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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

- *Gallogly Chair Professor*, Gallogly College of Engineering, University of Oklahoma, October 2022 to present.
- *George Lynn Cross Research Professor*, University of Oklahoma, Apr 2022 to present.
- *Chief Technology Officer (CTO) – Oklahoma Aerospace & Defense Innovation Institute (OADII)*, Office of the Vice President for Research & Partnerships, University of Oklahoma, Sept. 2022 to Present
- *Director – Defense, Security & Intelligence (DSI) Initiative*, Office of the Vice President for Research, University of Oklahoma, Jan. 2015 to Sept 2022
- *Hudson-Torchmark Presidential Professor*, endowed by Charles Hudson of the Torchmark Corp., University of Oklahoma, April 2010 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. Principal 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.

**SIGNIFICANT
PROFESSIONAL
SERVICE &
LEADERSHIP
EXPERIENCE**

- Co-Founder, Advanced Radar Research Center (ARRC) at the University of Oklahoma. The ARRC is an interdisciplinary environment of over 100 faculty, staff (admin and technical), and students.
- Vice President of Publications, *IEEE Instrumentation & Measurement Society*, 2018 & 2019.
- Counselor (university wide), Oak Ridge Associated Universities (ORAU), for the University of Oklahoma, January 2015 to 2022.
- Chair, *2019 Radar Innovation Workshop*, Army Futures Command (AFC), Austin, TX, April 3-4, 2019. Sponsored by the Army Research Office (ARO).
- Technical Program Committee (TPC) member, *Government Microcircuit Applications & Critical Technology Conference (GOMAC)*, 2019, 2020, 2021, 2023.
- General Co-Chair, *2018 IEEE Radar Conference*, Oklahoma City.
- Vice President of Conferences, *IEEE Instrumentation & Measurement Society*, January 2016 to December 2016.
- Vice President of Publications, *IEEE Instrumentation & Measurement Society*, January 2014 to December 2015.
- Associate Editor, *IEEE Transactions on Instrumentation and Measurement*, 2011 to 2016. This journal is devoted to a combination of theoretical developments and operational hardware development.
- Session Chair & Organizer, *American Meteorological Society Annual Meeting*, for the radar sessions of the Environmental Information Processing Technology (EIPT) symposium, 2009 to present.
- Faculty Advisor (and registered Choctaw tribal member), AISES (*American Indian Science and Engineering Society*), University of Oklahoma Student Chapter, spring 2005 to present. The OU chapter received the Chapter-of-the-Year award in 2015 and 2018 from the national AISES organization.

**INDUSTRIAL
EXPERIENCE**

- *Raytheon*, Radar Signal Processing Group, mostly in Dallas, TX Summers 2002 – 2021.
- IBM, International Business Machines, Austin, TX, Summer 1995. Responsible for assisting with the floor planning and place/routing of a PowerPC based ASIC.

**PRIMARY
RESEARCH
INTERESTS**

- Embedded DSP system design, with emphasis on prototype development
- FPGA & ASIC implementations of radar digital front-ends (DFE)
- Radar signal processing: weather, target/wx detection, SAR/ISAR,

- Kalman filtering, particle filters, and adaptive filters.
- Large-scale, interdisciplinary research projects
- Pedagogical innovations and student recruitment

**PROFESSIONAL
MEMBERSHIPS**

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

**PROFESSIONAL
LICENSURE**

- Professional Engineer (P.E.), State of Oklahoma, 2008 to present.
License # 23426
- Commercial Driver License, State of Oklahoma, 2022 to present

HONORS

- IEEE *Distinguished Service Award*, 2020. Given by the IEEE's Instrumentation & Measurement Society.
- *Vice President for Research Award for Scholarly Engagement with the Private Sector*, University of Oklahoma, 2019.
- *Felgar Society Outstanding Engineering Professor Award*, Gallogly College of Engineering, University of Oklahoma, 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 to Spring 2016.
- NASA Travel Grant Award & Invited Lecture, Goddard Space Flight Center. Greenbelt, MD, October 2011.
- U.S. Frontiers of Engineering Education Symposium Participant, invited by the National Academy of Engineering, 2010
- ASEE *Midwest Section Distinguished 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.
- Sooner Engineering Education Center (SEED) *Faculty Fellow*, 2010 to 2018.
- IEEE *Outstanding Young Engineer Award*, "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.
- Collegium Fellowship, Portland, OR, June 2001.
- Outstanding Professor Award, given by the Texas A&M student chapters of IEEE and Eta Kappa Nu, and IBM in Austin, TX 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**

- K. Steiner and M. Yeary, "Least-squares equalizer demonstrations using a full-digital bandwidth sub-Nyquist-sampled wideband beamformer on an RFSoc," *IEEE Transactions on Aerospace and Electronic Systems*, Article DOI: 10.1109/TAES.2022.3176844, vol. 58, no. 6, pp. 5519-5532, 2022.
- M. Herndon and M. Yeary, "Calibration of the cylindrical polarimetric phased array radar via GPS-disciplined bistatic pattern measurement," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 58, no. 2, pp. 1299-1315, April 2022.
- B. Sun, R. Kenney, M. Yeary, H. Sigmarsson, and J. McDaniel, "An up-sampled particle filter fusion technique and its application in synthetic aperture radar imaging," *IEEE Journal of Microwaves*, Digital Object Identifier 10.1109/JMW.2021.3123531, pp., 108-122, November 2021.
- R. Palmer, D. Whelan, D. Bodine, P. Kirstetter, M. Kumjian, J. Metcalf, M.

- Yeary, T.-Y. Yu, R. Rao, J. Cho, D. Draper, S. Durden, S. English, P. Kollias, K. Kosiba, M. Wada, J. Wurman, W. Blackwell, H. Bluestein, S. Collis, J. Gerth, A. Tuttle, X. Wang, and D. Zrnić, "The need for spectrum and the impact on weather observations," *Bulletin of the American Meteorological Society*, vol. BAMS-D-21-0009, pp 1402-1407, July 2021.
- M. Weber, K. Hondl, N. Yussouf, Y. Jung, D. Stratman, B. Putnam, X. Wang, T. Schuur, C. Kuster, Y. Wen, J. Sun, J., Keeler, Z. Ying, J. Cho, J. Kurdzo, S. Torres, C. Curtis, D. Schwartzman, J. Boettcher, F. Nai, H. Thomas, D. Zrnic, D. Mirkovic, C. Fulton, J. Salazar, G. Zhang, R. Palmer, M. Yeary, K. Cooley, M. Istok, and M. Vincent, "Towards the next generation operational meteorological radar," *Bulletin of the American Meteorological Society*, vol. BAMS-D-20-0067, pp 1357-1383. July, 2021.
 - C. Fulton, R. Palmer, M. Yeary, J. Salazar, H. Sigmarsson, M. Weber, A. Hedden, "Horus: A Testbed for Fully Digital Phased Array Radars", *Microwave Journal*, January 2020.
 - 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. doi: 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. Drogemeier, "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
 - W. Dower and M. Yeary, "Bistatic SAR: forecasting spatial resolution," *IEEE Transactions on Aerospace & Electronic Systems*, vol. 55, no. 4, pp. 1584 - 1595, August 2019. doi: 10.1109/TAES.2018.2873076
 - 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. doi: 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, no. 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. Zrnich, 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**

- C. Fulton, P. Kenworthy, J. Lujan, M. Herndon, S. Garner, D. Thompson, and M. Yeary, "Mutual coupling-based calibration for the Horus digital phased array radar," *IEEE International Symposium on Phased Array Systems and Technology (PAST)*, pp. 1-6, Waltham, MA, October 2022.
- M. Yeary, R. Palmer, C. Fulton, J. Salazar-Cerreño, H. Sigmarsson, H. "Preliminary Chamber Measurements and a Status Report on the Development of an All-Digital Mobile Phased Array Radar.", *IEEE Radar Conference*, pp. 1-5. NYC, March 2022.
- C. Fulton, N. Goodman, M. Yeary, R. Palmer, H. Sigmarsson, J. McDaniel, "Preliminary System Integration and Performance Features for an S-Band, Dual-Polarized, All-Digital Phased Array Radar," *IEEE International Microwave Symposium*, pp. 1-3, Denver, CO. 19-24 June 2022.
- D. Bodine, J. Kurdzo, C. Griffin, R. Palmer, B. Isom, F. Nai, A. Mahre, M. Yeary, T.-Y. Yu, "Overview of a Decade of Field Experiments with the Atmospheric Imaging Radar.", *IEEE Radar Conference*, No. paper 4062, 1-6. March 2022.
- M. Herndon and M. Yeary, "Real-time FPGA-based digital predistortion for improved amplifier performance in next generation phased arrays," *IEEE Radar Conference*, pp. 1-6, NYC, March 2022.
- J. Salazar, D. Schwartzman, D. Bodine, R. Palmer, J. McDaniel, M. Yeary, N. Aboerwal, B. Cheong, and T.-Y. Yu, "A dual-Doppler Ka-band mobile radar architecture with rapid-scanning volumetric imaging for Earth systems science," *IEEE Radar Conference*, pp. 1-6, NYC, March 2022.
- M. Yeary, R. Palmer, C. Fulton, J. Salazar, and H. Sigmarsson, "Update on an S-band all-digital mobile phased array radar," *IEEE Radar Conference*, pp. 1-4, 2021.
- R. Kenney, K. Konyalioglu, M. Yeary, H. Sigmarsson, and J. McDaniel, "An all-COTS high sampling frequency pulse-Doppler imaging radar," *IEEE Radar Conference*, 21-25 September 2020.
- J. Lujan, C. Fulton, M. Yeary, E. Langley, S. McCormick, and A. Hedden,

- “Phased array radar initial alignment algorithm using mutual coupling: an iterative approach.” Radar Sensor Technology XXIV, vol. 11408, p. 1140811. *International Society for Optics and Photonics*, Anaheim, CA (virtual), April 26-30, 2020.
- M. Herndon, M. Yeary, and R. Palmer, “Studies of front-end distortion characterization via mutual coupling measurements in phased array systems,” *IEEE International Radar Conference*. Washington, DC (virtual), pp. 798-803, April 28-30, 2020.
 - R. Summers, M. Yeary, H. Sigmarsson, and R. Rincon, “Adaptive digital predistortion for radar applications using convex optimization,” *IEEE International Radar Conference*. Washington, DC (virtual), pp. 816-820, April 28-30, 2020.
 - 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, Chicago, IL, 28 August – 1 September 2017.
- 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.

- F. Uysal, M. Yeary, N. Goodman, R. Rincon and B. Osmanoglu, "Waveform design for wideband beam pattern and beamforming," *IEEE International Radar Conference*, pp. 1062-1066, Arlington, VA, May 2015.
- L. Paulsen, T. Hoffmann, C. Fulton, M. Yeary, A. Saunders, D. Thompson, B. Chen, A. Guoc, B. Murmann, "IMPACT – a low cost, reconfigurable, digital beamforming common module building block for next generation phased arrays," *Proc. of SPIE-DSS*, vol. 9479, pp. 1-15, Baltimore, MD, April 2015.
- Z. Dunn, M. Yeary, C. Fulton, and N. Goodman, "Wideband solid-state power amplifier modeling and predistortion for airborne radar," *NATO SET-204 Conference on Waveform Diversity*, Berlin, Germany, September 29-30th, 2014.
- Z. Dunn, M. Yeary, and C. Fulton, "Frequency-dependent power amplifier modeling and correction for distortion in wideband radar transmissions," *IEEE 57th International Midwest Symposium on Circuits and Systems (MWSCAS)*, pp. 61-64, College Station, TX, August 2014.
- J. Lake, M. Yeary, and C. Curtis, "Adaptive radio frequency interference mitigation techniques at the National Weather Radar Testbed: first results," *IEEE Radar Conference*, pp. 840-845, Cincinnati, OH, May 2014.
- A. Lee, M. Yeary, C. Fulton, and R. Rincon, "Initial measurements and results of a multi-channel, adaptive pre-distortion system for an airborne phased array radar," *IEEE IMTC*, pp. 1267-1270, May 2014.
- M. Yeary, D. Conway, J. Herd, M. Fosberry, M. Harger, and K. Hondl, "A Least Mean Squares Approach of Iterative Array Calibration for Scalable Digital Phased Array Radar Panels," *IEEE International Symposium on Phased Array Systems & Technology*, Waltham, MA, 15-18 October 2013.
- M. Yeary, D. Conway, J. Herd, M. Fosberry, M. Harger, and K. Hondl, "A method of improved cross-pol isolation based on the use of auxiliary elements," *IEEE International Symposium on Phased Array Systems & Technology*, Waltham, MA, 15-18 October 2013.
- D. Conway, J. Herd, M. Fosberry, M. Harger, M. Yeary, and K. Hondl, "On the development of a tileable LRU for the NextGen surveillance and weather radar capability program," *IEEE International Symposium on Phased Array Systems & Technology*, Waltham, MA, 15-18 October 2013.
- C. Davis, R. Pendergraft, J. Henderson, J. Dyer, M. Yeary, and J. Fagan, "Architecture and performance of an instrumented RF system that utilizes the GNSS satellite network," *IEEE IMTC*, May 2013.

- Z. Dunn and M. Yeary, "Spectral monitoring in the high frequency (HF) band," *IEEE IMTC*, pp. 134-137, Austria, May 2012.
- B. Isom, R. Palmer, R. Kelley, J. Meier, D. Bodine, M. Yeary, B. Cheong, Y. Zhang, T.-Y. Yu, and M. Biggerstaff, "The atmospheric imaging radar: system validation and observations of severe weather," *IEEE Radar Conference*, paper 4185, May 2012.
- B. Cheong, R. Palmer, Y. Zhang, M. Yeary, and T.-Y. Yu, "A software-defined radio platform for waveform design," *IEEE Radar Conference*, paper 4162, May 2012.
- M. Gately, M. Yeary, and C. Tang, "Multiple Real-Constant Multiplication with Improved Cost Model and Greedy and Optimal Searches," *IEEE ISCAS*, pp. 588-591, May 2012.
- M. Yeary, G. Crain, A. Zahrai, R. Kelley, J. Meier, Y. Zhang, I. Ivic, C. Curtis, R. Palmer, T.-Y. Yu, R. Doviak, "An Update on the Multi-Channel Phased Array Weather Radar at the National Weather Radar Testbed," *IEEE Radar Conference*, pp. 971-973, Kansas City, MO, May 2011.
- B. Isom, R. Palmer, R. Kelley, J. Meier, D. Bodine, M. Yeary, B. L. Cheong, Y. Zhang, T.-Y. Yu and M. Biggerstaff, "The Atmospheric Imaging Radar (AIR) for High-Resolution Observations of Severe Weather," *IEEE Radar Conference*, pp. 627-632, Kansas City, MO, May 2011.
- B. Root, M. Yeary, and T.-Y. Yu, "Determining Requisite Revisit Time for Storm Tracking," *IEEE Radar Conference*, pp. 648-653, Kansas City, MO, May 2011.
- D. Thompson, R. Kelley, M. Yeary, J. Meier, "Direct digital synthesizer architecture in multichannel, dual-polarization weather radar transceiver modules," *IEEE Radar Conference*, pp. 859-864, Kansas City, MO, May 2011.
- V. Melnikov, M. Yeary, R. Huck, R. Kelley, "Potentials of frequency agile Ka and W band cloud radars," *IEEE Radar Conference*, pp. 415-419, Kansas City, MO, May 2011.
- M. Gately, M. Yeary, and C. Tang, "Reduced-hardware digital filter design via joint quantization and multiple constant multiplication optimization," *IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 4368-4371, Prague, May 2011.
- M. Yeary, G. Crain, A. Zahrai, R. Kelley, J. Meier, Y. Zhang, I. Ivic, C. Curtis, R. Palmer, T.-Y. Yu, and R. Doviak, "Phased array weather / multipurpose radar," *IEEE International Radar Conference*, pp. 140-143, Washington DC, May 2010.
- P. Tay, M. Yeary, R. Huck, S. Cheng, J. Sluss, and J. Phillips, "Tomographic

approaches towards focused SAR image development,” *IEEE Southwest Symposium on Image Analysis and Interpretation*, Invited Paper. Austin, TX, May 2010.

- T. Hosman, M. Yeary, J. Antonio, and B. Hobbs, “Multitone FSK for ultrasonic communication,” *IEEE IMTC*, Austin, TX, May 2010.
- Y. Zhai and M. Yeary, “An object tracking algorithm based on multi-model and multi-measurement cues,” *IEEE IMTC*, Austin, TX, May 2010.
- M. Yeary, J. Crain, A. Zahrai, R. Palmer, M. Xue, T.-Y. Yu, G. Zhang, Y. Zhang, R. Doviak, Q. Xu and P. Chilson, “An update on multi-channel digital receiver development for the phased array radar at the National Weather Radar Testbed,” *IEEE-IMTC*, pp. 933-937, Singapore, May 2009.
- G. Crain, M. Yeary, C. Kidder, A. Zahrai, G. Zhang, R. Doviak, R. Palmer, T.-Y. Yu, M. Xue, Y. Zhang, Q. Xu, P. Chilson, “Multi-channel conversion of the National Weather Radar Testbed receiver,” pp. 1 – 5, *IEEE Radar Conference*, May 2009.
- M. Yeary, J. Crain, A. Zahrai, T.-Y. Yu, R. Palmer, G. Zhang, Y. Zhang, R. Doviak, P. Chilson, M. Xue, and Q. Xu, “An update on multi-channel receiver development for the realization multi-mission capabilities at the National Weather Radar Testbed,” *25th Conference on IIPS at the AMS Annual Meeting*, paper id: 147604, January 2009.
- 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,” *AMS Annual Meeting*, paper id: 146711, January 2009.
- B. Root, M. Yeary, and T.-Y. Yu, “Consistent clustering of radar reflectivities using strong-point analysis -- a prelude to storm tracking,” *AMS Annual Meeting*, paper id: 147108, January 2009.
- R. Palmer, M. Biggerstaff, P. Chilson, J. Crain, K. Droegemeier, E. Hong, M. Yeary, T.-Y. Yu, G. Zhang, and Y. Zhang, “Weather radar education at the University of Oklahoma: An integrated interdisciplinary approach,” *AMS Annual Meeting*, paper id: 146772, January 2009.
- K. Gunnam, S. Yang, Y. Lee, M. Yeary, and G. Choi, “Next generation iterative LDPC solutions for magnetic recording storage,” *invited paper. The Asilomar Conference on Signals, Systems, and Computers*, pp. 1148-1152, November 2008.
- Y. Zhang, R. Palmer, G. Zhang, T.-Y. Yu, K. Brewster, M. Yeary, M. Xue, and P. Chilson, “Multi-functional airborne external hazard monitoring radar with antenna diversities,” *SPIE Conference. OP409: Remote Sensing Applications for Aviation Weather Hazard Detection and Decision Support*, August 2008.

- M. Yeary, J. Meier, R. Kelley, and R. Palmer, "Compact digital receiver development for radar based remote sensing," *IEEE-IMTC*, pp. 1761-1765, Victoria Island, BC, May 2008.
- Y. Zhai, M. Yeary, "An intelligent video surveillance system based on multiple model particle filtering," *IEEE-IMTC*, Victoria Island, BC, May 2008.
- Y. Zhai, S. Adnan, M. Yeary, "Nonlinear state estimation using a particle filter with likelihood proposal distributions," *IEEE-IMTC*, Victoria Island, BC, May 2008.
- A. Huston, Y. Zhang, G. Zhang, and M. Yeary, "A laboratory study for dual-polarization scattering characteristics of metrological objects," *IEEE-IMTC*, Victoria Island, BC, May 2008.
- M. Yeary, R. Palmer, G. Zhang, M. Xue, T.-Y. Yu, A. Zahrai, J. Crain, Y. Zhang, R. Doviak, Q. Xu, and P. Chilson, "Development of a Multi-Channel Receiver for the Realization Multi-Mission Capabilities at the National Weather Radar Testbed," *24th Conference on IIPS at the AMS Annual Meeting*, Session 9A, paper # 130727, page(s): 1-7, January 2008.
- C. Kidder, R. Palmer, and M. Yeary, "Beyond phased arrays – design principles for an imaging radar," *AMS Radar Meteorology*, August 2007.
- Y. Wang, T.-Y. Yu, M. Yeary, A. Shapiro, S. Nemat, M. Foster, D. Andra, Jr., and M. Jain, "A novel approach of tornado detection using a machine intelligence system based on shear and spectral signatures," *AMS Radar Meteorology*, August 2007.
- R. Palmer, T.-Y. Yu, G. Zhang, P. Chilson, M. Biggerstaff, M. Yeary, S. Torres, J. Crain, and Y. Zhang, "Weather radar education at the University of Oklahoma: An integrated inter-disciplinary approach." *AMS Radar Meteorology*, August 2007.
- S. Bachmann, V. DeBrunner, D. Zrnic, and M. Yeary, "Adaptive technique for clutter and noise suppression in weather radar exposes weak echoes over an urban area," *IEEE Signal Processing Workshop*, pp. 438-442, August 2007.
- C. Nguyen, J. Havlicek, and M. Yeary, "Modulation domain template tracking," in *Proc. 4th Joint IEEE Int'l. Workshop Object Tracking, Class. in and Beyond the Visible Spectrum*, in conjunction with the *2007 IEEE Conf. Comput. Vision, Pattern Recog.*, Minneapolis, MN, Jun. 22, 2007.
- K. Gunnam, G. Choi, M. Yeary, and M. Atiquzzaman, "VLSI Architectures for Layered Decoding for Irregular LDPC Codes of WiMax," pp. 4542-4547, *IEEE International Conference on Communications*, Glasgow, June 2007.
- P. Bhagawat, W. Wang, M. Uppal, G. Choi, Z. Xiong, M. Yeary, and A. Harris, "An FPGA Implementation of Dirty Paper Precoder," pp. 2761-2766,

IEEE International Conference on Communications, Glasgow, June 2007.

- S. Nemati, M. Yeary, T.-Y. Yu, Y. Wang, Y. Zhai and A. Fagg, "Spectral signature classification using a support vector classifier," *IEEE-IMTC*, pp. 1-4, Digital Object Identifier 10.1109/IMTC.2007.379046, Warsaw, May 2007.
- J.-C. Noyer, P. Lanvin, M. Yeary, and Y. Zhai, "Sequential Monte-Carlo techniques and vision-based methods for road signs detection," *IEEE-IMTC*, Warsaw, May 2007.
- W. J. Barnes, M. Yeary, K. Olivero, J. Phillips, and T. Ibrahim, "An overlapped scan method for enhanced 3D radome characterization," *IEEE-IMTC*, Warsaw, May 2007.
- Y. Zhai, M. Yeary, "A new particle filter tracking algorithm for DOA sensor systems," *IEEE-IMTC*, Warsaw, May 2007.
- K. Gunnam, G. Choi, and M. Yeary, "A low-power preamble detection methodology for packet based RF modems on all-digital sensor front-ends," pp. 1-4, *IEEE-IMTC*, Warsaw, May 2007.
- M. Yeary, R. Kelley, J. Meier, A. Snyder, A. Arul, T. Hicks, P. McCann, C. Roller and D. Guidry, "Next-generation digital high-bandwidth spectroscopy sensor systems," *IEEE Instrumentation and Measurement Conference*, Warsaw, May 2007.
- S. Bachmann, V. DeBrunner, M. Yeary, and D. Zrnic, "Spectral analysis of polarimetric weather radar data with multiple processes in a resolution volume," *IEEE-ICASSP*, vol. 2, pp. 309-312, April 2007.
- Y. Zhai, M. Yeary, D. Zhao, "Target tracking using a particle filter based on the projection method," *IEEE-ICASSP*, vol. 3, pp. 1189-1192, April 2007.
- K. Gunnam, G. Choi, W. Wang, and M.B. Yeary, "Multi-rate layered decoder architecture for block LDPC codes of the IEEE 802.11n wireless standard," pp. 1645-1648, *IEEE Symposium on Circuits and Systems*, May 2007.
- R. Kelley, J. Meier, A. Snyder, M. Yeary, J. Spring, A. Arul, T. Hicks, P. McCann, and C. Roller, "Low-cost DSP system design for a handheld biomarker detection device," *IEEE Workshop on Signal Processing Applications for Public Security and Forensics*, April 2007.
- A. Arul, A. Snyder, R. Kelley, J. Meier, T. Hicks, M. Yeary, P. McCann, and C. Roller, "Experimental procedures for fluorescent lifetime measurements with customized embedded DSP systems and adaptive algorithms," *IEEE Region 5 Conference*, April 2007.
- Y. Zhai and M. Yeary, "Enhanced video surveillance using a multiple model

particle filter,” *IEEE Workshop on Signal Processing Applications for Public Security and Forensics*, April 2007.

- C. Kidder, M. Yeary, and R. Palmer, “Design considerations for the aperture design of an atmospheric imaging radar,” *IEEE Region 5 Conference*, April 2007.
- K. Gunnam, W. Wang, G. Choi, and M. Yeary, “VLSI architectures for turbo decoding message passing using min-sum for rate-compatible array LDPC codes,” *International Symposium on Wireless Pervasive Computing*, sponsored by IEEE, pp. 561-566, February 2007.
- K. Gunnam, W. Wang, G. Choi, and M. Yeary, “A parallel VLSI architecture for layered decoding for array LDPC codes,” *International Conference on VLSI Design and Embedded Systems*, IEEE, pp. 738 – 743, January 2007.
- M. Yeary, B. McGuire, Y. Zhai, D. Forsyth, W. Benner, and G. Torok, “Target tracking at the National Weather Radar Testbed: A progress report on detecting and tracking aircraft,” *23rd Conference on IIPS at the AMS Annual Meeting, paper 8A.1. pp. 1-6. January 2007.*
- Y. Wang, T.-Y. Yu, M. Yeary, A. Shapiro, S. Nemati, M. Foster, and D. Andra, “Tornado identification using a neuro-fuzzy approach to integrate shear and spectral signatures,” *AMS Severe Local Storms Conference*. Paper P9.1 , CD-ROM. November 2006.
- Y. Zhai, M. Yeary, J.-C. Noyer, J. Havlicek, S. Nemati, and P. Lanvin, “Visual target tracking using improved and computationally efficient particle filtering,” *IEEE International Conference on Image Processing*, Atlanta, GA. pp. 1757-1760. October 2006.
- K. Gunnam, W. Wang, E. Kim, G. Choi, and M. Yeary, “Decoding of quasi-cyclic LDPC codes using an on-the-fly computation,” *Asilomar Conference on Signals, Systems, and Computers*, pp. 1192-1199, October 29 – November 1 2006.
- M. Ozaydin, S. Nemati, M. Yeary and V. DeBrunner, “Orthogonal Projections and Discrete Fractional Fourier Transforms”, *IEEE DSP Workshop*, pp. 429-433, Sept 2006.
- D. Zhou, V. DeBrunner, Y. Zhai, and M. Yeary, “Efficient adaptive nonlinear echo cancellation using sub-band implementation of the adaptive volterra filter,” *IEEE International Conference on Acoustics, Speech, and Signal Processing*, vol. 5, pp. 277-280, May 2006.
- J. P. Havlicek, C. Nguyen, and M. B. Yeary, “Adaptive Gabor filters for infrared target modeling in the modulation domain,” *SPIE Defense & Security Symposium*, conference session 6239, paper no. 13, pp. 62390D-1 – 62390D-11, Kissimmee, FL, April 2006.

- Y. Zhai, M. Yeary, and J.-C. Noyer, "Target tracking in a sensor network based on particle filtering and energy-aware design," *IEEE-IMTC*, pp. 1988-1992, Sorrento, Italy, April 2006.
- P. Lanvin, J.-C. Noyer, M. Benjelloun, M. Yeary, Y. Zhai, "Hybrid particle filtering for real time object tracking," *Thirty-Eighth Asilomar Conference on Signals, Systems, and Computers*, pp. 761-764, November 2005.
- Y. Wang, T.-Y. Yu, M. Yeary, A. Shapiro, D. Zrnic, M. Foster, and D. Andra, "Tornado detection using a neuro-fuzzy method," *AMS 32nd Conference on Radar Meteorology*, Session 10R.5 & CD-ROM, October 2005.
- Y. Zhai, M. Yeary, J. Havlicek, J. Noyer, and P. Lanvin, "Visual tracking using sequential importance sampling with a state partition technique," *IEEE International Conference on Image Processing*, vol. 2, pp. 790-793, September 2005.
- Y. Zhai, M. Yeary, V. DeBrunner, and J. Havlicek, "Image restoration using a hybrid combination of particle filtering and wavelet denoising," *IEEE International Conference on Image Processing*, vol. 3, pp. 876-879, September 2005.
- Y. Zhai and M. Yeary, "A novel nonlinear state estimation technique based on sequential importance sampling and parallel filter banks," *IEEE Conference on Control Applications*, pp. 2071-2075, August 2005.
- O. Alkhouli, V. DeBrunner, M. Yeary, and Y. Zhai, "FIR adaptive filters based on the Hirschman optimal transform," *IEEE Workshop on Statistical Signal Processing*, Session 441, July 2005.
- M. Yeary, T.-Y. Yu, S. Nematifar, A. Shapiro, "Spectral Signature Calculations for Remote Sensing," *IEEE-Instrumentation and Measurement Technology Conference*, pp. 2071-2075, Ottawa, Canada, May 2005.
- K. Gunnam, K. Chadha, M. Yeary, "New optimizations for carrier synchronization in single carrier systems," *IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 661-664, March 2005.
- S. Bachmann, V. Debrunner, D. Zrnic', M. Yeary, "Techniques for detection and tracking airplanes using weather radar WSR-88D," *The Thirty-Eighth Asilomar Conference on Signals, Systems, and Computers*, pp. 1668-1672, November 2004.
- V. Makkapati and M. Yeary, "Vector quantization of still images using reflected subcodevectors," *The Thirty-Eighth Asilomar Conference on Signals, Systems, and Computers*, pp. 1749-1752, November 2004.
- K. Gunnam, G. Choi, M. Yeary, "An LDPC decoding schedule for memory access reduction," *IEEE International Conference on Acoustics, Speech, and Signal Processing*, vol. 5, pp. 173-176, May 2004.

- T. Yu, A. Shapiro, D. Zrnic', M. Foster, D. Andra, R. Doviak and M. Yeary, "Tornado spectral signature observed by WSR-88D," 22nd Severe Local Storms, *American Metrological Society*, Session 8b.1, pp. 1-5, Hyannis MA, 4-8 Oct 2004.
- M. Yeary, W. Zhang, J. Trelewicz, "A Computationally Efficient Decimation Filter Design for Embedded Systems," pp. 913-916, *IEEE IMTC*, May 2004.
- Y. Zhai, M. Yeary, "Implementing particle filters with specialized Hastings-Metropolis Algorithms," *Region 5 IEEE Conference*, pp. 149-152, April 2004.
- T. Yu, D. Zrnic', A. Shapiro, M. Yeary, "Feasibility of Earlier Tornado Detection Using Doppler Spectra," *31st Conference on Radar Meteorology*, pp. 333-336, Seattle, Washington, August 2003.
- M. Yeary, J. Price, R. Fink, D. Guidry, "Waveform Synthesis via Splines," *IEEE-IMTC*, pp. 1529-1532, May 2003.
- M. Yeary, W. Zhang, K. Wong, "An FPGA Based RF Link for Power and Full Duplex Data Transfer," *IEEE-IMTC*, pp. 495-498, May, 2003.
- B. Jin, N. Park, K. M. George, M. Choi, M. Yeary, Y. Kim, F. Lombardi, "Soft-Testing/Repair of CCD-Based Digital X-Ray Instrumentation," *IEEE-IMTC*, pp. 315-320, May, 2003.
- J. Q. Trelewicz, M. Yeary, N. C. Griswold, "Computationally Efficient Wavelet Decomposition/Reconstruction For Embedded Systems," *10th IEEE Digital Signal Processing Workshop*, pp. 240-244, October, 2002.
- M. B. Yeary, R. J. Fink, "Eigenvectors and Low-Rank Modeling," *World Multiconference on Systemics, Cybernetics, and Informatics* (sponsored by the IEEE Computer Society), Vol. 15, pp. 388-390, July 2002. Invited paper.
- S. Mathur, M. B. Yeary, "Correlation of Tones in a Wideband Fading Channel," *World Multiconference on Systemics, Cybernetics, and Informatics* (sponsored by the IEEE Computer Society), Vol. 15, pp. 373-376, July 2002. Invited paper.
- M. Yeary, Sangsun Kim, P. Enjeti, G. King, "Design of an Embedded DSP System for a Fuel Cell Inverter," *IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 929-932, May 2002.
- R. Gopinath, S. Kim, J. Hahn, M. Webster, J. Burghardt, S. Campbell, D. Becker, P. Enjeti, M. Yeary, J. Howze, "Development of a Low-Cost Fuel Cell Inverter System with DSP Control," *IEEE Power Electronic Specialists Conference*, Vol. 1, pp. 23-27, June 2002.

- M. Yeary, R. Fink, D. Beck, M. Burns, D. Guidry, "A Spline Function, DSP Based Arbitrary Waveform Generator," *IEEE Instrumentation and Measurement Technology Conference*, Vol. 2, pp. 1211-1215, May 2002.
- S. Mathur, R. Munkong, C. Mason, M. Yeary, J. Q. Trelewicz, "Numerical Recognition of Unconstrained Handwriting," *IEEE International Conference on Acoustics, Speech, and Signal Processing*, Vol. 4, pp. 3744-3747, May 2002.
- B. N. Araabi, N. Kehtarnavaz, M. Yeary, G. Hillman, B. Würsig, "Locating an Affine/Projective Invariant Identifier Patch on an Image," *IEEE Southwest Symposium on Image Analysis and Interpretation*, pp. 121-125, April 2002.
- M. B. Yeary, N.C. Griswold, Y. Yeh, "A Regularized Approach For Weighted Least Squares, Linear Passband Phase IIR Filter Design with Applications to Optics," *IEEE International Symposium on Intelligent Signal Processing and Communication Systems*, pp. 22-26, November 2001.
- J. Kwon, M. B. Yeary, and N.C. Griswold, "CORDIC Algorithm As Applied To Wavelet Decomposition/Reconstruction Using the CORDIC Algorithm," *IEEE International Symposium on Intelligent Signal Processing and Communication Systems*, pp. 1-6, November 2001.
- M. Yeary, N. Kehtarnavaz, S. Attoor, M. Haji, D. Horton, "A DSP Based Implementation of a WCDMA Reverse Link Design," *IEEE Emerging Technologies Symposium*, pp. 138-141, September 2001.
- M. Yeary, D. Guidry, M. Burns, "Design and Implementation of a Mixed-Signal Embedded DSP System," *IEEE International Conf. on Acoustics, Speech, and Signal Processing*, vol. 2, pp. 929-932, May 2001.
- M. B. Yeary, "Design of a Cordic Processor for Mixed-Signal A/D Conversion," *IEEE Instrumentation and Measurement Technology Conference*, vol. 2, pp. 733-737, May 2001.
- M. B. Yeary, R. Fink, M. Burns, D. Guidry, "A DSP Based Technique for High-Speed A/D Conversion to Generate Coherently Sampled Sequences," *IEEE Instrumentation and Measurement Technology Conference*, vol. 3, pp.1853-1857, May 2001.
- M. B. Yeary, B. Swan, J. Sweeney, C. Culp, L. Archer, "An Internet Based Power Measurement Technique," *IEEE Instrumentation and Measurement Technology Conference*, vol. 1, pp. 628-633, May 2001.
- M. Yeary, P. Loizou, "Adaptive Filtering for Speech Enhancement," *9th IEEE Digital Signal Processing Workshop*, October 2000.

**OTHER
CONFERENCE
PRESENTATIONS
& PUBLICATIONS**

- R. Palmer, D. Schwartzman Cohenca, D. Bodine, B. Cheong, C. Fulton, P. Kirstetter, J. Salazar-Cerreño, H. Sigmarsson, M. Yeary, T-Y. Yu, "The Horus All-Digital Phased Array Weather Radar--System Overview and First Results," *American Meteorological Society Annual Meeting*, 2022.
- B. Cohen, D. Bodine, M. Yeary, J. Snyder, and H. Bluestein, "Evaluating benefits and capabilities of phased array radar scanning modes for detecting tornado formation and intensification," *AMS Severe Local Storms Conference*, paper 17.1A, Sante Fe, NM, 24-28 Oct 2022.
- B. Cohen, D. Bodine, M. Yeary, J. Snyder, and H. Bluestein, "Examining meteorological benefits of rapid-scan, dual-polarization, all-digital PAR observations for detecting tornado formation," *38th Conference on Environmental Information Processing Technologies Joint Session on Radar Technologies and Applications at the AMS Annual Meeting*, January, 2022.
- T.-Y. Yu, D. Bodine, P. Kirstetter, H. Bluestein, R. Palmer, M. Yeary, and B. Cheong, "Enhancing learning experiences in radar meteorology and engineering with a Community Instrument Facility: the mobile RAPID scan X-band Polarimetric (RaXPoL) radar," *38th Conference on Environmental Information Processing Technologies Joint Session on Radar Technologies and Applications at the AMS Annual Meeting*, paper 8.5, Houston, TX (virtual), January 25, 2022.
- D. Bodine, B. Cohen, C. Pearson, L. Shedd, T.-Y. Yu, M. Yeary, A. Reinhart, J. Snyder, S. Torres, H. Bluestein, "Meteorological Benefits of Operational Phased Array Radars.", *11th European Conference on Radar in Meteorology and Hydrology (ERAD)*.
- D. Bodine, J. Salazar, J. McDaniel, C. R. Homeyer, R. D. Palmer, P. E. Kirstetter, M. Yeary, G. McFarquhar, J. F. Kelly, B. M. Isom, P. Kollias, and M. R. Kumjian, "Next-Generation Cloud Radars: How Do We Obtain Rapid Three-Dimensional Observations of Clouds?," Abstract ID# 364970, *20th Symposium on Meteorological Observation and Instrumentation, American Meteorological Society Annual Meeting*, Boston, MA, January 2020.
- J. Salazar, D. Bodine, J. McDaniel, C. R. Homeyer, R. D. Palmer, M. Yeary, P. E. Kirstetter, G. M. McFarquhar, J. F. Kelly, B. M. Isom, P. Kollias, M. R. Kumjian, and S. Tanelli, "A new Ka-band Image PAR Concept for 4D-Volume Rapid-Scan for Cloud Observations," Abstract ID# 367065, *36TH Conference on Environmental Information Processing Technologies (EIPT), American Meteorological Society Annual Meeting*, Boston, MA, January 2020.
- P. Kirstetter, R. Palmer, D. J. Bodine, C. R. Homeyer, T. Y. Yu, M. I. Biggerstaff, H. B. Bluestein, S. M. Cavallo, B. L. Cheong, Y. Jung, J.

McDaniel, N. Sakaeda, J. Salazar, X. Wang, M. B. Yeary, J. J. Gourley, K. Howard, W. A. Petersen, S. Tanelli, A. Martini, and N. Viltard, "Stratospheric Radar Observations of Convection and Precipitation," Abstract ID# 370122, *20th Symposium on Meteorological Observation and Instrumentation, American Meteorological Society Annual Meeting*, Boston, MA, January 2020.

- M. Weber, M. Yeary, P. Chilson, and R. Palmer, "GeoFence Surveillance Radar Development and Airspace Access Concepts for Small UAS Weather Soundings," *Cloud Map Workshop*, Norman, OK, July 2019.
- J. Lake and M. Yeary, "Real-time digital equalization: A first step in the calibration process of element level digital beamforming," *AMS Annual Meeting*, Phoenix, AZ, January 2019.
- M. Yeary, "On array digital beamforming," invited keynote speech, *Allerton Antenna Applications Symposium*, Allerton Park, Illinois, September 18-20, 2018.
- R. Palmer, C. Fulton, J. Salazar, H. Sigmarsson, and M. Yeary, "Development of the All-Digital, Polarimetric "Horus" Radar for Multi-Mission Applications," *Progress In Electromagnetics Research Symposium (PIERS)*, August 2018.
- R. Palmer, C. Fulton, J. Salazar, H. Sigmarsson, and M. Yeary, "An all-digital polarimetric phased array radar for combined weather and aircraft surveillance," *European Conference on Radar in Meteorology and Hydrology (ERAD)*, July 1-6, 2018.
- J. Salazar, J. Diaz, J. Ortiz, C. Fulton, H. Sigmarsson, M. Yeary and R. Palmer, "Update on an Ultra Low-Cross-Polarization S-band Active Array Antenna for a Fully Digital Polarimetric Phased Radar System," *IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, Boston, Massachusetts, July 8-13, 2018.
- J. Salazar, J. Ortiz, J. Diaz, N. Aboserwal, C. Fulton, T. Yu, M. Yeary, and R. Palmer, "Update of a Low-Profile C-band Active Array Antenna for a Polarimetric Imaging Radar System," *IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting*, Boston, Massachusetts, July 8-13, 2018.
- P. Chilson, A. Espinosa, B. Greene, J. Salazar-Cerreno, A. Matsumoto, C. Fiebrich, R. Huck, J. Grimsley, M. Yeary, R. Palmer, M. Weber, K. Carson, and S. Kanneganti, "Development of an autonomous UAV atmospheric profiling system: Initial implementation and first results," *AMS Annual Meeting*, 2018.
- J. Lake, C. Curtis, and M. Yeary, "Characterizing radio frequency interference mitigation strategies and impacts," *AMS Annual Meeting*, Seattle, WA, January 2017.

- J. Salazar-Cerreno, T.-Y. Yu, C. Fulton, M. McCord, R. Palmer, H. Bluestein, B. Cheong, M. Biggerstaff, B. Isom, J. Kurdzo, R. Doviak, X. Wang, and M. B. Yeary, “Development of a Mobile C-band Polarimetric Atmospheric Imaging Radar (PAIR),” AMS Annual Meeting, paper 1B.1, Seattle, WA. January 2017.
- T. Roach, M. Yeary, R. Palmer, D. Schmidt, J. Grimsley, P. Chilson, R. Huck, and M. Weber, “Low Cost Detect-and-Avoid Radar for Oklahoma’s 3D-Mesonet,” *UAS Summit*, Norman, OK, August 2016.
- T. Hoffmann, C. Fulton, M. Yeary, A. Saunders, D. Thompson, B. Murmann, B. Chen, and A. Guo, “IMPACT – Multi-Use Phased Array Common Tile,” 90 minute workshop presentation by Yeary, Military Radar Summit, Feb 29th, 2016.
- J. Lake, C. Curtis, and M. Yeary, “Improving Radio Frequency Interference Mitigation Strategies at the National Weather Radar Testbed,” *AMS Annual Meeting*, New Orleans, LA, January 2016.
- 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, *30th 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, Minneapolis, MN, November 2011.
- 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.*, October 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.*, October 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.*, October 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, October 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, Washington, DC, June 2008.
- 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, Phoenix, AZ, November 2007.
- 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, Norman, OK, October 2005.
- 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, OK, 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, August 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, November 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, November 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, Dallas, TX, April 2010.
- “Low-Cost Multi-Channel Digital Receiver Design,” *Information Systems and Computing Technology Symposium*, Raytheon, Dallas, TX, April 2010.
- “Thermal Management of Radio Frequency Power Amplifiers,” *Information Systems and Computing Technology Symposium*, Raytheon, Dallas, TX, April 2010.
- “Multi-Function Digital Receiver Designs and Implementations,” *Raytheon RF Symposium*, Poster Session, Garden Grove, CA, October 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, “Near-field Scanner and Projects for Advanced Digital Radar,” *U.S. Department of Defense, Office of Naval Research*, 9/2020 – 9/2024.
- Co-PI, “CIF: Mobile Rapid Scanning Radar for Enhancing Weather Radar

Research and Education," Sponsored by National Science Foundation, Federal. (August 15, 2021 - July 31, 2024).

- Co-PI, "Exploitation of the Horus All-Digital Polarimetric Phased Array Weather Radar," *U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration*, July 1, 2020 – June 30, 2021.
- Co-PI, "Single-Faced, Rotating, Digital Phased Array Radar: Innovation and Applications," *U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration*, October 1, 2021 - September 30, 2022.
- PI, "Increased Beam Bandwidth Product All-Digital Polarimetric Phased Array Radar Mobile Testbed," *Office of Naval Research*, April 2019 – April 2022
- Co-PI, "Development and Demonstration of Robust Calibration Algorithms and Methods for Digital Arrays for Next Generation Weather Radar Capabilities," *Sponsored by U.S. Department of Defense, Army Research Lab.* December 15, 2018 - December 14, 2023.
- 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," NOAA, May 2018 to June 2019.
- 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," NOAA, June 2017 to May 2018.
- 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," Phase II, CGI Federal, Inc., near Ft. Sill, OK, 2014.
- Co-PI, "System and Software Support for CGI," Phase I, CGI Federal, Inc., near Ft. Sill, OK, 2013.
- 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 February 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*,” National Science Foundation, Effective December 1, 2006 and expires November 30, 2010, 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, Texas Engineering Experiment Station, project no. 68000, Single investigator award, June 1- August 15, 2002.
- 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 DSI Converter Design*,” Marconi, Irving. Fall 2000.
- PI, “*Ethernet 10-Base-T to DSI 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: J. W. McDaniel, M. B. Yeary, H. H. Sigmarsson, and B. Sun, "Multi-Inertial Measurement Unit Fusion for Fine Resolution Position Estimation," US Patent 11,435,485. Publication date September 6th, 2022.
- 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.
- 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.
- 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 the 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 had industry sponsors. 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 2020
- 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**

- Industrial Participation Chair, IEEE Radar Conference, San Antonio, TX, 2023.
- Session Chair, RF Subsystems session, *Government Microcircuit Applications & Critical Technology Conference*(GOMAC), 2023.
- Tutorials Chair, IEEE Radar Conference, NYC, 2022.
- Session Chair, RF Subsystems session, *Government Microcircuit Applications &*

- Critical Technology Conference*(GOMAC), virtual, March 30, 2021.
- Member, *IEEE Instrumentation & Measurement Society Fellows Evaluation Committee*, 2020, 2021, 2023.
 - Co-Organizer, *Workshop on Spectrum Challenges and Opportunities for Weather Observations*, supported by National Science Foundation - Spectrum Innovation Initiative (SII), virtual, November 10, 2020, Noon-4:00pm CST.
 - Member, *IEEE Radar Systems Panel*, elected to three terms: 2013-2015, 2016-2018, 2020-2022.
 - Chair, IEEE Radar Standards Committee, 2019-2022.
 - Member, Administrative Committee (AdCom), *IEEE Instrumentation and Measurement Society*, fall 2013 to fall 2020.
 - Member, Technical Program Committee for the 2019 *IEEE International Symposium on Phased Array Systems and Technology*, Waltham, MA.
 - Technical Program Committee for the 2019 *IEEE Radar Conference*, Boston, MA.
 - Reviewer, 2019 & 2020 *American Society of Engineering Education (ASEE) Annual Conference and Exposition*
 - Technical Program Committee for the 2018 *IEEE Radar Conference*, Oklahoma City, OK.
 - Technical Program Committee for the 2017 *IEEE Radar Conference*, Seattle, WA.
 - Reviewer, *NASA Earth Science Technology Office (ESTO)*, summer 2016.
 - Reviewer, *NSF Research Traineeship (NRT)* program, April 2016.
 - Member, Technical Program Committee for the 2016 *IEEE International Symposium on Phased Array Systems and Technology*, Waltham, MA.
 - 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*
 - Chair, Technical Committee 26 on Radar Cross-Section, *IEEE Instrumentation and Measurement Society*, 2003 to 2015.
 - 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, *American Society of Engineering Education*, 2013 annual conference
 - Session Chair, *Environmental Information Processing Technologies Symposium* (formerly known as Radar IIPS), American Meteorological Society, Annual Meeting, January 2013.
 - Session Chair, Radar IIPS Symposium, American Meteorological Society,

- Annual Meeting, January 2012.
- Technical Program Committee, IEEE International Instrumentation & Measurement conference, 2012.
- Reviewer, *American Society of Engineering Education*, 2012 annual conference.
- RadarCon 2011 Technical Review Committee & Session Chair.
- Reviewer, American Society of Engineering Education, 2011 annual conference
- Session Chair, Radar IIPS Symposium, American Meteorological Society, Annual Meeting, January 2011.
- Technical co-Chair, IEEE Instrumentation and Measurement Conference. Austin, TX, May, 2010. Assisted with 400+ papers and 50+ reviewers.
- IEEE Aerospace and Electronic Systems Society (AESS) Education Committee, 2009 to 2010.
- Reviewer and panelist, National Science Foundation, *Course, Curriculum, & Laboratory Improvement* program, Arlington, VA, February 2009.
- Technical Program Committee (TPC) member, 2009 IEEE IMTC. Singapore.
- Reviewer and panelist, National Science Foundation, *Course, Curriculum, & Laboratory Improvement* program, Arlington, VA, March 2008.
- Technical program committee member, 2008 IEEE IMTC, Victoria Island, BC.
- 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, Arlington, VA, 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, Arlington, VA, April 2005.
- 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, Pacific Grove, California, November 2004.
- 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).

***STUDENT
ACTIVITIES***

- Faculty 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.
- Mentor, Undergraduate Research Day, 2018.
- Mentor, Undergraduate Research Day, 2017.
- Judge, University of Oklahoma Student Research and Performance Day, February 2012.
- ECE Faculty Marshal, Convocation, May 2011.
- Judge, University of Oklahoma Student Research and Performance Day, April 2011.
- Faculty Advisor, Williams Student Leadership Retreat. Tulsa, Oklahoma, April 10-11, 2010.
- Mentor, University of Oklahoma Student Research and Performance Day, March 2010.
- Mentor, IEEE Student Paper Contest. OKC Section, Spring 2010.

- Mentor, IEEE Student Paper Contest. OKC Section, Spring 2009. Student won 1st prize.
- ECE Faculty Marshal, Convocation, May 2009.
- Mentor, Aerospace & Mechanical Engineering Capstone Team, fall 2008 and spring 2009.
- Mentor, for a student team at the University of Oklahoma Student Research and Performance Day, April 2009.
- Judge, University of Oklahoma Student Research and Performance Day, April 2009.
- Faculty Advisor, Williams Student Leadership Retreat, Tulsa, Oklahoma, April 19-20, 2008.
- Mentor, undergraduate team at the University of Oklahoma Student Research and Performance Day, March 2008.
- Mentor, design group within capstone ECE 4773, Spring 2008.
- Mentor, IEEE Student Paper Contest. OKC Section, student won 1st prize. Spring 2008.
- ECE Undergraduate Awards Committee, spring 2008.
- Advisor, IEEE Student Chapter at OU, fall 2006 to spring 2007.
- 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.
- Faculty Mentor, OK LSAMP Scholars Program through OU's College of Engineering: 2006, 2008, and 2009.
- Mentor, IEEE Circuit Design Contest, Region 5 Conference. Students received 1st place, spring 2007.
- Advisor, Eta Kappa Nu, Electrical Engineering Honor Society, University of Oklahoma Student Chapter, fall 2004 and spring 2005.
- Mentor, IEEE Student Paper Contest, spring 2006 – my winning student won an expense-paid trip to New Orleans to the IEEE Regional Conference.
- Session Chair, University of Oklahoma Undergraduate Research Day, April 2006.
- Mentor, University of Oklahoma Undergraduate Research Day, April 2006.
- 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 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.
- 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: Anaheim-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, August 1994.

**OTHER
UNIVERSITY
SERVICE**

- OU Budget Council, 2021-2023.
- *GCoE Research Advisory Team*, Gallogly College of Engineering, University of Oklahoma, 2020 - 2021 .
- Committee Review, *Teaching Scholar's Initiative*, Gallogly College of Engineering, University of Oklahoma, fall 2020.
- *Dean's Senior Advisory Committee*, Gallogly College of Engineering, University of Oklahoma, 2020 - 2021.
- NSF Major Research Instrumentation (MRI) Internal Review Committee, OU Office of the Vice President for Research & Partnerships, fall 2020.
- Selection Committee, *GCoE Outstanding Seniors*, Gallogly College of Engineering, University of Oklahoma, fall 2020.
- Student recruitment, *Choctaw College Connect*, Durant, OK, November 2, 2019.
- Committee Review, *Teaching Scholar's Initiative*, Gallogly College of Engineering, University of Oklahoma, fall 2019.
- Committee Member, *Annual Performance Evaluation of College of Engineering Dean*, 2018.
- Search Committee Member, *Radar Engineer*, hiring committee for the Advanced Radar Research Center (ARRC), 2017-2018.
- Chair, PPO #4 Task Force, "*Integrity, Research Ethics, and Compliance*," Gallogly College of Engineering, fall 2017.
- Committee Member, *Annual Performance Evaluation of College of Engineering Dean*, 2017.
- Member, *Committee A* (department's advisory committee), ECE, University of Oklahoma, July 2013-June 2015.
- Search Committee Member, *Radar Engineer*, hiring committee for the Advanced Radar Research Center (ARRC), 2013.
- Founding Member, Committee for Accelerated Recruitment, Retention and ECE Robust Advertising (CARRERA), 2011.
- Search Committee Member, *Radar Engineering Cluster*, summer 2010 to summer 2011.
- Search Committee Member, *DSI Director Search*, spring 2011.
- Chair, Malcolm P. O'Haver Memorial Scholarship committee, spring 2006 to 2007.
- Search Committee Member, College of Atmospheric & Geographic Sciences Dean and NWC Director, fall 2009 and spring 2010.
- ECE Undergraduate Scholarship Committee, fall 2009.
- MEP Scholarship Committee, spring 2008.
- Participant: *Workshop for Faculty Search Committees*, hosted by the NSF funded OU Advance team, fall 2008.

- Participant: *Big 12 Workshop on Recruiting, Retention and Leadership*, sponsored by NSF, spring 2008.
 - ECE Undergraduate Awards Committee, spring 2008.
 - 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.
 - Committee Member, search for the Director of the MEP, spring 2006.
 - ECE Faculty Marshal, Convocation, May 2006.
 - ECE faculty search committee member, fall 2005-spring 2006.
 - ECE Director search committee member, fall 2004-spring 2005.
 - Faculty Senate Speakers Service, fall 2004 - spring 2005.
 - ECE Faculty Marshal, Convocation, May 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.
 - 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: Anaheim-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
-