

Mohsin M. Jamali

Associate Professor II
Electronics Technology

EDUCATION:

Ph.D. Electrical Engineering, 1984

University of Windsor, Windsor, Ontario, Canada

M.Sc. Electrical Engineering, 1979

University of Saskatchewan, Saskatoon, Saskatchewan, Canada

B.Sc. Electrical Engineering, 1975

Aligarh Muslim University, Aligarh, India

EXPERIENCE:

August 2026- Present Associate Professor II
Odessa College

May 2016- Present Professor Emeritus
Department of Electrical Engineering and Computer Science, University of Toledo,
Ohio

July 1, 2024- July 31, 2024 Adjunct Professor
Department of Electrical and Computer Engineering
The University of Detroit Mercy, Detroit, Michigan
Taught Engineering Problem Solving Course (3 weeks) at /Beijing University of
Chemical Technology, Beijing, China

June 1, 2021 – May 31, 2024 Professor
Department of Electrical Engineering, The University of Texas Permian Basin, Odessa,
Texas

September 2019-May 31, 2021 Professor and Acting Department Chair
Department of Electrical Engineering, The University of Texas Permian Basin, , Odessa,
Texas

January 2018-August 2019 Professor and Coordinator of Electrical Engineering
The University of Texas Permian Basin, Odessa, Texas

June 2016 -December 2017

Vice-President Research, R-SigSys, LLC, Lambertville, Michigan

Founding Vice-President for R-SigSys, LLC which is engaged in developing signal processing systems for real time applications. It is seeking SBIR funding for its research and development mission. It is focused on exploiting parallel processing approaches for high performance computing for real time applications. Its mission is to commercialize these developed products.

May 1998- May 2016

Professor

Department of Electrical Engineering and Computer Science, University of Toledo, OH

January 2000-August 2000

Graduate Director

Department of Electrical Engineering and Computer Science, University of Toledo, OH

May 1995- May 1998

Associate Professor

Department of Electrical Engineering and Computer Science, University of Toledo, OH

May 1990- May 1995

Associate Professor

Department of Electrical Engineering, University of Toledo, Toledo, Ohio

September 1984-May 1990

Assistant Professor

Department of Electrical Engineering, University of Toledo, Toledo, Ohio

August 1983- May 1984

Instructor

School of Computer Science, University of Windsor, Windsor, Ontario, Canada

International Teaching

Beijing University of Chemical Technology and University of Detroit Mercy
Collaborative program on robotics.

I taught following courses on behalf of the University of Detroit Mercy at Beijing University of Chemical Technology as an independent contractor.

- Taught Probability theory as a review course for three weeks - December 2016 & December 2017
- Developed Introduction to Microcontroller course and its laboratory and taught 8-week course March-May 2017. This course was developed based on ARM M4

Microcontroller and its laboratory experiments were designed. 8-weeks March-May 2017

- Taught Digital Logic Circuit course and its laboratory 8-weeks March-May 2017
- Taught Engineering Problem Solving 3-weeks December 2017 & July 2024

Other related experience- teaching, industrial, etc.

- Electronic Engineer, Advanced Business Computer Systems Inc., Windsor, Canada.1981-1982
- Consultant, Electronic Concepts & Engineering, Toledo, summer 1996 & 1997
- Seminar Instructor for 3-day course on Fundamentals of Multiplexing for the Society of Automotive Engineers 1996-2000
- Consultant for NATO Science for Peace program for real time health monitoring of structures. 1999.
- Offered a Web-Course on Advanced Computational Methods, The U. of Toledo, and summer 2000 and 2001.
- Presented tutorial on intelligent vehicles at the International Conference on Acoustic Speech and Signal Processing, Istanbul, Turkey, June 2000.

Books: Fundamentals of In-Vehicle Networks submitted to the Society of Automotive Engineers. This book covers network protocols for vehicles, ITS data bus and other applications. Available from the author.

Journal publications:

- **M. M. Jamali**, P. Bumrunghum, N. Mohankrishnan," A Systolic Array Architecture of Linear Predictive Coding (LPC)" Published in Signal Processing IV, Theories and Applications, by Lacoume, Chehikian, Martin, Malbos, Vol. 2, PP. 907-910. Elsevier Science Publishers B.V. (North-Holland). 1988
- **M. M. Jamali**, P. Bumrunghum, N. Mohankrishnan," A Parallel Algorithm for Linear Predictive Coding Analysis (LPC)" Published in Signal Processing IV, Theories and Applications, by Lacoume, Chehikian, Martin, Malbos, Vol. 2, PP. 759-762. Elsevier Science Publishers B.V. (North-Holland). 1988
- L. P. Eugene, P.J. Fernandes, **M. M. Jamali**, S.C. Kwatra, J. Budinger "Multicarrier Demodulator Architecture for Onboard Processing Satellites". Journal of Spacecraft and Rockets, Volume 28, Number 5, Sept. /Oct. 1991, PP. 580-586.

- K. Dezhgosha, **M. M. Jamali**, S.C. Kwatra, "A VLSI Architecture for Real-Time Image Coding Using A Vector Quantization Based Algorithm," IEEE Transactions on Acoustic, Speech and Signal Processing. Vol. 40, No.1, PP.181-189, January 1992.
- **M. M. Jamali**, M. Hussain and G. A. Jullien," Design of a Signal Processing Cell." Abstract published in the Ohio Journal of Science, Vol. 86, No. 2, Page 35.
- Thanawala, S.C. Kwatra, **M. M. Jamali**, J. Budinger "An Efficient Demultiplexing Algorithm for Non-Contiguous Carriers", Journal of Spacecraft and Rockets, Volume 29, Number 4, July/August 1992, PP. 498-501.
- L. Enriquez, A. H. Eltimahy, **M. M. Jamali**, "A Real Time Multiprocessor System for Flexible Controller for Robot Manipulators", IEEE Micro, December 1995, PP. 55-60.
- **M. M. Jamali**, R. Tabar, S. C. Kwatra, "SIMD/MIMD Architectures for DOA Computations for Narrowband/Broadband Sources," International Journal of Computers and Applications, Volume 21, Number 3, 1999 105-113.
- **M. M. Jamali**, " A Comparative Study of Physical Layers of In-Vehicle Multiplexing Systems" SAE 1999 Transactions, Journal of Passenger Cars, Vol-108-6, PP. 2315-2321.
- **M. M. Jamali**, William A. Hoyt and Karl W. Swonger, Jr., "Design of a CAN to IEEE 802.11 Wireless LAN Node," SAE 2001 Transactions, Vol. 110, Journal of Passenger Cars: Electronic and Electrical Systems, Section 7, pages 115-121.
- **M. M. Jamali**, M. M. Brown, C. C. Sheh, C. Suriyakomal, M. Y. Niamat, " A CAN based Real Time Embedded System for DC Motor Control," SAE 2002 Transactions, Vol. 111-7, Journal of Passenger Cars: Electronic and Electrical Systems, , pages 233-239.
- M.Y. Niamat D.M. Nemade **M.M. Jamali**, "Test, Diagnosis, and Fault Simulation of Embedded RAM Modules in SRAM-Based FPGAs." Microelectronics Engineering, Elsevier, March 2006, pp. 194-203.
- P. V. Gorsevski, S. C. Cathart, G. Mirzaei, **M. M. Jamali**, X. Ye, E. Gomezdelcampo, " A Group-Based Spatial Decision Support System for Wind Farm Site Selection in Northwest Ohio," Elsevier Journal of Energy Policy, January 2013
<http://dx.doi.org/10.1016/j.enpol.2012.12.013>
- Mohammad Wadood Majid, Golrokh Mirzaei, **Mohsin M. Jamali**, " Novel Implementation of Recursive Discrete Wavelet Transform for Real Time

Computation with Multicore Systems on Chip (SOC)," *Science Journal of Circuits, Systems and Signal Processing*. Vol. 2, No.2, 2013, pp. 22-28. doi: 10.11648/j.cssp.20130202.11

<http://article.sciencepublishinggroup.com/pdf/10.11648.j.cssp.20130202.11.pdf>

- Mohammad Wadood Majid, Todd E. Schmuland, **Mohsin M. Jamali**, "Parallel Implementation of the Wideband DOA Algorithm on Single Core, Multicore, GPU and IBM Cell be Processor," *Science Journal of Circuits, Systems and Signal Processing*. Vol. 2, No. 2, 2013, pp. 29-36. doi: 10.11648/j.cssp.20130202.12
<http://article.sciencepublishinggroup.com/pdf/10.11648.j.cssp.20130202.11.pdf>
- Amin Jarrah and **M. M. Jamali**, "Software tool for efficient FPGA design of direct data domain approach for space time adaptive processing, " *IET Electronics Letters*, [Volume 49, Issue 13](#), 20 June 2013, p. 789 – 791, DOI: [10.1049/el.2013.1307](https://doi.org/10.1049/el.2013.1307), Print ISSN 0013-5194, Online ISSN 1350-911X <http://digital-library.theiet.org/content/journals/10.1049/el.2013.1307>
<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6553019>
- Amin Jarrah, **Mohsin M. Jamali**, Jeremy Ross, Peter V. Gorsevski, Joseph Frizado, Verner P. Bingman, "Sensitivity Analysis for Optimal Parameters for Marine Radar Data processing," *American Journal of Signal Processing*, Volume 3, Number 3, August 2013. p-ISSN: 21659354 e-ISSN: 2165-9362, 2013; 3(3): 78-83, doi:10.5923/j.ajsp.20130303.05, (<http://article.sapub.org/10.5923.j.ajsp.20130303.05.html>)
- Rehan Muzammil, M. Salim Beg and **Mohsin M. Jamali**," A Dynamically Reconfigurable Transceiver for Software Defined Radio," *International Journal of Computer Applications* (0975 – 8887) Volume 76– No.17, August 2013, <http://research.ijcaonline.org/volume76/number17/pxc3890716.pdf>
- Golrokh Mirzaei, Mohammad Wadood Majid, **Mohsin M. Jamali**, Peter V. Gorsevski, Jeremy Ross, Joseph Frizado, Verner P. Bingman, "Machine Learning Based Acoustic/IR Monitoring," *Journal of Pattern Recognition Research*. Vol 9. No. 1, 2014 <http://www.jprr.org/index.php/jprr/article/view/594/203>
- Amin Jarrah, **Mohsin M. Jamali**, "Reconfigurable FPGA/GPU Based Architecture of Block Compressive Sampling Matching Pursuit Algorithm," *World Scientific- Journal of Circuits, Systems, and Computers*, Online ISSN: 1793-6454, January 2015. <http://www.worldscientific.com/doi/abs/10.1142/S0218126615500553>
- Golrokh Mirzaei, **Mohsin M. Jamali**, Jeremy Ross, Peter V. Gorsevski, Verner P. Bingman," Data Fusion of Acoustics, Infrared, and Marine Radar for Avian Study,"

IEEE Journal on Sensors, Volume 15. Number 11, pp. 6625-6632, November 2015.
Available at <http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7177050>

- Amin Jarrah, **Mohsin M. Jamali**, "Reconfigurable FPGA/GPU Based Architecture of Direct Data Domain (D3) for Space Time Adaptive Processing (STAP)," Submitted to Optimization Methods and Software, Taylor & Francis.
- Amin Jarrah, **Mohsin M. Jamali**, "A Parallel implementation of Extensive Cancellation Algorithm (ECA) for Passive Bistatic Radar (PBR) on a GPU " The Journal of Signal Processing Systems, Springer. October 2015
<http://link.springer.com/article/10.1007/s11265-015-10665?email.event.1.SEM.ArticleAuthorContributingOnlineFirst>
- Seyyed Soheil Sadat Hosseini, **Mohsin M. Jamali**, Jaakko Astola, Peter V. Gorsevski, "Target tracking via Combination of Particle Filter and Optimization Techniques", The International Journal of Mathematical Modelling and Numerical Optimisation (IJMMNO), Volume 7, Issue 2, 2016. DOI:
<http://dx.doi.org/10.1504/IJMMNO.2016.077068>
- Amin Jarrah, **Mohsin M. Jamali**, "FPGA Based Architecture of Extensive Cancellation Algorithm (ECA) for Passive Bistatic Radar (PBR)" Microprocessors and Microsystems, December 2015.
http://www.sciencedirect.com/science?_ob=ArticleListURL&_method=list&_ArticleListID=918126247&_sort=r&_st=13&_view=c&_md5=3755cd8213d3b078beef94f8a83eb7dc&searchtype=a
- David V. Gesicki, **Mohsin M. Jamali**, Verner P. Bingman, "Coastal and Offshore Counts of Migratory Sparrows and Warblers as Revealed by Recognizing Recordings of Nocturnal Flight Calls along the Ohio Coast of Lake Erie," The Wilson Journal of Ornithology 128 (3), 503-509, (1 September 2016),
<https://doi.org/10.1676/1559-4491-128.3.503>
- Seyyed Soheil Sadat Hosseini, **Mohsin M. Jamali**, Simo Sarkka "Variational Bayesian Adaptation of Noise Covariances in Multiple Target Tracking Problems," Science Direct, Elsevier-Measurement, February 2018.
https://secure-web.cisco.com/1vBO616SahMZiW_8T5Ci3ad2gJIBb7XZ2qROG_Ow5cShHL89R-29PAzIeljdGc1sf8nDFzvfQIrftOIM25y9RnmbIKmItfYJDr6-wSQqip4YITylAJwZxPPM8TAO7g0DUydN51cBgkEd2tbX4w3IvSU6UhAW8KQwqen_pDN6YYs4k4Ca0tbk6GkSe5m8u0h4RwH8EE6HGrQ7zrXEJFIAMD7YKdghi5l67NYq5ff7lCm80mR_IYaJtcZF6_2jyL9FR/https%3A%2F%2Fwww.sciencedirect.com%2Fscience%2Farticle%2Fpii%2FS0263224118301544

- Mubbashar Altaf Khan, **Mohsin. M. Jamali**, “QoS optimization for Secondary Spectrum Access Model”, Wiley, Transactions on Emerging Technologies, June 2018.
<https://doi.org/10.1002/ett.3455>

Mubbashar Altaf Khan, **Mohsin. M. Jamali**. “Carrot and stick model for secondary radio spectrum Trade”, Physical Communications, Elsevier, June 2018.
<https://www.sciencedirect.com/science/article/pii/S1874490718300107>

- Mubbashar Altaf Khan, **Mohsin. M. Jamali**, Taras Maksymyuk, Juraj Gazda “The application of block chain tokens in secondary spectrum markers in Future Generation Mobile Networks”, Wireless Communications and Mobile Computing, Volume 2020, 2020. Article ID 7975393, <https://doi.org/10.1155/2020/7975393>;
<https://www.hindawi.com/journals/wcmc/2020/7975393/>
- Ratheesh Ravindran , Michael J. Santora, **Mohsin M. Jamali**,” Multi-object Detection, Classification, and Tracking, based on DNN, for Autonomous Vehicles: A Review,” IEEE Sensors Journal, Volume 21, No. 5, March 1, 2021
- **Mohsin M. Jamali**, Sepehr Arbabi, Ramiro Bravo, Hossein Hosseini, Harishchandra Aryal, “Engagement in Practice: Engineering Minority Student Engagement Project (EM-STEP),” Journal of Higher Education Research (HER), Science Publishing Group, September 2021.
- Ratheesh Ravindran , Michael J. Santora, **Mohsin M. Jamali**,” Camera, LiDAR, and Radar sensor fusion based on Bayesian Neural Network (CLR-BNN) for Automated Vehicles, IEEE Sensors Journal, Volume 22, Issue 7, April 2022. Digital Object Identifier: [10.1109/JSEN.2022.3154980](https://doi.org/10.1109/JSEN.2022.3154980), Online ISSN: 1558-1748
- Hossein Hosseini, **Mohsin M. Jamali**, Sepehr Arbabi, Lokesh Saharan, “Evidence-Based Evaluation of Research Experiment on Improving Engineering Education Performance,” Submitted to IEEE Access Journal, March 2024.

Book Chapter:

Golrokh Mirzaei and **Mohsin M. Jamali**, “Bird and bat collisions at wind farms,” Utility-Scale Wind Turbines and Wind Farms, Institution of Engineering and Technology (IET), London, UK, Edited by [Ahmad Vasel-Be-Hagh, David S-K. Ting](https://doi.org/10.1049/9781119397813.ch13), 2021, ISBN-13:978-1-83953-099-9, Available at <https://shop.theiet.org/utility-scale-wind-turbines-and-wind-farms>

Other Publications:

- **M. M. Jamali**, M. Aref and G. A. Jullien," Algorithm Partitioning and Allocation for a Data Flow Signal Processor." Abstract published in the Ohio Journal of Science, Vol. 86, No. 2, Page 35.

- **M. M. Jamali**, G. A. Jullien, W. C. Miller, S. I. Ahmad, "Interactive Programming Environment for a Data Flow Structure." Abstract published in the Ohio Journal of Science, Vol. 85, No. 2, Page 67.
- **M. M. Jamali**, N. Mohankrishnan and M. Shridhar, "A Combined Speaker and Digit Recognition System," Abstract published in the Ohio Journal of Science, 1987.

Conference Publications:

- R. Billinton, G.A. Hamoud, **M. M. Jamali**, "Reliability Evaluation using Monte Carlo Simulation." presented at the 1979 Canadian Electrical Association Spring meeting in Vancouver and published in their transactions.
- R. Billinton, **M. M. Jamali**, "Applications and Comparisons of Generating Capacity Reliability Indices", presented at the International Electrical, Electronic Conference and Exposition in Toronto, Oct. 1979.
- G. A. Jullien, **M. M. Jamali**, W.C. Miller, "Implementation of a Spectrum Analyzer Using a Memory Intensive Architecture." Canadian Communication and Energy Conference, Montreal, Oct. 1982.
- **M. M. Jamali**, G. A. Jullien, W.C. Miller, S.I. Ahmad, "A Real Time General Purpose Signal Processor." presented at the IEEE 1984 International Conference on Acoustic, Speech and Signal Processing in San Diego.
- **M. M. Jamali**, G. A. Jullien, W. C. Miller, S. I. Ahmad, "Software Techniques for Programming a General Purpose Data Flow Signal Processor," presented at the International Conference on Acoustic, Speech and Signal Processing, Tampa, March 1985.
- **M. M. Jamali**, G. A. Jullien and S.I. Ahmad, "An Expert System for Partitioning and Allocating Algorithms." Published in the Proceedings of the 1986 International Conference on Systems, Man and Cybernetics, Vol. 2, Pages 1113-1117.
- **M. M. Jamali**, M. M. Hussain, G. A. Jullien, "A Signal Processing Cell Architecture." Paper presented at the IEEE 1987 International Conference on Acoustic, Speech and Signal Processing.
- **M. M. Jamali**, N. Mohankrishnan, G. A. Jullien and M. Shridhar, "Real Time Implementation of a Simultaneous Speaker/Digit Recognition System," Presented at the 1987 Midwest Symposium on Circuits and Systems, Syracuse, New York

- K. Dezhgosha, S.C. Kwatra, **M.M. Jamali**, "A VQ-based High Quality Image Coding Algorithm For Real-Time Applications," Presented at the 1988 Midwest Symposium on Circuits and Systems, St. Louis.
- K. Dezhgosha, **M. M. Jamali**, S.C. Kwatra, "Real Time VLSI Architecture for a VQ-based High Quality Image Coding Algorithm. Published in the IEEE 1989 International Conference on Acoustic, Speech and Signal Processing Proceedings.
- K. Dezhgosha, **M. M. Jamali**, S.C. Kwatra, "A Perceptually-Based Heuristic Codebook Design Algorithm, "Published in the 1989 International Symposium on Circuits and Systems Proceedings, PP. 1370-1373.
- B. D. Goel, **M. M. Jamali**, S. C. Kwatra, "Real Time Architecture for Vector Quantization in Residue Number System. "Published in the 1989 International Symposium on Circuits and Systems Proceedings PP. 204-207.
- M.Y. Niamat, R.G. Molyet, **M. M. Jamali**, K.J. Cios, D.D. Raftopoulos, "Applications of Systolic Architectures to Motion Analysis Studies" Published in the 1989 IEEE Pacific Rim Conference on Signal Processing. PP. 60-63.
- P.J. Fernandes, L.P. Eugene, **M. M. Jamali**, S.C. Kwatra, J. Budinger "A Parallel Pipelined Architecture for a Digital Multicarrier Demodulator". Paper presented at International Communication Satellite Systems Conference, March 1990. pp. 285-294.
- K. Dezhgosha, **M. M. Jamali**, S.C. Kwatra, "A Codebook Distortion and Comparator (CDC) Chip Architecture for Real-Time Image Coding," Paper published in the 1990 International Symposium on Circuits and Systems. PP. 3034-3037.
- K. Dezhgosha, **M. M. Jamali**, S.C. Kwatra, "Performance Evaluation of the VQ Based Image Coding Algorithm," Paper published in the 1990 International Symposium on Circuits and Systems. PP.3057-3060.
- Thanawala, S.C. Kwatra, **M. M. Jamali**, J. Budinger "An Efficient Demultiplexing Algorithm for Non-Contiguous Carriers", IEEE International Telecommunications Symposium ITS'90 pp. 0373-0376.
- P. Fernandes, S. C. Kwatra, **M. M. Jamali**, J. Budinger, "A Reconfigurable Transmultiplexor Architecture," Paper presented at the IEEE 1991 International Conference on Acoustic, Speech and Signal Processing.

- S.C. Kwatra, **M. M. Jamali**, "A Reconfigurable Multicarrier Demodulator Architecture", presented at NASA Space Technology Conference, Cleveland Ohio, Nov. 1991.
- H. Djouadi, **M. M. Jamali**, S.C. Kwatra, " A Parallel QR Architecture for the Symmetrical Tridiagonal Eigenvalue Problem," Asilomar Conference on Signals, Systems and Computers, Pacific Grove, October 1992. PP. 591-595.
- R. Sheelvant, **M. M. Jamali**, A. H. Djouadi, S.C. Kwatra, "A Parallel Architecture for MUSIC Algorithm," International Conference on Digital Signal Processing Applications and Technology, Boston November 1992, PP. 778-796.
- R. Tabar, **M. M. Jamali**, S.C. Kwatra, A.H. Djouadi, " A Generalized Architecture for DOA Estimation for Wideband/Narrowband Sources," Proceedings of the SPIE's International Society for Optical Engineering , Architecture, Hardware, and Forward-Looking Infrared Issues in Automatic Target Recognition, pp. 336-346, April 1993, .
- D. Wagner, S. C. Kwatra, **M. M. Jamali**, "A Single Chip High Data Rate QPSK Demodulator," Proceedings of the 1993 International Symposium on Circuits and Systems. pp. 2031-2034.
- **M. M. Jamali**, S. C. Kwatra, "Design of Special Purpose Parallel Hardware for Real Time Applications," Proceedings of the 1993 National Aerospace and Electronic conference, Vol. 2. pp. 54-60.
- R. Tabar, **M. M. Jamali**, S.C. Kwatra, " An Architecture for DOA Estimation for Broadband Sources," Ocean 93 conference proceedings, Vol. PP 253-256.
- S. Lee, E.D. Smith, S. C. Kwatra, **M. M. Jamali**, A. G. Eldin, " Embedded CMOS SRAM for an ASIC Implementation of a Satellite Communications Transmultiplexer", Presented at the 36th Midwest Symposium on Circuits and Systems.
- M. Pakkurti, A. G. Eldin, S. C. Kwatra, **M. M. Jamali**, "Automated Synthesis and Verification of Configurable DRAM blocks for ASIC's", Presented at the Fifth Annual NASA Symposium on VLSI Design.
- L. Enriquez, A. H. Eltimahy and **M. M. Jamali**, "Design and Implementation of A Flexible Controller for Robot Manipulators," 1994 Midwest Symposium on Circuits and Systems.

- **M. M. Jamali**, S. Ravindranath, S. C. Kwatra, A. G. Eldin, " ASIC Design of A Generalized Covariance Matrix Processor for DOA Algorithms," 1994 International Symposium on Circuits and Systems.
- M.Y. Niamat, P.C. Mohanty, **M. M. Jamali**, "Novel Systolic Array Architecture for the Computation of the Similarity Matrix," Presented at the 1994 IASTED Modelling and Simulation Conference, Pittsburg, PA, May 1994.
- M.Y. Niamat, **M. M. Jamali**, P.C. Mohanty, "Design of a Mesh-Type Systolic Array Architecture for the Fast Computation of the Single Linkage Algorithm," 1994 International Symposium on Circuits and Systems.
- A. Carty, **M. M. Jamali**, A. G. Eldin, S. C. Kwatra, "A High Speed 800 Channel Digital Interpolator Network," 1995 International Symposium on Circuits and Systems. PP. 85-88.
- Y. Liang, **M. M. Jamali**, S. C. Kwatra, M. Alam, " A Multiprocessor Architecture for Generalized DOA Algorithms ," Published in Ocean 95 Conference Proceedings.
- **M. M. Jamali**, S.C. Kwatra, D. H. Shetty, "Module Generation Based VLSI Implementation of a Demultiplexer for Satellite Communications," 1996 International Symposium on Circuits and Systems. PP. 364-367.
- **M. M. Jamali**, S.C. Kwatra, "VLSI Implementation of On board Processing Subsystems for Satellite Channels, Presented at the 1996 Midwest Symposium on Circuits and Systems.
- M. Y. Niamat, D. Bitter, **M. M. Jamali**, " FPGA Implementation of Hierarchical Clustering Algorithms" 1998 International Symposium on Circuits and Systems.
- **M. M. Jamali**, "A Comparative study of Physical Layers of In-Vehicle Multiplexing Systems" Presented at the 1999 SAE International Congress and Exposition.
- Khalid S. AL-Olimat, Adel A. Ghandakly, **Mohsin M. Jamali**, "Adaptive Air-Fuel Ratio Control Of a SI Engine Using Fuzzy Logic Parameter Evaluations," Presented at the 2000 SAE International Congress and Exposition.
- **M. M. Jamali**, M. Y. Niamat, "Incorporating DSP Applications in Vehicles", Presented at 2000 IEEE Workshop on Signal Processing Systems.

- **M. M. Jamali**, William A. Hoyt and Karl W. Swonger, Jr., "Design of a CAN to IEEE 802.11 Wireless LAN Node," Presented at the 2001 SAE International Congress, Detroit, Michigan.
- **Mohsin M. Jamali**, Mark M. Brown, C. C. Sheh, C. Suriyakamol, M. Y. Niamat, "A CAN Based Real-time Embedded System for DC Motor Control," Presented at the 2002 SAE International Congress, Detroit, Michigan.
- M. Y. Niamat, Rajesh Nambiar, **M. M. Jamali**, "A BIST scheme for testing the interconnect of SRAM based FPGAs," Presented 45th IEEE Midwest Symposium on Circuits and Systems, Tulsa, OK, August 2002.
- Mark M Brown and **Mohsin M. Jamali**, "Detection And Tracking Of Multiple Targets Within A Three-Dimensional Medium," Presented at the Asilomar Conference on Signals, Systems and Computers, November 2004.
- Reza Jamasebi and **Mohsin M. Jamali**, "Authentication and Secure Communication for InVehicle Networks," Presented at the 2005 SAE World Congress, Detroit, MI.
- M. Y. Niamat, A. S. Ravinuthala, **M. M. Jamali** and S. R. Vemuru, "BIST for Embedded SRAMs in System on Chips," Presented at the ESA 2005.
- Arnab Shaw, **M. M. Jamali** and Nathan Wilkins, "Toward Bandwidth Invariance of Spatial Processing in the Non-Cooperative Receiver," Presented at the IEEE Workshop on Sensor Array and Multichannel Processing (SAM-2006), Waltham, Massachusetts, July 2006.
- **Mohsin M. Jamali**, Abdel Affo, Nathan Wilkins, Philip D. Mumford, Ken Hahn, "DSP Based Implementation of Direction of Arrival for Wideband Sources," Presented at the IEEE 2007 Radar Conference.
- M. Y. Niamat, Arunjit Sahni and **M. M. Jamali**, "A Built in Self-Test Scheme for Automatic Interconnect Fault Diagnosis in Multiple and Single FPGA Systems," Proceedings of the 50th IEEE MWSCAS 07 Conference, pp. 229 - 232, Aug. 5 -8, 2007 Montreal, Canada.
- Ahmad Rizvi and Mohsin **M. Jamali**, "FPGA Implementation of Frequency Estimation Using Power Method and MUSIC Algorithm" Presented at the MTEC-08, India, March 2008
- **Mohsin M. Jamali**, " Embedded Sensor Array Processing" Presented at the MTEC-08, India, March 2008

- **Mohsin M. Jamali**, "FPGA Based Sensory/Actuation Embedded System," Presented at the 2008 IEEE National Aerospace Conference (NAECON), Dayton, OH, July 2008
- **Mohsin Jamali**, Joseph Downey, Joseph Tipping , Nathan Wilikins, Christopher R. Rehm, "Development of a FPGA-based High Speed FFT Processor for Wideband Direction of Arrival Applications," Presented at the 2009 IEEE Radar Conference.
- Todd E. Schmuland, Mathew B. Longbrake, Peter E. Buxa, **Mohsin M. Jamali**," Automatic VHDL Generation Software Tool for Parameterized FPGA Based FFT Architectures," Presented at the 2010 IEEE National Aerospace Conference (NAECON), Dayton, OH, July 2010
- Todd E. Schmuland, **Mohsin M. Jamali**, Mathew B. Longbrake, Peter E. Buxa, ," Parallel Implementation of the Wideband DOA Algorithm on the IBM Cell BE Processor," Presented at the 2010 IEEE Radar Conference
- **Mohsin M. Jamali**, Ameen M. Jamali, " The Future of High Performance Real Time Computation and its Utilization in Diagnostic Medicine, Imaging, and Surgical Procedures," Poster presentation at the College of Medicine Research Day, The University of Toledo, March 27, 2010.
- G. Mirzaei, M. W. Majid, **M. M. Jamali**, J. Ross, J. Frizado, P. V. Gorsevski, V. Bingman, " The Application of Evolutionary Neural Network for Bat Echolocation Calls Recognition," Paper presented at 2011 International Joint Conference on Neural Networks
- **M. M. Jamali**, Brett Snyder, John Williams, Ryan Kindred, Gavin St. John, M. W. Majid J. Ross, J. Frizado, P. V. Gorsevski, V. Bingman, "Remote Avian Monitoring System for Wind Turbines, Paper presented at the 2011 IEEE International Conference on Electro/Information Technology, May 2011.
- Mohammad Wadood Majid, **Mohsin M. Jamali**, "Parallel Implementation of the Wideband Coherent Signal-Subspace (CSS) Based DOA Algorithm on Single core, Multicore and GPU," Paper presented at the Asilomar Conference on Signals, Systems and Computers, November 2011.
- **M. M. Jamali**, Brett Snyder, John Williams, Ryan Kindred, Gavin St. John, M. W. Majid J. Ross, J. Frizado, P. V. Gorsevski, V. Bingman, "Radar/IR Based Avian Monitoring System for Wind Turbines," Poster presented at the 2011 The University Clean Energy Alliance of Ohio Annual Conference, April 2011.

- G. Mirzaei, M. W. Majid, S. Bastas, **M. M. Jamali**, J. Ross, J. Frizado, P. V. Gorsevski, V. Bingman, "Bio-acoustic Monitoring of Birds/Bats in the vicinity of Wind Turbines," Poster presented at the 2011 The University Clean Energy Alliance of Ohio Annual Conference, April 2011.
- G. Mirzaei, M. W. Majid, S. Bastas, **M. M. Jamali**, J. Ross, J. Frizado, P. V. Gorsevski, V. Bingman, "The Bio-Acoustic Feature Extraction of Bat Echolocation Calls," the 2012 IEEE International Conference on Electro/Information Technology, May 2011.
- Xiaoru Wang, Mohammad Wadood Majid, **Mohsin M. Jamali**, "Multi-core Implementation of F-16 Flight Surface Control System using Genetic Algorithm Based Adaptive Control Algorithm," Paper presented at the 2011 IEEE National Aerospace Conference (NAECON), Dayton, OH, July 2011
- Mohammad Wadood Majid, **Mohsin M. Jamali**, "Parallel Implementation of MUSIC Algorithm on Single-Core, Multi-Core and NVIDIA's GPU," Paper presented at the 2011 IEEE National Aerospace Conference (NAECON), Dayton, OH, July 2011
- Todd E. Schmuland, **Mohsin M. Jamali**, Matthew B. Longbrake, Peter E. Buxa, "CAD Tool for Parameterized FPGA Based FFT Architectures," The 18th IEEE International Conference on Electronics, Circuits, and Systems, December 2011, Beirut, Lebanon.
- Rehan Muzammil, M. Salim Beg, **Mohsin M. Jamali**, "Design and Implementation of Forward Error Correction in a Software Defined Radio on a Model Based Development Platform," The International Conference on Multi-Media Signal Processing and Communication Technologies, (IMPACT 2011), Aligarh, India, 2011.
- Rehan Muzammil, M. Salim Beg, **Mohsin M. Jamali**, "Design and Implementation of BPSK Transmitter & Receiver for Software Defined Radio on a Model Based System," The 2011 IEEE Symposium on Industrial Electronics and Applications, Langkawi, Malaysia, September 2011.
- G. Mirzaei, M. W. Majid, J. Ross, **M. M. Jamali**, J. Frizado, P. V. Gorsevski, V. Bingman, "Avian Detection & Tracking Algorithm Using Infrared Imaging," 2012 IEEE International Conference on Electro/Information Technology, May 2012.
- S. Bastas, G. Mirzaei, M. W. Majid, J. Ross, **Mohsin M. Jamali**, J. Frizado, P. V. Gorsevski, V. Bingman, "A Novel Classification System for Flight Calls," The

2012 IEEE International Symposium on Circuits and Systems, Seoul, Korea, May 2012.

- Golrokh Mirzaei, Mohammad Wadood Majid, Jeremy Ross, **Mohsin M. Jamali**, Joseph Frizado, Peter V. Gorsevski, Verner P. Bingman, "Feature Extraction and Classification of Bat Echolocation Calls," North American Symposium on Bat Research 2011, October 2011, Toronto, Canada
- Mohammad W. Majid, Golrokh Mirzaei, **Mohsin M. Jamali**, "Parallel Implementation of Multi-Resolution Filter Band with Novel Adaptive Load Balancing Algorithm on Consumer-Level Multi-Core System, IEEE International Midwest symposium on Circuits and Systems, 2012
- Mohammad W. Majid, Golrokh Mirzaei, **Mohsin M. Jamali**, "Evolutionary Neural Network Parallelization with Multi-Core Systems on Chip", IEEE International Conference on Electro/Information Technology, 2012
- Mohammad W. Majid, Golrokh Mirzaei, **Mohsin M. Jamali**, "Parallelization of Feature Extraction Techniques on Consumer-Level Multi-Core System", IEEE International Conference on Electro/Information Technology, 2012
- Golrokh Mirzaei, Mohammad Wadood Majid, Selin Bastas, Jeremy Ross, **Mohsin M. Jamali**, Peter V. Gorsevski, Joseph Frizado, Verner P. Bingman, "Acoustic Monitoring Techniques for Avian Detection and Classification," The Asilomar Conference on Signals, Systems, and Computers," November 2012.
- Golrokh Mirzaei, Mohammad Wadood Majid, Jeremy Ross, **Mohsin M. Jamali**, Joseph Frizado, Peter V. Gorsevski, Verner P. Bingman, "Implementation of Ant Clustering Algorithm for IR Imagery in Wind Turbine Application", IEEE International Midwest symposium on Circuits and Systems, 2012.
- Todd E. Schmuland, **Mohsin M. Jamali**, Matthew B. Longbrake, Peter E. Buxa, "CAD Tool Autogeneration of VHDL FFT for FPGA/ASIC Implementation," 10th IEEE International NEWCAS Conference, Montreal, Canada, June 2012.
- Todd E. Schmuland, **Mohsin M. Jamali**, Matthew B. Longbrake, Peter E. Buxa, "Optimize Hardware with Fixed-Point Variable Length Phase Factors," 10th IEEE International NEWCAS Conference, Montreal, Canada, June 2012.
- Vamshi Gummalla, Nishatha Nagarajan, Jeremy Ross, Mohammad W. Majid, **Mohsin. M. Jamali**, Peter V. Gorsevski, Joseph P. Frizado, Verner P. Bingman, "A Radar Study of Nocturnal Bird Migration for Wind Turbine Siting Applications" 6th

Annual Conference: Securing Ohio's Energy and Economic Future, Columbus, Ohio, April 2012

- Golrokh Mirzaei, Selin A. Bastas, Jeremy Ross, Mohammad W. Majid, **Mohsin M. Jamali**, Peter V. Gorsevski, Joseph P. Frizado, Verner P. Bingman, "*Behavior Analysis of Birds/Bats Activity in the Vicinity of Wind Turbines*" 6th Annual Conference: Securing Ohio's Energy and Economic Future, Columbus, Ohio, April 2012
- Rehan Muzammil, M. Salim Beg and **Mohsin M. Jamali**, "Design and Testing of a Software Defined Radio Based Transceiver on a Graphics Processing Unit," Asilomar Conference on Signals, Systems, and Computers," November 2012.
- R. Muzammil, M. S. Beg and **Mohsin M. Jamali**, " Design and Implementation of 16-QAM Transceiver using Near-Maximum-Likelihood Detection for Software Defined Radio," The 2012 IEEE Symposium on Computers & Informatics, Penang, Malaysia, March 2012.
- Mohammad Wadood Majid, Golrokh Mirzaei, **Mohsin M. Jamali**, " Parallel Implementation of Multi-Resolution Filter Band with Novel Adaptive Load Balancing Algorithm on Consumer-Level Multicore Systems ," IEEE International Conference on Electro/Information Technology, 2013
- Mohammad Wadood Majid, Golrokh Mirzaei, **Mohsin M. Jamali**," Implementation of Kalman Filter with Multicore System on Chip using Function – Level Parallelism," Presented at IEEE International Conference on Electro/Information Technology, 2013
- Amin Jarrah, **Mohsin M. Jamali**, Golrokh Mirzaei, Mohammad Wadood Majid, P. V. Gorsevski, J. Frizado, V.P.Bingman,"A Parallel Implementation for IR Video Processing on a GPU" 56th IEEE International Midwest symposium on Circuits and Systems, Columbus, Ohio, August 2013.
- Priyadarsini Komatineni, Nishatha Nagarajan, Mohammad Wadood Majid, Golrokh Mirzaei, Jeremy Ross, **Mohsin M. Jamali**, Peter V. Gorsevski, Joseph Frizado, Verner P. Bingman, "Quantification of Bird Migration using Doppler Weather Surveillance Radars (NEXRAD)," Presented at the 2013 IEEE Radar Conference.
- Amin Jarrah, **Mohsin M. Jamali**, "Energy analysis and NoC Design for heterogeneous MPSoC platform for a video application," 56th IEEE International Midwest symposium on Circuits and Systems, Columbus, Ohio, August 2013.

- Golrokh Mirzaei, **Mohsin M. Jamali**, Peter V. Gorsevski, Joseph Frizado, Verner P. Bingman, "Data Fusion of IR and Marine Radar Data," Asilomar Conference on Signals, Systems, and Computers," November 2013.
- Amin Jarrah, **Mohsin. M. Jamali**, "Efficient Implementation of Direct Data Domain (D³) Method for Space Time Adaptive Processing (STAP)," Asilomar Conference on Signals, Systems, and Computers," November 2013.
- Rehan Muzammil, M. Salim Beg and **Mohsin M. Jamali**, "OFDM Transceiver for Software Defined Radio on a Model Based Development Platform" The International Conference on Multi-Media Signal Processing and Communication Technologies, (IMPACT 2013), November 2013
- Rehan Muzammil, M. Salim Beg and **Mohsin M. Jamali**, "Forward Error Correction in a QPSK Transceiver for SDR on a GPU," The International Conference on Multi-Media Signal Processing and Communication Technologies, (IMPACT 2013), November 2013.
- Rehan Muzammil, M. Salim Beg and **Mohsin M. Jamali**, "Software Defined Radio Based Implementation of QPSK Transceiver," Institution of Communication Engineers and Information Technologists (ICEIT) Conference on "Advances in Mobile Communications, Networking and Computing
- Lai Wei, Golrokh Mirzaei, Mohammad W. Majid, **Mohsin M. Jamali**, J. Ross, P. V. Gorsevski, V. P. Bingman, "Birds/Bats Movement Tracking with IR Camera for Wind Farm Applications," The 2014 IEEE International Symposium on Circuits and Systems, Melbourne, Australia, June 2014.
- Todd E. Schmuland and **Mohsin M. Jamali**, "Generation of Fixed-point VHDL MIMOOFDM QR Pre-processor for Spherical Detectors," The 2014 IEEE International Symposium on Circuits and Systems, Melbourne, Australia, June 2014.
- G. Mirzaei, **Mohsin. M. Jamali**, J. Ross, P. V. Gorsevski, V. Bingman, "Fuzzy Clustering in Avian Infrared Imagery Application," 2014 IEEE International Conference on Electro/Information Technology, May 2014.
- G. Mirzaei, , **Mohsin. M. Jamali**, J. Ross, P. V. Gorsevski, V. Bingman, "Radar-based Monitoring System for Nocturnal Assessment," 2014 IEEE International Conference on Electro/Information Technology, May 2014.

- G. Mirzaei, **Mohsin. M. Jamali**, J. Ross, P. V. Gorsevski, V. Bingman, “ Data Fusion of Acoustic, IR Camera and Marine Radar,” Presented 2014 Bird Strike Conference, Atlanta, August 2014.
- Amin Jarrah, **Mohsin. M. Jamali**, “Optimized FPGA Based Implementation of Discrete Wavelet Transform,” **Asilomar** Conference on Signals, Systems, and Computers,” November 2014.
- G. Mirzaei, **Mohsin. M. Jamali**, J. Ross, P. V. Gorsevski, V. Bingman, “ Regularized Logistic Regression Based Classification for Infrared Images,” 2014 Asilomar Conference on Signals, Systems, and Computers,” November 2014.
- Amin Jarrah, **Mohsin. M. Jamali**, Soheil Hosseini “Optimized FPGA Based Implementation of Particle Filter for Tracking Applications,” 2014 National Aerospace Conference (NAECON), Dayton, OH, June 2014.
- Rehan Muzammil, M. Salim Beg and **Mohsin M. Jamali**, “GPU Based Image Transmission And Reception for SDR Applications,” 2015 Institution of Communication Engineers and Information Technologists (ICEIT) Conference on “Advances in Mobile Communications, Networking and Computing, April 2015.
- Amin Jarrah, **Mohsin M. Jamali**, S. S. S. Hosseini, Jaakko Astola, Moncef Gabbouj “Parallelization of Non-Linear & Non-Gaussian Bayesian Estimators (Particle Filters), *Presented at* “The European Signal Processing Conference, Nice, France, September 2015
- Mohamed Abou Rayan, **Mohsin M. Jamali** and Vincent Schmidt, “Image Fusion of Astronomical Images via Parallel/Cloud Processing,” 2016 National Aerospace Conference (NAECON), Dayton, OH, July 2016.
- Shang Gao, Zhiyang Zhang, Zihan Zhao, **Mohsin. M. Jamali**, “Vision and Infra-Red Sensor Based Fire Fighting Robot, “ 61st IEEE International Midwest symposium on Circuits and Systems, Windsor, Canada, 2018
- **Mohsin. M. Jamali**, “Exploring Parallelism in Deep Learning Arena, “ 61st IEEE International Midwest symposium on Circuits and Systems, Windsor, Canada, August 2018
- **Mohsin M. Jamali**, Golrokh Mirzaei, “Bayesian Belief Network Based Occupancy Assessment Framework,” 52nd Asilomar Conference on Signals, Systems, and Computers,” Pacific Grove, CA, November 2018.

- Golrokh Mirzaei, Nima Mansouri, **Mohsin M. Jamali**, “Parallel Bayesian Belief Network in Building Energy Conservation,” 62nd IEEE International Midwest symposium on Circuits and Systems, Dallas, Texas, August 2019
- **Mohsin. M. Jamali**, Sepehr Arbabi, Hossein Hosseini, Harishchandra Aryal, “Addressing Retention and Improving Performance in Gateway Engineering Courses,” The 55th IEEE International Symposium on Circuits and Systems, Austin, Texas, May 2022.
- Eliza M. Delgado, Jamie Vazquez-Madera, Alex Chen, **Mohsin M. Jamali**, Dustin Naylor, Erika Ardiles-Cruz, “Phantom Arrow War Game: Modeling Cyber-Attacks for Non-Kinetic Wargaming, Presented at the U.S. Department of Education, 2022 Minority Science and Engineering Program Virtual Student Research Conference.
- **Mohsin. M. Jamali**, Hossein Hosseini, Sepehr Arbabi, Harishchandra Aryal, “Role of Undergraduate Summer Research in Improving Retention of Engineering Students” 56th IEEE International Symposium on Circuits and Systems, Monterey, CA, May 2023.
- **Mohsin M. Jamali**, Sepehr Arbabi, Hossein Hosseini, Lokesh Saharan,” Active Student Engagement in STEM Fields to Improve Retention and Graduation Rates.” 57th IEEE International Symposium on Circuits and Systems, Singapore, May 2024.
- Lokesh Saharan, **Mohsin. M. Jamali**, Sepehr Arbabi, Hossein Hosseini,” Impact of Summer Undergraduate Engineering Research on Student Performance Highlighted Through GPA Tracking,” Presented at the 2024 IEEE 67th International Midwest Symposium on Circuits and Systems, Springfield, MA, August 2024.

Conference Presentations:

- **Mohsin. M. Jamali**, Raiel Amesquita, Omar Beg “Quantum Sensor Array Processing Experiment,” Presented at the 2023 IEEE 66th International Midwest Symposium on Circuits and Systems, Phoenix, AZ, August 2023.
- Mohsin M. Jamali, ”Engineering Minority Student Engagement Project,” Presented at the Project Directors Meeting at the U.S. Department of Education, June 2023.

Externally funded grants:

Principal Investigator- Dr. A. R. Thorbjornsen

Co-Investigators, E.D. Smith, C.B. Kim, M.M. Jamali
"Engineering Research Equipment Grant for VLSI System Design Workstation and Dedicated Computer," NSF Grant No. ECS-8604663, \$ 60,000, April 1986.

Principal Investigator- Dr. A. R. Thorbjornsen
Co-Investigators, E.D. Smith, C.B. Kim, M.M. Jamali
"Educational Use of the DARPA/NSF Silicon Brokerage Service (MOSIS)," Grant \$ 20,600, October 1986.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigator, M. M. Jamali,
"Digital Signal Processing Systems," Motorola Inc. \$17450 including \$2450 from UT matching funds, June 1988.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigator, M. M. Jamali
"Digital Modem Development," NASA Grant NAG3-865, \$60,380, 15 months, September 1988.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigator, M. M. Jamali
"Development of Demultiplexing System," NASA grant NAG3-799, \$ 48,646 one year, January 1989.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigator, M. M. Jamali
Department of Elect. Engineering, The University of Toledo, "Signal Processing Worksystems," Comdisco Systems Inc. \$29500 including \$2400 from UT matching funds, Feb. 1989.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigator, M. M. Jamali
"Digital Implementation of the Multicarrier demodulator. " NASA Grant NAG3-865, \$61,324, 15 months, December 1989.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigator, M. M. Jamali
"A Digitally Implemented Multicarrier demodulator. " NASA Grant NAG3-799, \$55,857, 12 months, December 1990.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigator, M. M. Jamali
"A Digitally Implemented Multicarrier demodulator. " NASA Grant NAG3-799, \$45000, 1991

Principal Investigator- M. M. Jamali, Co-Investigator, S. C. Kwatra
"Development of Parallel Architectures for Sensor Array Processing Algorithms." Office of Naval Research (ONR) Grant N00014-91-J-1011, \$ 93,750 December 1990.

Principal Investigator- M. M. Jamali, Co-Investigator, S. C. Kwatra
"Development of Parallel Architectures for Sensor Array Processing Algorithms."
Office of Naval Research (ONR) Grant N00014-91-J-1011, \$ 99,045, October 1991.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigators, M. M. Jamali, A. G. Eldin
Department of Electrical Engineering, The University of Toledo, "A Digitally
Implemented Multicarrier demodulator. " NASA Grant NAG3-799, \$45000

Principal Investigator- M. M. Jamali, Co-Investigator- J. Klep
"Development System for Digital Systems Design ", Intel Corporation, \$ 18,415, Feb.
1994.

Principal Investigator- Dr. S. C. Kwatra, Co-Investigators, M. M. Jamali, A. G. Eldin "A
Digitally Implemented Multicarrier demodulator. " NASA Grant NAG3-799, \$55,383,
December 1994.

Principal Investigator- M. M. Jamali
"PLC Programming Software," Allen-Bradley Inc.\$ 15600.00 1994

Principal Investigator-M. M. Jamali
"Computer Integrated Manufacturing Software," Microtek Controls. Total Sponsor \$
47,500. 1997

Principal Investigator-M. M. Jamali
"Multiplexing Network Development System ," Advanced Vehicle Technology. Total
Sponsor \$ 1350. 1998.

Co-Investigator-M. M. Jamali
"Intelligent Transportation System Research," , College of Engineering, U. of Toledo, \$
50,000, 1998

Principal Investigator- M. M. Jamali, Co-Investigator, Tom. Stuart
"Network Analysis Systems," Dearborn Groups. Total Sponsor \$ 3495. January 2001.

Kohler International Faculty Travel Grant for Keynote Lecture on In-Vehicle Networks
at the International Conference on Robotics, Vision, Information and Signal Processing,
Penang, Malaysia July 20-22, 2005. Awarded \$ 500.

Awarded US Air Force Summer Research Fellowship for work on advanced digital receiver at Air Force Research Laboratories Wright Patterson Air Force Base, Sensor Directorate. \$ 23000, Summer 2005

Principal Investigator- M. M. Jamali

“Bandwidth Invariant Spatial Processing”, AFRL/SN (Air Force Research Laboratories, Wright Patterson Air Force Base, Sensor Directorate)- Mac Aulay Brown (Dayton) Contract, May 2006, \$ 25390.

Principal Investigator- M. M. Jamali

PLC Laboratory upgrade, OBOR instructional grant, \$ 30,000, major redevelopment of laboratory equipment. July 2006

Lab Equipment for EECS 4170 and EECS 4150, OBOR instructional grant, \$ 9,290 with Tom Stuart (PI). July 2006

US Air Force Summer Research Fellowship for work on FPGA based Embedded Systems at Air Force Research Laboratories Wright Patterson Air Force Base, Air Vehicle Directorate. \$ 23000. Summer 2007

US Air Force Summer Research Fellowship for work on FPGA based Embedded Systems at Air Force Research Laboratories Wright Patterson Air Force Base, Air Vehicle Directorate. \$ 23000. Summer 2008

Mohsin M. Jamali (PI), Gursel Serpen (Co-PI), Kami Makki (Co-PI), Lawrence Miller (CoPI), “Enhancing efficiency in OMMC manufacturing process,” Proposal submitted to OMMC, Toledo, September 2007, \$ 267,199 (Pending)

Mohsin M. Jamali (PI), “Fast Fourier Transform FPGA/ASIC Architecture Simulator/Generator”, Funded by AFRL/DAGSI Program, April 2009. \$ 83,363

M. M. Jamali (PI) Development of Radar/IR Based Embedded System, Funded by DOE/BGSU Subcontract, May 2009, \$ 46867

M. M. Jamali (PI) Development of Radar/IR/Sensor Array Based Embedded System, Funded by DOE/BGSU Subcontract, May 2009- November 2013, \$ 489232

Mohsin M. Jamali (PI), “Fast Fourier Transform FPGA/ASIC Architecture Simulator/Generator,” Funded by AFRL/DAGSI Program, March 2010. \$ 85, 872

Mohsin M. Jamali (PI), "Fast Fourier Transform FPGA/ASIC Architecture Simulator/Generator," Funded by AFRL/DAGSI Program, May 2011 to December 2012. \$ 89, 924

Mohsin M. Jamali (PI), "GUI Based MIMO Radar Development, Simulation and Visualization System," Funded by AFRL/DAGSI Program, \$ 84, 409, March 2012 to December 2013.

Mohsin M. Jamali (PI), "Development of information fusion and visualization of Space Data," Funded by AFRL/DAGSI Program, \$ 82, 430, May 2014 to May 2016.

Kohler International Faculty Travel Grant for presenting paper at The 2015 IEEE International Symposium on Circuits and Systems, Lisbon, Portugal, May 2015. Awarded \$ 1200.

Mohsin M. Jamali, "Development of High Performance Computing Laboratory for deep learning/5G Testbed research," University of Texas System STAR Program, \$ 500,000, January 2018 to January 2021.

Mohsin M. Jamali (PI)- Co-PIs -Sepehr Arbabi, Ramiro Arbabi, Hossein Hosseini, Engineering Minority Student Engagement Project (EM-STEP), Department of Education, \$ 750,000, October 1, 2020 – September 30, 2024.

Mohsin M. Jamali (Co_PI), Omar A. Beg (PI)- "Research and Education in Artificial Intelligence for Control and Cyber-Security of IoT-Based Power Systems," Office of Naval Research, \$ 306,665, May 1, 2021-May 2022

Proposals submitted for R-SigSys, LLC to SBIR Program (June 2016 – December 2017)

Mohsin M. Jamali (PI), "Cognitive Processing and Exploitation of 3D Laser Imaging Detection and Ranging (LIDAR) Imagery Data", Submitted to Air Force SBIR Phase I, F161-138-1356, February 2016

Mohsin M. Jamali (PI), "Hardware Open System Technologies (HOST) Conformance Tool'" Submitted to Navy SBIR Phase I, N162-086-1059, June 2016

Mohsin M. Jamali (PI), "Scalable Aircraft Hardware Open System Technologies (HOST) Prototype Development," Submitted to Navy SBIR Phase I, N162-089-0469, June 2016

Mohsin M. Jamali, "Hardware Open Systems Technologies (HOST) Hardware Integration Tool Set," Submitted to Navy SBIR Phase I, N162-084-1059, June 2016

Mohsin M. Jamali (PI), "Spectrum Allocation using Artificial Intelligence for Software Defined Radios in a Tactical Environment," submitted to Army SBIR Phase I, A163-118-0441, September 2016

Mohsin M. Jamali (PI), "Hardware Open System Technologies (HOST) Conformance Tool," Submitted to NSF SBIR Phase I, June 2017

Mohsin M. Jamali (PI), "Occupancy assessment and control of smart buildings and resilient infrastructure", Submitted to Air Force SBIR Phase I, F173-001-0197, October 2017.

Proposals submitted while at the University of Texas Permian Basin (Since January 2018)

Funded Projects (at the University of Texas Permian Basin (Since January 2018))

Mohsin M. Jamali, "Development of High Performance Computing Laboratory for deep learning/5G Testbed research," University of Texas System STAR Program, \$ 500,000, January 2018 to January 2021.

Mohsin M. Jamali (PI)- Co-PIs -Sepehr Arbabi, Ramiro Arbabi, Hossein Hosseini, Engineering Minority Student Engagement Project (EM-STEP), Department of Education, P120A200040. \$ 750,000, October 1, 2020 – September 30, 2024.

Mohsin M. Jamali (Co_PI), Omar A. Beg (PI)- "Research and Education in Artificial Intelligence for Control and Cyber-Security of IoT-Based Power Systems," , Office of Naval Research, \$ 306,665, May 1, 2021-May 2022

Submitted Proposals Since January 2018

Mohsin M. Jamali (Co-PI)- INFEWS/T2: **SURE FEW SYSTEM: Sustainable Resilient Food Energy Water (FEW) System Efficacy**, Submitted to NSF, \$ 2,500,000. September 2018

Mohsin M. Jamali (Participant)- Promoting Engineering Retention through Scholarships, Intervention, and Socialization in Texas (PERSIST). NSF Sub-contract through the University of Texas at Austin for UTPB, March 2018.

Mohsin M. Jamali (PI)- Development of sensor network via Internet-of-Things submitted to the Department of Energy- Savanah River Site, \$ 299,992. May 2018 (Unfunded)

Mohsin M. Jamali (Participant)- NSF: Planning Grant : Engineering Research Center for "US Energy Generation Through Efficient Processes" "US EGEP" , June 2018 (Unfunded)

Mohsin M. Jamali (Co-PI)- Building Capacity: Center for Enhanced Learning and Mentoring (C-ELM)

Submitted to NSF, \$ 2,500,000. March 2019, (Unfunded)

Mohsin M. Jamali (PI)- Development of sensor network via Internet-of-Things submitted to the Department of Energy- Savannah River Site, \$ 299,992. May 2019, (Unfunded)

Mohsin M. Jamali (PI)- USA-Finland Collaboration on Deep Learning and High Performance Computing With Big Data, submitted to the NSF \$ 300,000, September 2019, (Unfunded)

Mohsin M. Jamali (PI), "Hands-on-Learning with Spectrum Sharing Testbed (SST) for 5G/6G and Radars," Department of Air force, July 2020, (Unfunded)

Mohsin M. Jamali (PI), Omar A. Beg (CO-PI), Maedeh Mohammadifar (CO-PI), "Stepping Toward IoT-Enabled Smart Waste Management: A Multi-sensor Fusion Based Technology for Nuclear Waste Tanks, submitted to the Department of Energy-Savannah River Site, \$ 300,000, December 2020. (Unfunded)

Mohsin M. Jamali (PI), "Experimenting with Quantum Computing for Advance GPS Signals and Receivers" submitted to Air Force Office of Scientific Research November 2021. (Pending).

Mohsin M. Jamali (PI)- Co-PI- Shahrbanoo Farkhondeh," Student Quality Enhancement and Enriching Project (SEEP)," Submitted to NSF, \$ 499, 916 for three years, February 2025.

Mohsin M. Jamali (PI)- Co-PI- Shahrbanoo Farkhondeh," Enriching Student Laboratory Experience Project (ESLEP)," Submitted to NSF, \$ 199, 966 for two years, February 2025.

Awards:

Fulbright Award (Finland)

The Fulbright-Tampere University of Technology Scholar Award for Real-Time Birds/Bats Tracking for Windfarm Applications, Tampere University of Technology, Tampere, Finland January 1, 2015 to May 31, 2015.

- Most Informative Instructor, The University of Texas Permian Basin and XTO Energy Summer Program, June 2019
- Most Memorable Instructor, The University of Texas Permian Basin and XTO Energy Summer Program, June 2019
- Researcher of the year award, Department of Electrical Engineering and Computer Science, The University of Toledo, Toledo, Ohio, April 2014

- Technical/Scientific Merit Award for our poster on Radar/IR Based Avian Monitoring System for Wind Turbines. The University Clean Energy Alliance of Ohio, March 2011.
- Technical/Scientific Merit Award for our poster on Behavior Analysis of Birds/Bats Activity in the Vicinity of Wind Turbines. The University Clean Energy Alliance of Ohio, March 2012.

Distinguish Lecture Program:

Elected for IEEE Circuits and System Society's distinguished lecture program for the two year 2014-2015 term. CASS webpage (<http://ieee-cas.org/lectures>).

- IEEE Distinguish Lecture at Shanghai Jiao Tong University, China July 3, 2014
- IEEE Distinguish Lecture at Nanyang Technological University, Singapore, July 7, 2014
- IEEE Distinguish Lecture at University Teknologi Petronas, Tronoh, Malaysia, July 9, 2014
- IEEE Distinguish Lecture at the Georgia Institute of Technology, Atlanta, Sept. 18, 2015
- IEEE Distinguish Lecture at the University of Texas at Dallas and Texas Instruments-Dallas, October 5, 2015

Keynote Lectures (Invited)

- **In-Vehicle Networks** - International Conference on Robotics, Vision, Information and Signal Processing, Penang, Malaysia July 20-22, 2005.
- **Embedded Sensor Array Processing** -Modern Trends in Electronics and Communications Conference (MTEC-08), Aligarh, India, March 8, 2008
- **MultiCore System** – International Conference on Multimedia Multimedia, Signal Processing and Communication Technologies (IMPACT-2009), Aligarh, India, March 16, 2009
- **Data Fusion System** – International Conference on Multimedia Multimedia, Signal Processing and Communication Technologies (IMPACT-2013), Aligarh, India, November 22, 2013

Other Lectures

Topic: Radar/Infra-Red/Acoustic Bird/Bat Monitoring System for Wind Turbine and Bird Strike Applications

- February 12, 2015 at the Department of Signal Processing, Tampere University of Technology, Tampere, Finland

- March 5-6, 2015 Fulbright Forum at the University of Jyväskylä, Jyväskylä, Finland
- March 16, 2015 at the Department of Computer Science, Aalto University, Helsinki, Finland
- March 17, 2015 at the Laurea University during Hyvinkaa International Week, Hyvinkaa, Finland
- March 24, 2015 at the Department of Biological and Environmental Science, University of Jyväskylä, Jyväskylä, Finland
- April 15, 2015 at the Tampere University of Technology, Pori Campus, Pori, Finland
- April 16, 2015 at the Department of Automation Science and Engineering, Tampere University of Technology, Tampere, Finland

New courses developed and taught:

Computer Architecture & Parallel Processing (Graduate) Multiprocessor Architecture (Graduate)

Special Purpose Computer Architectures (Graduate)

Special Topics on Computer Arithmetic (Graduate)

Digital VLSI Design (VLSI Team) (Undergraduate/Graduate)

Special Topics on the Digital Signal Processing Hardware (Undergraduate/Graduate)

Programmable Logic Controllers- Covers process control using Control Logix (Undergraduate/Graduate)

Automotive Electronics-Covers engine control, in-vehicle networks (Undergraduate/Graduate)

Digital Design- Covers VHDL and ASIC design. (Undergraduate/Graduate)

Real Time Embedded Systems (Undergraduate/Graduate)

Array Signal Processing (Graduate)

Advance Digital Signal Processing (Graduate)

Introduction to Microcontrollers (ARM M4 Processor) (The University of Texas Permian Basin)

Object Oriented Programming Java (The University of Texas Permian Basin)

New Laboratories Developed

Digital Logic Laboratory

Microprocessor Systems Design Laboratory)

Programmable Logic Controller Based System Laboratory

Real Time Embedded Systems Laboratory

Digital Design (VHDL) Laboratory

Courses taught (existing):

Digital Systems Design (Undergraduate/Graduate)

Digital Computer Design

Mini/Micro Computers & Applications. (C Language) Systems Analysis.

Microcomputer Systems I

Computer Organization and Assembly Language
Assembly Language
Electric Circuits I
Electric Circuits II (The University of Texas Permian Basin)
Electric Circuits for non-majors
Signal Analysis
Advanced Computational Methods using MATLAB (Graduate)
Digital Signal Processing (Undergraduate/Graduate)
Advance Computer Architecture (Graduate)
Probabilistic Methods for Engineers
Senior Design I and II FORTRAN Language
Data Communication
Professional Practice (The University of Texas Permian Basin)
Object Oriented Programming with Java (The University of Texas Permian Basin)

Graduate students' supervision:

Doctoral Students (Graduated)

K. Dezhgosha, "Development of a Real Time Hardware for Image Coding Algorithms," 1989, Associate Professor of Computer Science at University of Illinois at Springfield

Golrokh Mirzaei, "Data Fusion in Multi-Sensory Environment of Infrared, Radar, and Acoustics Based Monitoring System, January 2014, Assistant Professor, Ohio State University

Amin Jarrah, "Development of Parallel Architectures for Radar/Video Signal Processing Applications," November 2014. Assistant Professor, Yarmouk University, Jordan

Rehan Muzzammil, "FPGA based Software Defined Radio," Co-advisor with Dr. M. Salim Beg (Student of Aligarh Muslim University, India), April 2015. Currently working for Aligarh Muslim University, India

Seyyed Soheil Sadat Hosseini, "Multi-Target Tracking," December 2016. Currently working for Capitol Technological University, Laurel, Maryland.

Mubbashar Altaf Khan, "Modelling of Secondary Spectrum Market for Enhancing Spectrum Usage," June 2018. Currently working at the North Carolina A & T University, Greensboro, NC.

Doctoral (Foreign Examiner)

Zia Ahmad Abbasi, "Discrete Coded Waveforms for Signal Processing in Radar," Department of Electronics Engineering, Aligarh Muslim University, 1997.

Ateeq Ahmad Khan, "Modelling and Characterization of IC Fabrication Processes," Department of Electronics Engineering, Aligarh Muslim University, 1999.

Shamimul Qamar, "Capacity and Quality of Service for CDMA Communication Network with Diversity & Handoff", Indian Institute of Technology (IIT) Roorkee, 2007

Mahesh Chandra, "Speech Recognition Using Wavelet Transform," Department of Electronics Engineering, Aligarh Muslim University, India, 2008.

Ajai Kumar Jain, "Performance Trade Off in Quality of Service of High Speed Networks," Department of Instrumentation and Control Engineering, National Institute of Technology, Jalandhar, India, 2008.

Mohammad Ahmad Ansari, "Context Based Image Compression with Transform Coding", Indian Institute of Technology (IIT) Roorkee, 2009

Manoj Kumar, "Evaluation of Quality of Service Parameters and Performance of Wireless Ad Hoc Networks", Indian Institute of Technology (IIT) Roorkee, 2010

Hemant Kumar Kathania, "Role of Prosodic Features and Prosody Modification in Improving Mismatched Children's ASR," National Institute of Technology- Sikkim, India, September 2018.

Mohammad Tasleem Khan, "Low Complexity Distributed Arithmetic Based Pipelined VLSI Architectures for LMS Adaptive Filters," Indian Institute of Technology Guwahati, India, May 2019.

Yash Vardhan Varshney, "Single Channel Mixed Speech Recognition Using Non-negative Matrix Factorization," Aligarh Muslim University, India, May 2019

Prashant Upadhyaya, "Performance Evaluation of Bimodal Hindi Speech Recognition Under Adverse Environment, Aligarh Muslim University, India, July 2019

Neda Rezaei, "Design and Implementation of Low Power SRAM Using Highly Effective Level Shifters," University of Windsor, Canada, August 2021.

Neeraj, "Quality of Service Based Mapping in Cloud Environment," Sant Longowal Institute of Engineering and Technology, Longowal, India, October 2021.

Master (Foreign Examiner)

Chris Venter (MS program)- University of Preoria, South Africa, July 2014

Masters Thesis (Partial List)

- M. M. Hussain, "A Signal Processing Cell Architecture," 1987.
- P. Bumrungthum, "A Systolic Array Architecture for Linear Predictive Coding," 1987. 3.
Raja Tabar "Wideband Sensor Array Processing Architecture using Time Domain Approach" December 1993.
- P. Mohanty "Systolic Architecture for Clustering Algorithm" 1993.
- R. Suria "Wideband Sensor Array Processor Architecture using Frequency Domain Architecture" August 1994.
- Clark Carty "An Architecture for Interpolator, 1994.
- Yikai Linag "Multiprocessor Architecture for QR Algorithm" 1995.
- Doug Bitter "A VLSI design for pattern recognition algorithms using FPGAs." 1999.
- Mark Brown- Multiple target detection and tracking in three dimensional medium, 2001
- Ahmad Rizvi – Algorithms and Architectures for Subspace Frequency Estimation- July 2004
- Javed Rizvi – FPGA Implementation of MUSIC algorithm, April 2004
- Abdel Affo- Development of DSP based architecture for DOA algorithms, August 2006
- Todd Schmuland- IBM Cell Processor Based System for Wideband DOA Algorithms, 2010
- Xiaoru Wang, "FPGA Based Embedded Hardware for Discrete Self Tuning Regulator for Flight Control Systems, 2011
- Selin Bastas, "Development of Microphone Based Array DOA/Beamforming Based Sound Recognition System," 2011
- Priyadarsini Komatineni, "Quantification of Bird Migration Using Doppler Weather Surveillance Radars (NEXRAD)," May 2012
- Lai Wei, "Birds/Bats Motion Tracking with Infrared Radiation Camera for Wind Farm Applications," August 2012.
- Nishatha Nagarajan, "Target Tracking Via Marine Radar," August 2012.
- Vamshi Gummala, "Monitoring of Bird Movement via Marine Radar in the Western Basin of Lake Erie," November 2013.
- Mohammad Abourayan, "Development of Fusion System for Satellite Characterization and Space Situation Awareness," May 2016.

MS Projects (Partial List)

- Amitava Bhattacharyya, "Exploring Security Systems for ITS/Vehicle Communications" 1999.
- Saranagati Chatterjee, "Exploring Bridges and Gateways", 1999.
- Huan Gao, "Exploring Smart and Java Cards", 1999.

- Dinish Sinnasamy, "Security schemes for In-Vehicle Networks", 1999.
- Satish Ayyaswami, "Investigation of Control Algorithms for Anti Lock Brake System" 1999.
- Rizwan Husain, "Gateway Design" 1999.
- Mubeen Ahmad, "Reconfigurable computing" 1999.
- Sudheer Averineni, "Reconfigurable Computing for Vector Quantization", 2000.
- Raghuraman Ganesan, "Reconfigurable Sensor Array Processing Hardware", 2000.
- Joseph Deeb, "Bluetooth Wireless Interface Node Design", 2000.
- Abhuday Pradhan, "Just in Time Power Aware Architectures", 2000.
- Prahlad Goggi, "Development of Multicast Protocols Part I", 2000.
- Harshal Pimpalkhute, "Development of Multicast Protocols Part II", 2000.
- W. Hoyt, "Design of a CAN to IEEE 802.11 Wireless LAN Node," 2000.
- S. Shetty, "Simulation of Multicast Protocols" 2000
- C. Sheh, "Reconfigurable FPGAs for Sensor Array Processing Algorithms" 2001.
- W. Bush, "Design of Gateways/Bridges for In-Vehicle Networks," 2001.
- Deepa Sarathy, Analysis of Macrodiversity Scheme for 3G Wireless Systems and VHDL Implementation of CDMA Matched Filter, December 2001.
- S. Janagama, "FPGA Implementation of Cellular Phone Location Algorithm," 2001
- Charlie Suriyakamol, "Development of a Bluetooth Node for In-Vehicle Network," 2001
- Nicolas Hadjisavvas – Study of network routing algorithms, 2004
- Yongquan Chai – Development and simulation of engine control algorithm, 2004
- Edris Amin, "Development of MIMO Radar Synchronization Scheme," December 2013

Co-Advisor for the following MS students

- B. D. Goel, "A Design of Systolic Architecture for Real Time Vec. Quantization in RNS," 1988
- A. Thanawala, "A Design of Digital Demultiplexor," 1989.
- P. Fernandes, "A Pipelined Transmultiplexor Architecture" 1990.
- L. P. Eugene "A Parallel Architecture for a Digital Demodulator" 1990.
- C. Gottschak "An ASIC Design of Transmultiplexor Architecture," 1992.
- M. Bexten "ASIC design for a Multicarrier Demodulator using Standard Cell Approach," 1992.
- Dave Wagner "A Single Chip QPSK Demodulator" 1992.
- C. S. Lee "ASIC Design of Data Stage Module for Digital Transmultiplexor" 1992.
- L. Enriquez, "Implementation of A Flexible Controller for Robot Manipulators," 1992.
- Dinraj Shetty, A VLSI design of the transmultiplexor. 1995
- Subhash Chintameni, VLSI design of a multicarrier demodulator. 1995
- M. Maruthapan, A Design of ROM Generator, 1995.
- M. Pakkurti, A CAD system for the memory.
- Motheeswara Salla- Design of a Built-In- Self Test Scheme for Xilinx Virtex FPGA May 2002
- Dinesh Nemade- Testing Embedded RAM Modules in SRAM-based FPGAs 2002

- Aditya Srinivas Ravinuthala- A Built-IN- Self Test Scheme for Testing Embedded Memories in System-on-Chips July 28, 2004

MS Independent Study (Partial List)

- Terrell Williams- Digital Design using VHDL
- Chiang Chung Sheh- Synthesis Tools for FPGAs
- Amit Deshmukh -Network Security
- Sachin Shetty -Investigation of Multicast Protocols for wireless networks, 2001
- Charlie Suriyakamol - Comparative Study of various protocols
- Chiang Chung Sheh- Synthesis Tools for FPGA May 2001
- Mubeen Ahmed- Internet Reconfigurable Computing, 2000

Work with undergraduate students (Partial List)

- Chiang Chung Sheh- Systems on Chips BS Independent Study, 1999.
- K.Low, C. Sheh, T. Strimpel- Development of SDLC language for Radar Applications
- Molham Bali- Development of reconfigurable hardware for DOA applications.
- Edward MacCanon, Yong Wee Tay, James Roberts- Design of an In-Vehicle Node with CAN and IEEE 1394b Network Interface December 2000

Senior Design Projects (Partial List) The University of Toledo, Ohio

- K. Barth, R. Getter-Senior Design Project on development of MP3 hardware/software system 1999.
- Chiang Chung Sheh, Kok Hwe Low and Todd Strimpel- Electronic System Design Using System Level Design Language December 1999.
- Joe Schilens, Andy Talicska, Jason Crispen- Automotive Rain Sensor & Window Control 2003
- Shawn Tiell, Andy Marckel-Angle Head Grinder December 2003
- Curtis Unik and Ben Wierwille- Adaptive Cruise Control, June 2004
- Stephen Steen, Cost Reduced Fault Code Interface, April 2006
- Josh Nixon, Brad Waybright, Adam Huelskamp and Josh Ross- Drive-by-wire model car, Fall 2004
- Mustapha Barakat, Sheetal Shah, Benjamin Tran, Michael Wesgate- Automatic Coin Dispenser, 2005
- Tim Bensor, Josh Kessler, James Jones, Temperature-Controlled, Secure Beverage Management System, Spring 2005
- Tom Garnes, Aaron Thomas- VHDL Implemented MUSIC Algorithm, Spring 2005
- Andy Moebius, Brian Nally, Matt Sortor, Wireless Communication Between TI Calculators, 2005
- Rachna Patel, Libbe Speck, FPGA Optical Feedback with Human Interface, Spring 2005
- Stephen Steen, Cost Reduced Fault Code Interface, Spring 2006

- Brandon Burrow, Aron Friszman, Kevin Grady, James O'Neill, Todd Ostendorf, Casey Theman- PLC Food Processing System, Fall 2007
- Joseph Downey and Joseph Tipping, "Development of a FPGA-based High Speed FFT Processor for Wideband Direction of Arrival Applications, Spring 2008
- Ben Swift, James Velleroy, John Wagner, "Data Acquisition for Avian Observation near Wind Turbines," Fall 2009
- James Betker, Andrew Backur, Branden Boerner, Amanda Wells, "Design of X-band and S-band Radars and IR Camera Mounting System," Fall 2010
- Brett Snyder, John Williams, Ryan Kindred, Gavin St. John, "X-Band Radar and IR Camera Field Deployable Synchronization and Monitoring System, Fall 2010
- Brad Klippstein, Craig Holmes, Andrew Pottkotter, Dustin Osborn, "Bird and Bat Call Embedded Recognition System," Fall 2010
- Ahmad Ghannam, Joseph Pietrykowski, Ryan Schwieterman, Tyler Rodwancy, Bradley Hemmelgarn, "Remotely-Controlled Radar and IR Camera Monitoring System for Avian Wildlife, Fall 2011
- Jake Heitkamp, John Thobe, Craig Dapore, "Design of Marine Radar Mounting System," Fall 2011
- Jessie Lape, Dominic Alessio, Jesse Pfaff, Bingze Wang, Yadi Wen, "Autonomous Delivery Service Robot," 2013-2014.
- Andy Heldman, Doug Rogers, Daniela Somaroo, M. Maltos, "Electrostatic Field Capture, 2014.
- John Lammie, "Hydroponic System," Fall 2014

Working with Undergraduate Research Projects at the University of Texas Permian Basin

- Justin Malcolm, "Analyzing bio-impedance data of a placenta via machine learning algorithms, Summer 2019, Undergraduate Student Research, SURE Program
- Dogan Ervin, "Experimenting with NVIDIA DGX Station for parallel computation of deep learning algorithms. Summer 2019-May 2020, Undergraduate Student Research

- Emmanuel Rusalleda Escobar, "Analyzing bio-impedance data of a placenta via machine learning algorithms, March 2020-Present, Undergraduate Student Research, STAR Program
- Raiel Amesquita, "Quantum Computing," summer 2021.
- Enriquez Maco, Tomas Pulido, Alejandro Rodriguez, "H₂S Gas Sensing via Autonomous Robot," Summer 2021.
- Lenise Arando, Jose Roacho, Omar Garcia, "Experimenting with Quantum Computing," Summer 2022
- Carlos Flores, Carlos Escalante, Laine Suarez, "Using Jetson Nano for Deep Learning Applications," Summer 2022.
- Eliza Delgado, Jamie Valdez, "Quantum Computing for Signal Processing," Fall 2022.
- Lenise Arando, Jose Roacho, Fabian Flotte, Gloria Pina, "Improving Electrical Safety on Existing Oil and Gas Facilities," Summer 2023
- Lenise Arando, Laine Suarez, Gabriel Lujan, Anthony Higerada, "Testing of Wireless Communication Systems," Fall 2023.

Senior Design Projects at the University of Texas Permian Basin

- Nathaniel, Egot, Ankit, Bhatia, Tomas, Pulido, Enrique Maco, "H₂S gas sensing via autonomous Robots in oil field application, " Spring 2022
- Jaqueline Obrique, Raiel Amesquita, "Automatic Power Factor Correction System," Spring 2022
- John Escontrias, Vicente Hernandez, Alejandro Rodriguez, "Self Sufficient Engineering Building via Solar Power," Spring 2023.
- Johnpaul Fleming, Kandus Box, Quade Creswell, "Automated Battery Energy Storage System" Spring 2023.
- Brian Grahmann, Slaton Bird, Kelby Lang, Automated Dog Feeder, Spring 2023.
- Hayden Cressman, Mackenzy Mathson, "Three-Phase Fault Simulator," Spring 2023.
- Ilias Varnavides, Carlos Escalante, Ismael Herrera, "Autonomous Irrigation System for a Greenhouse," Spring 2024
- Lenise Aranda, Kyle Bumpas, Brian Fabela, "Residential Wind Turbine," Spring 2024
- Patrick Ryan, Jose Roacho, Laine Suarez, "Emergency Hand Crank Generator," Spring 2024

Professional societies -

Institute of Electrical and Electronics Engineers, Senior Member
Society of Automotive Engineers, past Member

IEEE Service

- Steering Committee Member for IEEE International Midwest Symposium on Circuits and Systems – 2019-Present
- Technical committee member (IEEE Society of Circuits and Systems) 1996-Present
- (a). Digital signal processing. (b). VLSI Applications

- Member- Technical Program Committee, Nordic Circuits and Systems Conference (NorCAS), 2020-2021
 - Member- Technical Program Committee, 23rd International Symposium on Quality Electronics Design (ISQED) -2022
 - Member- Technical Program Committee- The 39th IEEE International Conference on Distributed Computing Systems (ICDCS 2019), Dallas, Texas
 - Member of advisory committee of Innovative Advancements in Engineering and Technology- IAET-2020
 - Reviewer for 2018 & 2019 Nordic Circuits and Systems Conference (NorCAS)
 - Research Proposal Evaluator for Natural Sciences and Engineering Research Council of Canada-2018-2019
 - Student liaison (UTPB) and student advisor for the IEEE South Plain Section in Lubbock, Texas
 - Chair, IEEE VLSI Systems Applications (VSA) Technical Committee, IEEE Circuits and Systems Society 2016-2018
 - Co-Chair Technical Program Committee, Midwest Symposium on Circuits and Systems, Windsor, Canada, 2018
 - Chair-Elect, IEEE VLSI Systems Applications (VSA) Technical Committee, IEEE Circuits and Systems Society 2014-2016
 - Technical committee member (IEEE Society of Circuits and Systems) 1992-Present (a). Digital signal processing. (b). VLSI Applications
 - Technical Area Chair- Speech, Image and Video Processing, Asilomar Conference on Signals, Systems, and Computers," 2014
 - Member at Large, local IEEE Toledo Chapter, 2008-2014
 - Special Session Chair for 30th annual IEEE Canadian Conference on Electrical and Computer Engineering (IEEE 2017 CCECE), Windsor, Ontario, Canada, May 2017.
 - Technical Committee Program Chair for the International Conference on Multi-Media Signal Processing and Communication Technologies, (IMPACT 2013)
 - Publication Chair for the International Conference on Multi-Media Signal Processing and Communication Technologies, (IMPACT 2011)
 - Chairman - SAE Vincent Bendix Automotive Electronics Engineering Award Committee 2002-2011
 - Advisor for local IEEE Student Chapter, 2005-2007
 - Member of SAE Vehicle Multiplexing Standard Development Committee 1995-2000
 - Member of SAE Vehicle Diagnostics Standard Development Committee 1995-2000
 - Vice-President Computer Science & Mathematics Section, Ohio Academy of Science. 1987
 - Chairman- SAE Vehicle Multiplexing Standard Development Sub-Committee for review of In Vehicle Network Security, 2004.
 - Advisor for local IEEE Student Chapter, 2005-2007
- Served as Reviewer for number of journals/conferences 1984-Present

Served on University Committees:

The University of Texas Permian Basin Service

University Arbitration Committee 2021-2023

Faculty Senate 2019-2023

University Curriculum Committee 2019-Present

College Curriculum Committee 2018-Present

College Award Committee 2018-Present

Chair- Electrical Engineering Faculty Search Committee 2018-2022, summer 2023-Present

College Strategic Planning Committee 2018-Present

College Workload Committee 2018-Present

Chair- ABET Committee (Joint Chemical and Electrical Engineering) 2019-2023

University Awards Committee, 2022-Present

College Search Committee for Lab Manager, 2023-Present

The University of Toledo, Toledo, Ohio Service

Under-graduate Curriculum Committee 84-86, 2008-2016

Graduate Curriculum Committee 1986-1987. 2007-2016

Chairman of Computer Curriculum Sub-Committee 1985-1995

University Microcomputer Advisory Committee 1984-1985

College Computer Advisory Committee

College System Committee

Library Representative

Awards Committee

Chairman, Logic and Computers Sub-Curriculum Committee. Computer Systems Focus Group

Control and Manufacturing Focus Group.

Department Personnel Committee 1997-2000, 2001-2006

Chairman, Department Personnel Committee, 1998-2000, 2003-2006

Graduate Director 01/2000-2001

University Research Task Force 2000-2001

Member EECS Chair Search Committee 2000-2001, 2005-2007

Chairman Faculty Search Committee 2000, 2002-2003, 2007-2008

Chair ABET Assessment sub-committee Outcome # 6, 2003-2016

Member CSE Curriculum Committee, 2000-2016

Member CSE retention committee, 2003-2004

Member College Diversity Committee, 2009-2016

Member Engineering College Academic Personnel Committee, 2009-2015

Member-at-Large, IEEE Toledo Section, 2009-2014

Focus Group Leader, Control, Communication and Signal Processing (CSP) 2007-Present
Technical Program Area Committee Chair for Speech, Image and Video Processing for
2014 Asilomar Conference on Signals, Systems and Computers.

Advisory Committee Member-The 9th International Conference on Robotics, Vision,
Signal Processing & Power Applications (2-3 Feb 2016), Penang, Malaysia

ABET Related Activities

ABET Program Coordinator for EE Program 2018-Present

ABET Program Review Coordinator for CSE Program 2014-2106

ABET Program Review Coordinator for EE Program 2014-2106

Chair ABET Assessment sub-committee Outcome # 6, 2003-2016

Chair Co-op and EBI Survey Evaluation & Assessment Subcommittee (ABET) 2009

Served on number of ABET related committees 1984-2016

Continuing education seminars/workshops (attended)

Robotics and its Applications, University of Michigan, Ann Arbor, 1985

Computer Vision and Image Processing, University of Michigan, Ann Arbor, 1986

Attended IEEE Satellite seminars on Applications of Artificial Intelligence 02/26/86

Participated in the Reliability Engineering Design Workshop at the Wright Patterson
Air Force Base during June 15, 1987 to July 10, 1987.

Attended NSF VLSI Educational Conference 1991.

Attended IEEE workshop on Computer Arithmetic 1993.

Digital Signal Processing Hardware Design, NSF Workshop, Dartmouth, MA, July 1998.

RS Logic Workshop, Rockwell Software, Cleveland, Ohio, December 1998.

FLEXRay Workshop, FLEXRay Consortium, Dearborn, MI, March 2003.

Tutorial on Sensor Networks, ICASP 2004, Montreal, April 2004

Tutorial on Space Time Adaptive Processing, IEEE 2006 Radar Conference in Stoney
Point, NY,

XILINX DSP design using FPGA course (2 days) May, 2006

XILINX FPGA design course (2 days) June, 2006

Summer Course on Multi-Core Processors, University of Michigan, Ann Arbor, August
2009

ABET Workshop 2021. Virtual (April 14 – 16, 2021)

ABET Workshop 2022, Virtual September 2022.