeary, R. Spencer, "Wavelet Decomposition/Reconstruction of Images via Outer Products," *Journal of Electronic Imaging*, vol. 9, no. 1, pp. 61-71, January 2000.

PEER-REVIEWED CONFERENCE PAPERS

- M. Yeary, R. Palmer, C. Fulton, J. Salazar, and H. Sigmarsson, "Recent Advances on an S-band All-Digital Mobile Phased Array Radar," *IEEE International Symposium on Phased Array Systems & Technology*, 2019.

- J. Salazar, T.-Y. Yu, M. McCord, J. Diaz, J. Ortiz, C. Fulton, M. Yeary, R. Palmer, B.-L. Cheong, H. Bluestein, J. Kurdzo, and B. Isom, "An Ultra-

Fast Scan C-band Polarimetric Atmospheric Imaging Radar (PAIR)," *IEEE International Symposium on Phased Array Systems & Technology*, 2019.

- Brian Sun, M. Yeary, H. Sigmarsson and J. McDaniel, "Fine resolution position estimation using Kalman filtering," *IEEE International Instrumentation and Measurement Technology Conference*, May 2019.

- J. Lake, M. Yeary, and R. Palmer, "Real-time digital equalization to enhance element-level digital beamforming," *2019 IEEE Radar Conference*.

- A. Saunders and M. Yeary, "Multi-Channel Digital Equalization to Enable Wideband Digital Arrays," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), pp. 1-4, March 2019.

- R. Palmer, C. Fulton, J. Salazar, H. Sigmarsson, and M. Yeary, "An Overview of Phased Array Weather Radar R&D at the Advanced Radar Research Center at the University of Oklahoma," *American Meteorological Society Annual Meeting*, Phoenix, AZ, 2019.

- R. Palmer, C. Fulton, J. Salazar, H. Sigmarsson, and M. Yeary, "The "Horus" Radar – An All-Digital Polarimetric Phased Array Radar for Multi-Mission Surveillance," *American Meteorological Society Annual Meeting*, Phoenix, AZ, 2019.

- W. Dower and M. Yeary, "Forward-Scatter Bistatic Range Resolution with Demonstrated Results," *IEEE Radar Conference,* pp. 146-151, April 2018.

- M. Perrine, R. Rincon, S. VanNostrand, H. Nguyen, T. Fatoyinbo, H. Jones, B. Osmanoglu, H. Sigmarsson, and M. Yeary, "Miniaturized P-band RADAR Transceiver," *IEEE Radar Conference*, April 2018.

- J. McDaniel, M. Yeary, and H. Sigmarsson, "A Fully-Board Integrated Ka-Band Suspended Integrated Strip-line Thru and Low Pass Filter," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), pp. 1-6, March 2018.

- D. Thompson, B. Marr, I. Robinson, M. Yeary, M. Herndon, "RF Measurements of a Multichannel, Wideband Digital Receiver/Exciter Module with Oversampling and Digital Noise Shaping in All COTS)," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), 2018.

- M. Yeary, C. Fulton, R. Palmer, J. Salazar, H. Sigmarsson, "Update on the All-Digital Phased Array Radar Horus Program at the Advanced Radar Research Center at OU," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), pp. 1-4, March 2018.

- T. Hoffmann, R. Wyse, C. Fulton, M. Yeary, A. Saunders, J. Lake, B. Murmann, "Recent Developments Regarding the IMPACT Common Module

Beamformer," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), pp. 1-7, March 2018.

- A. Saunders, J. Lake, C. Fulton, M. Yeary, F. Robey, T. Hoffman, T. Karrels, D. Jensen, "Fully Adaptive Digital Beamforming on an FPGA for the DARPA ACT Program," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), pp. 1-7, March 2018.

- D. Thompson, M. Yeary, C. Fulton, A. Saunders, T. Hoffman, "Time-delay Digital Beamforming in the IMPACT Common Module," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), pp. 1-4, March 2018.

- J. Salazar, Tian-You Yu, C. Fulton, M. McCord, R. Palmer, H. Bluestein, B.L. Cheong, M. Biggerstaff, B. Isom, J. Kurdzo, R. Doviak, X. Wang, and M. Yeary, "Development of a Mobile C-band Polarimetric Atmospheric Imaging Radar (PAIR)," *38th Conference on Radar Meteorology*, Session 15B.2, 28 August – 1 September 2017 Chicago, IL.

- Brian Sun, M. Yeary, F. Uysal, N. Goodman, C. Fulton, R. Rincon, "Digital Radar Implementation with Amplitude Predistortion," *IEEE Radar Conference*, pp. 1691 – 1696, Seattle, WA. May, 2017.

- D. Thompson, M. Yeary, B. Marr, and K. Prager, "Benchmarking 3D transistors for digital beamforming applications," *IEEE Radar Conference*, pp. 1283-1286, Seattle, WA. May, 2017.

- T. Hoffmann, C. Fulton, M. Yeary, A. Saunders, D. Thompson, B. Chen, B. Murmann, "Measured Performance of the IMPACT Common Module," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), 2017.

- J. McDaniel, S. Saeedi, M. Yeary, and H. Sigmarsson, "Suspended Integrated Strip-line Transition Design for Highly Integrated Radar Systems," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), 2017.

- D. Thompson, M. Yeary, and C. Fulton, "Real-time RF array system equalization with FPGA hardware-in-the-loop," *IEEE International Symposium on Phased Array Systems & Technology*, 2016.

- T. Hoffmann, C. Fulton, M. Yeary, A. Saunders, D. Thompson, B. Murmann, B. Chen, A. Guo, "Measured Performance of the IMPACT Common Module – a building block for next generation phased arrays," *IEEE International Symposium on Phased Array Systems & Technology*, 2016.

- R. Rincon, T. Fatoyinbo, B. Osmanoglu, S. Lee, K. Ranson, V. Marrero, and M. Yeary, "Development of NASA'S Next Generation L-Band Digital Beamforming Synthetic Aperture Radar (DBSAR-2)," paper #1570232820, EUSAR 2016.

- Z. Dunn, M. Yeary, F. Uysal, and C. Fulton, "Sidelobe pseudo-orthogonal code sets through particle swarm optimization," *IEEE Radar Conference*, May, 2016.

- T. Hoffmann, C. Fulton, M. Yeary, A. Saunders, D. Thompson, B. Murmann, B. Chen, and A. Guo, "IMPACT - A Common Building Block to Enable Next Generation Radar Arrays," *IEEE Radar Conference*, May, 2016.

- J. Lake, M. Yeary, and Chris Curtis, "Effects of Radio Frequency Interference Mitigation Strategies on Meteorological Data," *IEEE Radar Conference*, May, 2016.

- T. Hoffmann, C. Fulton, M. Yeary, A. Saunders, D. Thompson, B. Chen, Alex Guo, B. Murmann, "A low cost, reconfigurable, digital beamforming common module building block for next generation phased arrays," *Government Microcircuit Applications & Critical Technology Conference* (GOMAC), 2016.

- R. Rincon, T. Fatoyinbo, B. Osmanoglu, S. Lee, K. J. Ranson, V. Marrero, and M. Yeary, "Next Generation digital beamforming synthetic aperture radar (DBSAR-2)," *IEEE IGARSS*, paper #9016, pp. 2774 – 2777, July, 2015.

- J. Lake, M. Yeary, C. Curtis, "Multi-channel nullforming at the National Weather Radar Testbed," *IEEE International Radar Conference*, pp. 1072-1077, Arlington, VA. May, 2015.

- Z. Dunn, M. Yeary, C. Fulton, and N. Goodman, "Memory polynomial model for digital predistortion of broadband solid-state radar amplifiers," *IEEE International Radar Conference*, pp. 1482-1486, Arlington, VA. May, 2015.

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- Z. Dunn, M. Yeary, C. Fulton, N. Goodman, and Rafael Rincon, "Effects of cross-correlated waveforms on polarimetric scattering parameter recovery," *AMS Radar Meteorology Conference,* Norman, OK. Poster #78, September, 14-18, 2015.

- J. Lake, C. Curtis, and M. Yeary, "Adaptive null-forming for the SPY-1A at the National Weather Radar Testbed," *AMS Annual Meeting*, Phoenix, AZ, January, 2015.

- M. Yeary, B. Greiner, C. Fulton, R. Palmer, and R. Huck, "Counter UAS X-Band Radar," *Counter UAS (CUAS) Workshop*, Redstone Arsenal, AL, May 2014.

- J. Lake, M. Yeary, and C. Curtis, "Radio Frequency Spectrum Challenges for MPAR: Adaptive Interference Mitigation Techniques," abstract id: 241278, 30*th Conference on Environmental Information Processing Technologies, Radar Sessions, at the AMS Annual Meeting*, Atlanta, GA, February 2014.

- D. Thompson and M. Yeary, "Beam steering improvements using non-ideal phase fronts with a minimal number of control bits," *36th Conference on Radar Meteorology*, Breckenridge, CO, (16-20 September, 2013).

- Z. Dunn and M. Yeary, "Orthogonal coding in a MIMO polarimetric radar system as a method to recover full polarimetric data," *36th Conference on Radar Meteorology*, Breckenridge, CO, (16-20 September, 2013).

- C. Curtis and M. Yeary, "Using Sidelobe Cancellation to Mitigate Ground Clutter on the National Weather Radar Testbed," abstract id: 221450, *29th Conference on Environmental Information Processing Technologies, Radar Sessions, at the AMS Annual Meeting*, Austin, TX, January 2013.

- C. Curtis, M. Yeary, R. Palmer, "Using the Multi-Channel Receiver to Study Sidelobe Cancellation on the National Weather Radar Testbed," abstract id: 180271, *28th Conference on IIPS at the AMS Annual Meeting*, New Orleans, LA, January 2012.

- Z. Dunn and M. Yeary, "HF Oblique Incident Sounding for Calibration of an Over-The-Horizon Radar (OTHR) System," *AISES National Conference*. Technical poster session. November, 2011. Minneapolis, MN.

- V. Melnikov, M. Yeary, R. Huck, and J. Phillips, "Potentials of frequency agile cloud radars," *AMS Radar Meteorology Conference*, Pittsburgh, PA, September 2011.

- K. Namjou, P. McCann, M. Yeary, and R. Kelley, "Adaptive junction temperature cooling to enable the next-generation of single-assembly solid-state high-power RF amplifiers," *AMS Radar Meteorology Conference*, Pittsburgh, PA, September 2011.

- B. Root, M. Yeary, and T.-Y. Yu, "Testing and Analysis of storm cell tracking algorithms using established case-study tracks," *AMS Radar Meteorology Conference*, Pittsburgh, PA, September 2011.

- C. Curtis and M. Yeary, "Mitigating ground clutter using the multi-channel receiver on the National Weather Radar Testbed," *AMS Radar Meteorology Conference*, Pittsburgh, PA, September 2011.

- D. Thompson, R. Kelley, J. Meier, and M. Yeary, "Direct digital synthesizer designs for dual-polarization transceiver modules," *AMS Radar Meteorology Conference*, Pittsburgh, PA, September 2011.

- M. Yeary, Y. Hong, and J. Basara, "Prototype concept: Non-contacting soil moisture estimates via innovative RF solutions," Abstract ID #53, *International Symposium on Earth-science Challenges* (ISEC), Norman, OK, September 2011.

- B. L. Cheong, R. Palmer, Y. Zhang, M. Yeary, and T.-Y. Yu, "A software-defined X-band polarimetric radar with twin TWT amplifiers," Abstract ID #6, *International Symposium on Earth-science Challenges* (ISEC), Norman, OK, September 2011.

- B. Isom, R. Palmer, R. Kelley, J. Meier, D. Bodine, M. Yeary, B. L. Cheong, Y. Zhang, T.-Y. Yu, M. Biggerstaff, "The atmospheric imaging radar for high-resolution observations of severe weather," Abstract ID #110, *International Symposium on Earth-science Challenges* (ISEC), Norman, OK, September 2011.

- M. Yeary, V. Melnikov, R. Huck, and R. Kelley, "A new approach for drop size distribution (DSD) understanding via wideband, frequency agile radars," Abstract ID #15, *International Symposium on Earth-science Challenges* (ISEC), Norman, OK, September 2011.

- C. Davis, M. Yeary, and J. Sluss, "Results and best practices of a two year study on recruiting programs to boost ECE undergraduate enrollment," *ASEE Annual Conference and Exposition*, paper AC 2011-1539, pp. 1-17. June

2011.

- M. Yeary, J. Crain, A. Zahrai, J. Meier, I. Ivic, C. Curtis, R. Kelley, Y. Zhang, R. Palmer, T.-Y. Yu, G. Zhang, R. Doviak, Q. Xu, P. Chilson, and M. Xue, "A status report on the integration and test of the new multi-channel receiver at the National Weather Radar Testbed," abstract id: 180271, *27th Conference on IIPS at the AMS Annual Meeting*, Seattle, WA, January 2011.

- B. Root, M. Yeary, and T.-Y. Yu, "Generalized testing and analysis of storm cell tracking algorithms," abstract id: 184239, 27th Conference on IIPS at the AMS Annual Meeting, Seattle, WA, January 2011.

- B. Root, M. Yeary, and T.-Y. Yu, "Novel storm cell tracking with multiple hypothesis tracking," abstract id: 184250, 27th Conference on IIPS at the AMS Annual Meeting, Seattle, WA, January 2011.

- B. Cheong, R. Palmer , Y. Zhang, M. Yeary, and T.-Y. Yu, "Design, Fabrication and Test of a TWT Transportable Polarimetric X-band Radar," *27th Conference on IIPS at the AMS Annual Meeting*, Atlanta, GA, January 2011.

- D. Bodine, R. D. Palmer, B. Isom, R. Kelley, J. Meier, M. Yeary, B. L. Cheong, Y. Zhang, T.-Y. Yu, B. Fiedler, M. Biggerstaff, R. May, "The Atmospheric Imaging Radar - A Breakthrough Radar Technology to Study Severe Storms and Tornadoes," Beihang University Graduate Student Academic Forum, October, 2010.

- R. Palmer, Y. Zhang, M. Yeary, B. Cheong, M. Biggerstaff, T.-Y. Yu, X. Wang, G. Zhang, R. Doviak, B. Isom, D. Bodine, H. Suarez, R. Kelley, J. Meier, "Progress on the Atmospheric Imaging Radar 3D at the University of Oklahoma," *European Conference on Radar in Meteorology and Hydrology*, Romania, September 2010.

- R. Palmer, B. Isom, R. Kelley, J. Meier, D. Bodine, M. Yeary, B. L. Cheong, Y. Zhang, T.-Y. Yu, M. Biggerstaff, ``The Atmospheric Imaging Radar (AIR) for High-Resolution Observations of Severe Weather,'' Digital Hurricane Consortium's Field Planning and Impacts Workshop, Norman, OK, June, 2010.

- P. McCann, K. Namjou, D. Kochhar, and M. Yeary, "Thermal management of radio frequency power amplifiers," *Information Systems and Computing Technology Network (ISaCTN) Symposium*, Raytheon UOO_TMGT_01, Dallas, TX, April, 2010.

- M. Yeary, G. Crain, A. Zahrai, R. Kelley, J. Meier, Y. Zhang, I. Ivic, C. Curtis, R. Palmer, T.-Y. Yu, G. Zhang, R. J. Doviak, P. Chilson, M. Xue, and Q. Xu, "A status report on the RF and digital components of the multi-channel receiver development at the National Weather Radar Testbed," abstract # 160298, 26th Conference on IIPS at the AMS Annual Meeting,

Atlanta, GA, January 2010.

- Chilson, A. Gleason, B. Zielke, N. Feng, M. Yeary, P. Klein, and W. Shalamunec, "SMARTSonde: A Small UAS Platform to Support Radar Research," 26th Conference on IIPS at the AMS Annual Meeting, Atlanta, GA, January 2010.

- R. Palmer, Y. Zhang, M. Yeary, B. Cheong, M. Biggerstaff, T.-Y. Yu, X. Wang, G. Zhang, R. Doviak, B. Isom, D. Bodine, H. Suarez, and R. Kelley, "Development of the AIR3D at the University of Oklahoma," *International Symposium on Radar and Modeling Studies of the Atmosphere*, Kyoto, Japan, November, 2009.

- B. Cheong, R. Palmer, Y. Zhang, M. Yeary and T.-Y. Yu, Design, Fabrication and Test of a TWT Transportable Dual-polarization X-band Radar, *International Symposium on Radar and Modeling Studies of the Atmosphere*, Kyoto, Japan, November 10-13, 2009.

- J. Meier, R. Kelley, and M. Yeary, "Digital WX radar receiver design based on highly efficient bandpass sampling FPGA architecture," *AMS Conference on Radar Met.*," Oct. 2009.

- C. Davis, M. Yeary, J. Sluss, and P. McCann, "Work in Progress: Utilizing research projects and innovative demonstrations in student recruitment" *ASEE Frontiers in Education Conference*, San Antonio, TX., paper 1359, October 2009.

- P. B. Chilson, A. Gleason, B. Zielke, N. Feng, M. Yeary, P. Klein, and W. Shalamunec, "SMARTSonde: A Small UAS Platform to Support Radar Research," *AMS Conference on Radar Met.*," Oct. 2009.

- R. Palmer, A. Ryzhkov, G. Zhang, B. Cheong, T.-Y. Yu, M. Yeary, P. Chilson, M. Biggerstaff, N. Hickmon, R. Doviak, D. Zrnic, M. Knight, N. Lawrence, F. Sloan, C. Goode, R. Stafford, R. Keene, P. Neilley, A. Turnbull, J. Snow, T. Williams, and D. Marsh, "OU-PRIME: A High-Resolution Platform for Interdisciplinary Polarimetric Radar Research and Education at the University of Oklahoma," *AMS Conference on Radar Met.*, Oct. 2009.

- B. Root, T.-Y. Yu, and M. Yeary, "Analysis and potential improvements to the WSR-88D storm cell tracking algorithm," *AMS Conference on Radar Met.*," p10.14, Oct. 2009.

- S. McCarroll, M. Yeary, and D. Hougen, "Compression strategies for super resolution WSR-88D radar data," *AMS Conference on Radar Meteorology*, poster 5.18, Williamsburg, VA. October 2009.

- B. Isom, R. Palmer, M. Yeary, J. Meier, R. Kelley, B. L. Cheong, D. Bodine, R. Doviak, Y. Zhang, T.-Y. Yu, M. Biggerstaff, and R. May, "A new frontier for mobile weather radar – the Atmospheric Imaging Radar: Design

specifications and experimental functionality." *34th Conf. Radar Meteor., Amer. Meteor. Soc.*, Williamsburg, VA. October, 2009.

- M. Yeary, G. Crain, A. Zahrai, R. Kelley, I. Ivic, J. Meier, C. Curtis, Y. Zhang, R. Palmer, T.-Y. Yu, G. Zhang, R. J. Doviak, P. Chilson, M. Xue, and Q. Xu, "An update on the RF and digital components of the multi-channel receiver development at the National Weather Radar Testbed," poster #P10.12, *34th Conf. Radar Meteor., Amer. Meteor. Soc.*, Williamsburg, VA. October, 2009.

- M. Yeary, R. Palmer, T.-Y. Yu, J. Sluss, P. Chilson, G. Zhang, and M. Biggerstaff, "An update Progress Report on a Hands-On Interdisciplinary Program for Severe Weather and Next-Generation Multi-Function Radar," *Proceedings of ASEE Annual Conference and Exposition*, pp. 1-19. Paper no. 2426. NSF Grantees Session. Austin, TX. June 2009.

- Y. Umemoto, Y. Zhang, K. Brewster, T.-Y. Yu, and M. Yeary, "The estimation of wind shear hazard index using air borne radar as a laboratory module for a CCLI project," *AMS Annual Meeting*, Educational Initiatives Poster Session. Paper id: 150414. Phoenix, AZ. January, 2009.

- M. Yeary, T.-Y. Yu, R. Palmer, M. Biggerstaff, G. Zhang, P. Chilson, and H. Monroy, "Moving to the Next Level: Refining and Disseminating a Pedagogical Taxonomy and Hands-on Curriculum Materials for an Interdisciplinary Program on Multi-Function Radar," *NSF CCLI Principle Investigator Conference*, Poster Presentation, session 3, poster 312. Washington, DC. August, 2008.

- S. McCarroll and M. Yeary, "Data compression strategies for high-resolution and dual-polarization WSR-88D radar data," *NSF Bridge-to-Doctorate Conference*. Technical poster session. June, 2008. Washington, DC.

- M. Yeary, R. Palmer, T.-Y. Yu, K. Kloesel, K. Johnson, M. Biggerstaff, P. Chilson, and G. Zhang, "A Progress Report on a Hands-On Interdisciplinary Program for Severe Weather and Next-Generation Multi-Function Radar," *Proceedings of ASEE Annual Conference and Exposition*, pp. 1-18. NSF Grantees Session. Session 1809. Pittsburg, PA. June 2008.

- P. Chilson, R. Palmer, M. Yeary, M. Biggerstaff, T.-Y. Yu, G. Zhang, and Y. Zhang, "Recent Developments in Weather Radar Educational Opportunities at the University of Oklahoma," *International Union Radio Science Conference*, held in cooperation with the IEEE. Paper FS2-3. Boulder, CO, January 2008.

- S. McCarroll and M. Yeary, "Data compression strategies for high-resolution and dual-polarization WSR-88D radar data," *AISES National Conference*. Technical poster session. November, 2007. Phoenix, AZ.

- R. Palmer, G. Zhang, M. Biggerstaff, P. Chilson, J. Crain, S. Torres, M. Yeary,

T.-Y. Yu, and Y. Zhang, "Atmospheric Radar Research Center – *ARRC* University of Oklahoma, USA." *IEEE Geoscience and Remote Sensing Newsletter*, issue 142, pp. 10-16, March 2007.

- M. Yeary, T.-Y. Yu, R. Palmer, M. Biggerstaff, D. Fink, and C. Ahern, "A hands-on, interdisciplinary laboratory program and educational model to strengthen a radar curriculum for broad distribution," *Proceedings of the ASEE Annual Conference*, pp. 1-18. Session 1526: NSF Grantees Poster Session. Chicago, IL. June, 2006.

- T. Ibrahim, M. Yeary, C. Altan, J. Barnes, R. Abraham, and D. Abraham, "A Software Based Approach for Radome Characterization," for the *Center for Aircraft and Systems/Support Infrastructure.* Poster Session – Applied Research Projects. Tinker Air Force Base, OKC, OK. May 3, 2006.

- M. Yeary, J. Dubois, T.-Y. Yu, R. Palmer, M. Biggerstaff, D. Fink, and C. Ahern, "A progress report on the hands-on interdisciplinary laboratory program: an approach to strengthen the weather radar curriculum at the University of Oklahoma," *AMS Conference – 15th Symposium on Education*, paper J.10, Atlanta, GA. February 2006.

- M. Yeary, T.-Y. Yu, R. Palmer, M. Biggerstaff, and D. Fink, "Adaptive and array processing strategies for the NSF-CCLI interdisciplinary project at OU," *Oklahoma Supercomputing Symposium*. Co-sponsored by the NSF. October, 2005. Norman, OK.

- T. Ibrahim, M. Yeary, and C. Altan, "A Software Based Approach for Radome Characterization," for the Air Force Office of Scientific Research, Poster Session at the Technical Interchange Meeting (TIM). Tinker Air Force Base, OKC, OK. October 18-19, 2005.

- M. Yeary, T. Yu, R. Palmer, M. Biggerstaff, and D. Fink, "A hands-on interdisciplinary laboratory program: an approach to strengthen the weather radar curriculum," *NSF Engineering and Computing Education Grantees Conference*, Directorate for Computer Information Science and Engineering, Directorate for Education and Human Resources, and Directorate for Engineering. Arlington, VA. February 2005.

- M. Yeary, T. Yu, R. Palmer, M. Biggerstaff, and D. Fink, "A hands-on interdisciplinary laboratory program: an approach to strengthen the weather radar curriculum at the University of Oklahoma," *AMS Conference – 14th Symposium on Education*, paper 2.4, San Diego, CA. January 2005.

- M. Yeary, R. Fink, D. Beck, M. Burns, D. Guidry, "A Spline Function, DSP Based Arbitrary Waveform Generator," *Conference on Applied Mathematics (CAM-2002)*, Oklahoma City, October, 2002.

- N. Callaos, A. Duale, L. Benedicenti, and M. Yeary (editors), *Proceedings of the 6th World Multiconference on Systemics, Cybernetics, and Informatics*, vol.

XV, ISBN: 980-07-8150-1. 581 pages. July, 2002.

- M. Yeary, "Teaching Electrical Engineering Principles with Computer-Based Instrumentation as part of an NSF Foundation Coalition Course," *National Instruments Week*. Austin, TX. Aug., 2001.

- M. Yeary, C. Kidder, D. Horton, R. Fink, "An Internet Based Wireless Analysis Tool Employing Bluetooth," *Proceedings of the ASEE Annual Conference*, Session 2793, pp. 1-11. Albuquerque, NM. June, 2001.

- M. B. Yeary, "Teacher-Centered to Learner-Centered Educational Model", *Proceedings, Frontiers in Education 1998 Conference*, Tempe, Arizona. Nov. 4-7, 1998. **Received the NSF/FIE New Faculty Fellow award**

- M. B. Yeary, "A Vector Space Approach to Adaptive IIR Anti-Aliasing Filter Design," *Student Research Week*, Texas A&M University, March 26, 1998.

- M. B. Yeary, N. C. Griswold, "Recursive Time-Frequency Analysis of Non-Stationary Signals," *Texas Systems Day Conference*, Dallas, TX, Nov., 1996.

- M. B. Yeary, N. C. Griswold, "Design of an F.I.R. Filter for Directional Edge Detection," *Texas Systems Day Conference*, College Station, TX, Nov. 1994.

SELECTED INVITED LECTURES

- "Research and Student Training in Digital Technologies for Next-Generation Radar Systems," NASA's Goddard Space Flight Center, Greenbelt, MD. October, 2011.

- "NWRT Multi-Channel Receiver Project," Office of the Federal Coordinator for Meteorology (OFCM), Silver Spring, MD. September, 2011.

- "Influence of Weather Conditions on Target Recognition & the Next Generation of Weather Radar Systems," Automatic Target Recognition Working Group (ATRWG), Wright-Patterson AFB, May 2011.

- "Radar Scan Strategies for Aquifer Management," *Water and Climate Initiatives for Chickasaw Nation, Choctaw Nation, University of Oklahoma, and the National Severe Storms Laboratory*, February 2011.

- "Radar Systems and Severe Weather Monitoring," Summer 2010 ESWG, Raytheon, Washington, DC

- "An Update on a Ka-Band Radar Based IED Imaging Project," *Information Systems and Computing Technology Symposium*, Raytheon, April 2010, Dallas, TX

- "Low-Cost Multi-Channel Digital Receiver Design," *Information Systems and Computing Technology Symposium*, Raytheon, April 2010, Dallas, TX

- "Thermal Management of Radio Frequency Power Amplifiers," *Information Systems and Computing Technology Symposium*, Raytheon, April 2010, Dallas, TX

- "Multi-Function Digital Receiver Designs and Implementations," *Raytheon RF Symposium*. Poster Session. Garden Grove, CA. Oct, 2009.

- "Digital Subarray Design and Demonstration," *Raytheon RF Symposium*. Poster Session. Boston, MA. May, 2008.

- "*Next Generation Observing Systems via Digital Imaging Radar Development*," NASA Goddard Space Flight Center. Greenbelt, Maryland. December 2006.

- "*Next-Generation Embedded DSP System Design and Adaptive Algorithm Development for Chemical and Biological Sensing*," Distinguished Lecture Program at the IEEE Instrumentation and Measurement Conference. Sorrento, Italy. April 2006.

- "*Next-Generation Prediction Filters Based on Emerging Stochastic State Estimation Techniques,*" NASA Goddard Space Flight Center. Greenbelt, Maryland. November 2005.

- "*Overview of the Center for Weather Radar Research at OU*," National Weather Radar Testbed Tri-Agency Consortium Meeting. FAA, New Jersey, September 2004. The tri-agencies are defined as the National Oceanic and Atmospheric Administration (NOAA), Federal Aviation Administration (FAA), and the Navy.

- "*Tornado Detection Using Doppler Spectrum for CASA Radars*," Collaborative Adaptive Sensing of the Atmosphere (CASA) Research Retreat, NSF Sponsored. Estes Park, Colorado. October 2004.

FUNDED PROPOSALS

- PI, "Increased Beam Bandwidth Product All-Digital Polarimetric Phased Array Radar Mobile Testbed," *Office of Naval Research*, April 2019 – April 2022

- PI, "All-Digital Polarimetric Phased Array Radar Mobile Testbed," *Office of Naval Research*, Oct 2018 – Sept 2020.

- Co-PI, "Development of the All-Digital Horus Radar for SENSR," May 2018 to June 2019. NOAA.

- Co-PI, "Radar 2021 - Year 3," *Honeywell Federal Manufacturing Technologies,*

LLC - Kansas City Plant (HFMTKCP). 2017-2018.

- PI, "Development and Commercialization of a Ground-Based Radar to Enable the Next-Generation of Atmospheric Measurements via Unmanned Aircraft Systems (UAS)," *Oklahoma Center for the Advancement of Science and Technology* (OCAST). 2017 – 2020.

- Co-PI, "Spectrum Efficient National Surveillance Radar (SENSR) ARRC Risk Reduction Activates," June 2017 to May 2018. NOAA.

- Co-PI, "*Space-borne Antennas & Circuits for Condensed Radars and STEM (SPACERS)*," NASA, 2017 – 2020.

- PI, "*Advanced Digital Radar Techniques for the Next Generation of Synthetic Aperture Radar (SAR) and Student Training*," NASA, 2013 – 2016.

- Co-PI, "MRI: Development of a Mobile C-band Polarimetric Imaging Radar," NSF, August 2015 - July 2020.

- Co-PI, "Support for Integrated Multi-Use Phased Array Common Tile Program," U.S. Department of Defense Advanced Research Projects Agency (DARPA, with Rockwell-Collins), BAA-13-26 *Arrays at Commercial Time Scales* (ACT), 2013-2017.

- Co-PI, "Radar Gap Analysis and Application of REMAR Components." *Air Force Reconfigurable Electronics for Multifunction Agile RF* (REMAR) with Rockwell-Collins.

- Co-PI, "MPAR Demonstrator Development: The ARRC's Efforts to Achieve Multi-Mission Requirements," fall 2016 to June 30, 2017.

- Co-PI, "Radar 2021," *Honeywell NSC*, 2016-2017.

- Co-PI, "*Meeting the Technical Challenges of the Multi-Mission Phased Array Radar (MPAR) Program*," NOAA, 2014-2015.

- Co-PI, "*Multi-Mission Phased Array Radar Risk Reduction: A Collaboration Effort with the ARRC at the University of Oklahoma*," NOAA, 2013-2014.

- PI, "System and Software Support for CGI," CGI Federal, Inc., near Ft. Sill, OK, 2014. Phase II.

- Co-PI, "System and Software Support for CGI," CGI Federal, Inc., near Ft. Sill, OK, 2013. Phase I.

- PI, "*Digital Backend Design & Demo for Next-Generation Weather Radar Systems*," NOAA, 2012-2013.

- Co-PI, "*Adaptive Exploitation of High-Frame-Rate Radar Imagery for Detection & Tracking*," U.S. Department of Defense Advanced Research Projects

Agency (DARPA), BAA 12-41 Video Synthetic Aperture Radar (ViSAR), 2013.

- PI, "*ECCS: Computationally Efficient Linear Transforms for Remote Sensing Systems*," National Science Foundation. September 2009 to Aug 2013.

- Co-PI, "*Next Generation Weather Radar Technology*," NOAA, 2012-2013.

- Co-PI, "*Advanced Weather Sensing Using Phased Array Technology,*" National Oceanic and Atmospheric Administration, 6/1/2011 to 5/31/2012.

- Co-PI, "*Next Generation Phased Array Technology, Multi-Mission Operation*," National Oceanic and Atmospheric Administration, 4/1/2010 to 3/31/2011.

- Co-PI, "*Support of (Mobile Weather Radar) MWR Testing*," sponsored by BCI, Inc. 2011.

- PI, "*MRI: Development of a Multi-Channel Receiver for the Realization Multi-Mission Capabilities at the National Weather Radar Testbed*," National Science Foundation. September 2007 to Feb 2010.

- Co-PI, "*Phased Array Technology for Weather Radar Applications*," National Oceanic and Atmospheric Administration, 5/1/2009 to 4/30/2010.

- Co-PI, "*Atmospheric Observations using Phased Array Technology*," National Oceanic and Atmospheric Administration, 6/1/2009 to 5/31/2010.

- Co-PI, "Radio-Free Acoustic Communication for Container Sensor Communication," *Intermodal Containerized Freight Security Research Initiative at OU, Federal Highway Administration*. 7/16/2009 to 7/15/2010.

- PI, "*Fundamental Research and Demonstration for Real-Time, Radar Based IED Imaging*," DoD-AF, December 2009 – December 2010.

- PI, "*Fundamental Design and Demonstration for Low-Cost Synthetic / Inverse Synthetic Aperture Imaging,"* Raytheon, April 2009- December 2009.

- PI, "Digital Receiver Subarray Development and Demonstration," Raytheon. September 2007-December 2008.

- Co-PI, "*Phased Array Weather Radar Research at the University of Oklahoma*," National Oceanic and Atmospheric Administration, Spring 2008 to Spring 2009.

- Co-PI, "*Design, Fabrication, and Test of a Next-Generation CASA Radar*," State of Oklahoma's Regents for Higher Education, fall 2008 to summer 2010.

- PI, "*Next Generation Observing Systems via Digital Imaging Radar Development*," NASA, 2007.

- Co-PI, "*Airborne Phased Array Radar for Microphysics-Based External Hazard Detection and Monitoring*," NASA, Summer 2007 – Fall 2008.

- PI, "*Dielectric Measurement Tool for Radome Checkout*," DoD / Air Force SBIR, AF06-327, 2006-2007.

- Co-PI, "*Optimal Use of Phased Array Radar for Multi-Mission Weather Surveillance and Aircraft Tracking*," National Oceanic and Atmospheric Administration, Spring 2007 to Spring 2008.

- PI, "*Moving to the Next Level: Refining and Disseminating a Pedagogical Taxonomy and Hands-on Curriculum Materials for an Interdisciplinary Program on Multi-Function Radar*," National Science Foundation 0618727, Fall 2006 – Summer 2010.

- Co-PI, "*Meteorological Studies with the Phased Array Weather Radar and Data Assimilation Using the Ensemble Kalman Filter,*" Office of Naval Research. May 2006 – April 2009.

- PI, "*A Hands-on Interdisciplinary Laboratory Program -- An Approach to Strengthen the Weather Radar Curriculum*," (NSF-0410564), Fall 2004 – Summer 2007.

- Co-PI, "*PAR to MPAR: Advanced Studies with the National Weather Radar Testbed at the University of Oklahoma*," National Oceanic and Atmospheric Administration, Spring 2006 to Spring 2007.

- Co-PI, one of several interdisciplinary senior personnel, with H. Neeman, "*CI-TEAM Demonstration Project: Cyberinfrastructure Education for Bioinformatics and Beyond*," Effective December 1 , 2006 and expires November 30, 2010. National Science Foundation, OCI-0636427

- Academic PI, "*High-Bandwidth Blue/UV Emitters and Laser Systems*," (NSF-STTR- 0539033, Division of Industrial Innovation and Partnerships), 50/50 academic/industrial split, Spring 2006 – Fall 2006.

- Co-PI, "*Software Based Image Processing for Radome Characterization*," the Center for Aircraft and Systems/Support Infrastructure (CASI) at the US Air Force, Air Logistics Centers in Oklahoma, June 2005- May 2006. X-band radar.

- Co-PI, "*Improving Tornado Detection with WSR-88D Data Using Spectral Analysis*," The National Weather Service and NOAA, Spring 2004 – Spring 2007.

- PI, "*Electronic Data Collection*," Siemens-Westinghouse, June 1-August 15, 2002. Texas Engineering Experiment Station, project no. 68000. Single investigator award.

- Co-PI, "*Coherent Undersampling Digitizer*," Texas Instruments, September 1, 2000-August 31, 2001.

OTHER AWARDED PROPOSALS

- PI, EMCOL Project: "An FPGA Based RF Link for Power and Full Duplex Data Transfer." Schlumberger – Houston, TX. September 2002-May 2003.

OTHER FUNDED PROJECTS

While teaching the senior design course (ELEN 405) in the Department of Electrical Engineering at Texas A&M University, I attracted companies to sponsor the student projects that were under my guidance. Sponsorship implies that the company provided cash, loaner equipment, and a mentor engineer(s). I was responsible for leading the following projects with the following companies (alphabetical order):

- PI, "*Electronic Positioner for Pneumatic Actuators*," Bray Controls, Houston. Spring 2000.
- PI, "*CDR-MP3 Player*," Cirrus Logic, Austin. Fall 2000.
- PI, "*Network Security Analysis – OpenSSL Implementation,*" Cisco, Austin. Fall 2001.
- PI, "*Temperature Compensated Current Source*," Dallas Semiconductor, Dallas. Spring 2000.
- PI, "*PSQM Voice Quality Assessment, Phase I & II*," Ericsson, Dallas. Spring and Summer 2000
- PI, "*Bluetooth Wireless Data Transmission,*" Ericsson, Dallas. Fall 2000
- PI, "*Wideband CDMA Project,*" Ericsson, Dallas. Spring 2001.
- PI, Proprietary – NDA, FutureSoft, Houston. Fall 2000.
- PI, "*Temperature Control Subsystem for VLSI Characterization,*" IBM, Austin. Spring 2000.
- PI, "*Automated Bus Per Bit Deskew and Optimal Clock Placement*," IBM, Austin. Fall 2000.
- PI, "*Incorporation of DSP Technology into Test Equipment*," IBM, Austin. Spring 2001.
- PI, "*Energy Efficient Squib Initiators for Solid Rocket Batteries,*" Lockheed-Martin, Ft. Worth. Fall 2001.
- PI, "*A Fuze Link Module (FLM)*," Lockheed-Martin, Ft. Worth. Spring 2002.
- PI, "*Ethernet 10-Base-T to DS1 Converter Design*," Marconi, Irving. Fall 2000.
- PI, "*Ethernet 10-Base-T to DS1 Converter Design,*" Marconi, Irving. Spring 2001.
- PI, "*Field Programmable Gate Array – Spectrum Analyzer*," Raytheon, Dallas. Spring 2002.
- PI, Proprietary - NDA, Schlumberger, Houston. Spring 2001, Spring 2002, Summer 2002.
- PI, "*Electronic Data Collection*," Siemens-Westinghouse, Houston. Fall 2001 & Spring 2002.

OTHER AWARDS

- Design team award, "Development of a Low-cost Fuel Cell Inverter with DSP Based Control," received the $50K Future Energy Challenge grand prize from the U.S. Department of Energy, October 1, 2001. (Yeary was responsible for the embedded DSP controller). www.energychallenge.org

PATENTS and DISCLOSURES

- Patent Issued: B. Marr, D. Thompson, and M. Yeary "Parameterizable bandpass delta-sigma modulator," Publication Number: US 10181862. Publication Date: Jan 15, 2019.
- Patent Issued: M. Yeary, J. Toplicar, P. Doucette, and E. Foltz, "Single Channel Semi-Active Radar Seeker," Publication Number: US 2012/0169524 A1. Publication Date: July 5, 2012. ABSTRACT: "The disclosed approach provides a low-cost approach by employing a single channel receiver for a direction-finding missile, rather than a conventional four-channel system. It employs interferometry techniques. The proposed approach leverages orthogonal waveforms and pseudorandom noise (PN) codes. This is a low-cost approach for a single channel direction finding system by leveraging orthogonal waveforms and interferometric techniques."
- Patent Issued: T. Abatzoglou, J. Gonzalez, J. McWilliams, R. Samaniego, M. Yeary, E. Santiago, "Enhanced radar range resolution," Publication Number: US 20140218231 A1. Publication date Aug 7, 2014. ABSTRACT: An improved method of operating radar hardware/software apparatus mounted on a moving airplane and used to implement radar image tracking of a ground region of interest and including a transmitter to emit pulse trains toward said region, a receiver to receive return pulses from said region, and a processor to process the return pulses, the transmission and reception being via one or more antennas and in different frequency bands, the method improvement comprising implementation of a synthetic aperture radar (SAR) imaging method.
- Patent Issued: J. Antonio, M. Yeary, T. Hosman, "Ultrasonic Communication System for Communication through RF-Impervious Enclosures and Abutted Structures," Patent No.: US 9,361,877 B2. June, 2016.
- Patent Disclosure: M. Yeary and R. Fink, U.S. Patent Application (full utility) submitted, "System and Method for Mixed-Signal A/D Conversion Using a CORDIC Processor." See Serial No. 60/381,847.

MAIN COURSES TAUGHT (at OU)

- Real-Time Embedded DSP Architecture, ECE 4973/5973, senior and graduate level, Spring 2017. The course begins with an overview of modern FPGAs and real-time signal processing implementations. Course topics include: VHDL syntax; VHDL programming examples; digital filter design; digital demodulation theory; digital heterodyne structures; digital multi-rate systems; type 1 and type 2 FIR filter transfer functions; reduced multiplier and multiplierless implementations; quantization effects and finite bit arithmetic.
- Digital Radar Systems, ECE 4973 / ECE 5283, senior and graduate level, Fall 2008, Fall 2009, Fall 2013, Fall 2014, Fall 2015, and Fall 2016. This course begins with an overview of modern and next-generation radar systems, with an emphasis on the digital receiver and post processing that follows the RF front-end. Several off-the-shelf receiver case studies will

be conducted. These will focus on analog-to-digital converter (ADC) selection followed by software defined radio (SDR) concepts for FPGA implementation. Waveform design and scan strategies will be covered to render optimal hardware designs. Realistic data sets will be made available for homework.

- Adaptive Digital Signal and Array Processing, ECE 5283, graduate level, Fall 2003, Fall 2004, Fall 2005, Fall 2006, and Fall 2007. Responsible for providing a solid foundation of adaptive algorithms and the adaptive filter design process. In particular, the gradient descent and the recursive least squares algorithms were studied as a means to minimize various functions as a means of signal extraction. In the fall of 2003, this course was also televised at Colorado State and the University of Puerto Rico, as part of an NSF effort. 413 slides with lecture notes are currently available.
- Radar Engineering, ECE 5663, graduate level, Spring 2008. Responsible for teaching the fundamentals of pulsed Doppler radar systems. Special emphasis is given towards hardware developments in the industrial marketplace.
- Digital Signals and Filters, ECE 2713, sophomore level, Fall 2002, Fall 2003, Fall 2004, fall 2005, and fall 2006. Responsible for teaching students about sampling, aliasing, discrete time systems, z-transforms, frequency analysis, filter design, and implementation issues.
- Electronics, ECE 4813, senior level, Spring 2003, Spring 2004, Spring 2005, Spring 2006, Spring 2009, Spring 2010. This course offers the traditional course materials for a senior level electronics course, including a balanced medley of contemporary analog/digital mixed-signal topics with an emphasis on product design.
- Honors Research, ECE 3980. In addition to advising graduate students in their traditional, graduate research hours (known as ECE 5980 and ECE 6980 at OU), I also mentor students in hours called Honors Research, or ECE 3980. I have been collaborating with the Honors College on campus since the spring of 2003 to allow selected students to complete their research requirements of OU's Honors Curriculum.

MAIN COURSES TAUGHT (at Texas A&M)

- Real-time DSP, ELEN 448. Covered the implementation and optimization of computationally intensive signal processing algorithms on a high performance DSP processor (TMS320c6x).
- DSP Based Devices, ELEN 689, graduate level (co-taught with H. Toliyat). Yeary was responsible for covering the implementation and optimization of signal processing algorithms on the TMS320LF2407 processor, in addition to presenting aspects of customized embedded system design.
- Senior Design Laboratory, ELEN 405, senior level. Responsible for teaching students about the electrical engineering problem solving and design process. Most of the projects were industrially sponsored. Also provided expertise and managed several interdisciplinary projects with the Department of Mechanical Engineering (sponsored by the 3M Corporation).
- Digital Signal Processing, ELEN 444, senior level. Responsible for teaching students about sampling, aliasing, discrete time systems, z-transforms,

frequency analysis, filter design, implementation issues, and quantization effects.
- Industrial Automation, ENTC 430, senior level. Industrial applications of electronic devices, instrumentation, sensors, and closed-loop control.
- Principles of Electrical Engineering, ENGR 215, (an NSF Coalition sponsored course). Responsible for teaching out-of-department interdisciplinary students about fundamental circuit analysis, working in teams, and in-class laboratory experiments oriented around LabView.
- Foundations of Engineering, ENGR 111, (an NSF Coalition sponsored course). Responsible for teaching students about basic principles of engineering, the problem solving process, and working in teams.
- Electronics, ELEN 325, junior level. Responsible for teaching students about the basics of semiconductor devices including diodes, transistor amplifiers, and op-amps.
- Electronic Circuits, ELEN 326, junior level. Responsible for teaching students about multistage amplifier configurations and analog filter design.

SHORT COURSES

- Co-Instructor, *Independent Activities Program* (IAP), "Build Your Own Radar," MIT, Cambridge, MA. January 2019
- Co-Instructor, *Independent Activities Program* (IAP), "Build Your Own Radar," MIT, Cambridge, MA. January 2018
- Co-Instructor, *Independent Activities Program* (IAP), "Build Your Own Radar," MIT, Cambridge, MA. January 2017

PROFESSIONAL SERVICE and HONORS

- Member, *IEEE Radar Systems Panel*, 2013 to present.
- Member, Administrative Committee (AdCom), *IEEE Instrumentation and Measurement Society*, 2013 to present.
- Member, Administrative Committee (AdCom), *IEEE Instrumentation and Measurement Society*, (2013-2016; 2017-2020); *Officer: Vice President for Publications* (Jan 2014 to Dec 2015), *Vice President for Conferences* (Jan 2016 to December 2016), and *Vice President for Publications* (Jan 2018 to Dec 2019). I2MTC Board of Directors (2016-2019).
- Technical Program Committee for the 2019 *IEEE Radar Conference,* Boston, MA.
- Member, Technical Program Committee for the 2019 *IEEE International Symposium on Phased Array Systems and Technology,* Waltham, MA.
- General Co-Chair, *2018 IEEE Radar Conference*, Oklahoma City.
- Member, *IEEE Radar Systems Panel*, 2013 to present.
- Reviewer, 2019 & 2020 *American Society of Engineering Education (ASEE) Annual Conference and Exposition*
- Technical Program Committee for the 2016 *IEEE Radar Conference,* Philadelphia, PA.
- Technical Program Committee for the 2015 *IEEE Radar Conference,* Washington, DC.
- Reviewer, *IEEE Transactions on Aerospace & Electronic Systems*
- Associate Editor, *IEEE Transactions on Instrumentation and Measurement.* This journal is devoted to a combination of theoretical developments,

operational hardware development, and practical measurements thereof. 2011 to present.

- Chair, Technical Committee 26 on Radar Cross-Section, *IEEE Instrumentation and Measurement Society*, 2003 to 2015.
- Member, *IEEE Radar Systems Panel*, 2013 to 2015.
- Session Chair, AMS Annual Meeting, for the radar sessions of the Environmental Information Processing Technology (EIPT) symposium, 2009 to present.
- Member, Technical Program Committee for the 2014 *IEEE Radar Conference,* Cincinnati, OH.
- Member, Technical Program Committee for the 2013 *IEEE International Symposium on Phased Array Systems and Technology,* Waltham, MA.
- Member, Technical Program Committee for the 2013 *IEEE Radar Conference,* Ottawa, Canada
- Technical Program Committee Member, IEEE Conference, Microwaves, Communications, Antennas, Electronic Systems (COMCAS), 2013.
- Chair, *FIE New Faculty Fellows* program, sponsored by the IEEE and the National Academy of Engineering's (NAE) *Center for the Advancement of Scholarship on Engineering Education* (CASEE), 2013.
- Reviewer, ASEE 2013 Annual Meeting
- Reviewer, ASEE 2012 Annual Meeting
- RadarCon 2011 Technical Review Committee
- Session Chair, Radar IIPS Symposium, American Meteorological Society, Annual Meeting, January 2011.
- Reviewer, ASEE 2011 Annual Meeting
- IEEE Aerospace and Electronic Systems Society (AESS) Education Committee, 2009.
- Technical co-Chair, IEEE IMTC. Austin, TX, 2010
- Reviewer and panelist, National Science Foundation, *Course, Curriculum, & Laboratory Improvement* program, June 2009. Arlington, VA.
- Technical Program Committee (TPC) member, 2009 IEEE IMTC. Singapore.
- Reviewer and panelist, National Science Foundation, *Course, Curriculum, & Laboratory Improvement* program, March 2009. Arlington, VA.
- Reviewer and panelist, National Science Foundation, *Course, Curriculum, & Laboratory Improvement* program, March 2008. Arlington, VA.
- Session Chair and Technical Program Committee (TPC) member, 2008 IEEE IMTC. Victoria Island, British Columbia.
- NOAA Joint Radar Planning Team (JRPT), summer 2006 to 2007.
- Reviewer and panelist, National Science Foundation, *Power, Controls, and Adaptive Networks (PCAN) Program* in ECS. Arlington, VA. June 2007.
- Technical program committee member, 2007 IEEE IMTC. Warsaw, Poland.
- Technical Committee Member, *Sensors and Signal-Processing Applications and Implications in Public-Security and Forensics* (SAFE). Washington, DC. April 2007.
- Reviewer and panelist, National Science Foundation, *Course, Curriculum, & Laboratory Improvement* program, March 2007.
- Reviewer, 2007 IEEE Multi-Conference on Systems and Control.
- Reviewer, IEEE Signal Processing Letters, fall 2006.
- Technical program committee member, 2006 IEEE International Conference on Image Processing.

- Technical program committee member, 2006 IEEE IMTC, also includes Session Chair, *ThD3 – Waveform Measurement, Analysis, & Generation*, 2006 IEEE IMTC.
- Technical Program Committee Member (reviewer), WirelessCom 2005, *International Conference on Wireless Networks, Communications, and Mobile Computing*, co-sponsored by the IEEE Communication Society. June 2005.
- Reviewer and panelist, National Science Foundation, CCLI, Arlington, Virginia. February 2005
- Reviewer and panelist, National Science Foundation, SBIR Active Nanotech Applications, April 2005. Arlington, VA.
- Reviewer and panelist, National Science Foundation, SBIR Optics, April 2005
- Reviewer, IEEE Transactions on Instrumentation and Measurement
- Reviewer, 2005 IEEE Conference on Control Applications (CCA05)
- Session Chair, Asilomar Conference on Signals, Systems and Computers. November, 2004. Pacific Grove, California.
- Reviewer and panelist, National Science Foundation, SBIR Misc. Diagnostics. Arlington, Virginia. October 2004.
- Reviewer and panelist, National Science Foundation, SBIR (Wireless and Signal Processing). Arlington, VA. Spring 2004.
- Reviewer and panelist, National Science Foundation, Division of Engineering Education and Centers (EEC) of the Engineering Directorate. Arlington, VA. Spring 2004.
- Technical program committee member, 2004 IEEE International Conference on Image Processing.
- Technical Program Committee Member, 2004 IEEE Southwest Symposium on Image Analysis and Interpretation.
- Reviewer and panelist, National Science Foundation, SBIR (Electronics). Arlington, VA. Fall 2003.
- Reviewer and panelist, National Science Foundation, SBIR (Sensors). Arlington, VA. Fall 2003.
- Reviewer and panelist, National Science Foundation, CCLI. Arlington, VA. Summer 2003.
- Reviewer and panelist, National Science Foundation, SBIR (Diagnostic Systems & Sensors). Arlington, VA. Spring 2003.
- Technical program committee member, 2003 IEEE International Conference on Image Processing.
- Session chair, IEEE IMTC, 2003.
- Reviewer, IEEE Transactions on Neural Networks, 2003 Special Issue on Hardware Implementations.
- Reviewer, IEEE Signal Processing Letters, January 2003.
- Reviewer, Journal of Real-Time Imaging, Elsevier Science, March 2003.
- Reviewer, IEEE Transactions on Instrumentation and Measurement, 2003 Special Issue on Reliable Digital Instrumentation.
- Session chair and organizer, Sixth Multi-Conference on Systematics, Cybernetics, and Informatics, Orlando, Florida. July, 2002.
- Steering committee member, 2001 Future Energy Challenge (sponsored by the IEEE-PELS and the DOE).
- Technical committee member and session Chair – 2001 International Symposium

on Intelligent Signal Processing and Communication Systems, Nashville TN, November, 2001 (sponsored by the IEEE Computer Society).

UNIVERSITY SERVICE & STUDENT ACTIVITIES

- Advisor, AISES (American Indian Science and Engineering Society), University of Oklahoma Student Chapter, spring 2005 to present. OU's chapter won the national "Chapter of the Year" award in 2015 and 2018.
- Member, *Committee A* (department's advisory committee for promotion, tenure, etc.), ECE, Univ. of Oklahoma, July 2013-June 2015.
- Search Committee Member, *Phased Array Radar Engineer*, hiring committee for the Advanced Radar Research Center (ARRC), 2014-2015.
- Mentor, Undergraduate Research Day, 2018.
- Mentor, Undergraduate Research Day, 2017.
- Search Committee Member, *Radar Engineer*, hiring committee for the Advanced Radar Research Center (ARRC), 2013.
- Founding Member (with others), Committee for Accelerated Recruitment, Retention and ECE Robust Advertising (CARRERA), spring 2008 to 2013.
- Search Committee Member, *Radar Engineering Cluster*, summer 2010 to summer 2011.
- Chair, Malcolm P. O'Haver Memorial Scholarship committee, spring 2006 to 2007.
- ECE Faculty Marshal, Convocation, May 2011.
- Search Committee Member, College of Atmospheric & Geographic Sciences Dean and NWC Director, fall 2009 and spring 2010.
- Faculty Advisor, Williams Student Leadership Retreat. April 10-11, 2010. Tulsa, Oklahoma.
- Mentor, University of Oklahoma Student Research and Performance Day, March 2010.
- Mentor, IEEE Student Paper Contest. OKC Section, Spring 2010.
- Faculty Marshall, COE Convocation. May, 2009.
- Mentor, IEEE Student Paper Contest. OKC Section. Student received the 1st place award. Spring 2009.
- Judge, University of Oklahoma Research and Performance Day, April, 2009.
- Mentor, for an undergraduate team at the University of Oklahoma Student Research and Performance Day, April 2009.
- Faculty Advisor, Williams Student Leadership Retreat. April 19-20, 2008. Tulsa, Oklahoma.
- Mentor, for an undergraduate team at the University of Oklahoma Student Research and Performance Day, March 2008.
- Mentor, design group within capstone ECE 4773, Spring 2008.
- MEP Scholarship Committee, Spring 2008.
- Mentor, IEEE Student Paper Contest. OKC Section, student won the 1st prize. Spring 2008.
- ECE Undergraduate Awards Committee, Spring 2008.
- Advisor, IEEE Student Chapter at OU, fall 2006 to spring 2007.
- Judge at the Spring 2007 Graduate Research Day Poster Session. Event co-sponsored by the Graduate College and Graduate Student Senate.
- ECE Undergraduate Awards Committee, Spring 2007.
- ECE Faculty Marshal, Convocation, May 2007.

- Mentor, University of Oklahoma Undergraduate Research Day, sponsored by the Honors College, March 2007.
- Mentor, IEEE Circuit Design Contest, Region 5 Conference. Students received 1st place, spring 2007.
- CEES faculty search committee member, fall 2006-spring 2007.
- Committee Member, search for the Director of the MEP, spring 2006.
- ECE Faculty Marshal, Convocation, May 2006.
- Advisor, Eta Kappa Nu, Electrical Engineering Honor Society, University of Oklahoma Student Chapter, fall 2004 and spring 2005.
- ECE faculty search committee member, fall 2005-spring 2006.
- ECE Director search committee member, fall 2004-spring 2005.
- Mentor, IEEE Student Paper Contest, spring 2006. Students received awards at the OKC and Area levels, then advanced to the regional competition in San Antonio.
- Session Chair, University of Oklahoma Undergraduate Research Day, April 2006.
- Mentor, University of Oklahoma Undergraduate Research Day, April 2006.
- Faculty Senate Speakers Service, fall 2004 - spring 2005.
- Mentor, University of Oklahoma Undergraduate Research Day, April 2005.
- Mentor, University of Oklahoma Graduate Student Research Poster Session, March 2005.
- Mentor, IEEE Student Paper Contest. Students received 1st place at the IEEE R5 conference in Colorado. Spring 2005.
- ECE Undergraduate Awards Committee, Spring 2005.
- ECE Faculty Marshal, Convocation, May 2004.
- Mentor, University of Oklahoma Undergraduate Research Day, April 2004.
- Mentor, University of Oklahoma Graduate Student Research Poster Session, March 2004.
- Mentor, IEEE – OKC section, Undergraduate Student Paper Contest, Feb 2004.
- Undergraduate Education Committee, School of Electrical and Computer Engineering, academic years: 2002-03, 2003-04.
- College of Engineering Academic Misconduct and Appeals Panel, academic year 2002-03.
- Mentor, design group within capstone ECE 4773, Fall 2002.
- Mentor, design group within capstone ECE 4773, Spring 2003.
- Mentor, University of Oklahoma Undergraduate Research Day, April 2003.
- Mentor, IEEE – OKC section, Undergraduate Student Paper Contest, March 2003 (my winning student won an expense-paid trip to New Orleans for the Regional Conference).
- Co-Advisor, IEEE student chapter at Texas A&M, academic year 2001-02.
- Teaching Assistant Mentor Program, Center for Teaching Excellence, Texas A&M University, August 2000.
- Served as a volunteer, with Duracell, at the National Science Teachers Association Conferences: Anahiem-94, St. Louis-96, New Orleans-97, Las Vegas-98, Boston-99.
- Designed and taught a laboratory experiment for the Summer Engineering Enrichment (SEE) program at Texas A&M University. 1996
- Panelist at the Academic Excellence Workshop in College Station, Aug. 1994