

Education: **Ph.D., Electrical Engineering**, Tennessee Tech. Univ. August 1991. (GPA: 4.0/4.0)
Dissertation: "A Superimposed DC and RF Longitudinal Excitation of a Low Press. CO₂ Laser."
M.S., Electrical Engineering, Tennessee Tech. Univ. August 1985. (GPA 3.9/4.0)
Thesis: "Mass Spectrometer Gas Analysis for Transformer Fault Diagnosis."
B.S., Electrical Engineering, Damascus University, Damascus, Syria. June 1980.
Thesis: "A Digital White Noise Generator in the Audio Frequency Domain."

Professional Experience

- 8/03-Present** **Professor & Program Coordinator**, Computer Engineering Technology, MTSU.
- Teaching graduate and undergraduate courses and laboratories.
 - Graduate Director: MS in Engineering Technology 2017-present.
 - Curriculum development: new programs and courses.
 - Research in the area of technological education and assessment, RFID applications, electrical properties of concrete, instrumentation, biosensors, and computer forensics.
 - Faculty Fellow, College of Graduate Studies 2007-2008.
- 8/98-7/03** **Associate Professor & Program Coordinator**, Engineering Technology, MTSU
- Program Coordinator: Computer, Manufacturing, and Electro-Mechanical.
 - Teaching graduate and undergraduate courses and laboratories.
 - Research in the area of power electronics, mass spectrometry, and lasers.
 - Team leader, Nashville Tech. Team, SEATEC — NSF-funded grant.
- 8/93-7/98** **Assistant Professor, & Program Coordinator**, Computer Eng. Technology, MTSU
- Teaching analog/digital electronics and microprocessors courses and labs.
 - Research in the area of mass spectrometry, lasers, discharges, and power electronics.
 - Team member, Pellissippi State Team, TEFATE — NSF-funded grant.
- 1/93-8/93** **Assistant Professor**, Department of Physics and Astronomy, MTSU
- Teaching Electronics & Physics courses and laboratories.
- 8/91-12/92** **Adjunct Faculty**, Dept. of Electrical Engineering, Tennessee Tech. University
- Teaching several Electrical Engineering courses.
 - Supervised ten research projects through the NSF Young Scholar Program.
- 8/89-8/91** **Research Engineer**, Center for Electric Power, Cookeville, Tennessee
- 9/85-8/87**
- Developed a new excitation technique of a low pressure CO₂ laser.
 - Designed, built, and tested a high-voltage supply for gas laser excitation.
 - Gas analysis and pollution monitoring using tunable laser spectrometers.
 - Trace gas detection and analysis using surface acoustic wave sensors.
 - Designed, built, and tested a quadrupole mass spectrometer based gas analyzer for power transformer fault prediction and diagnostics.
- 9/87-8/89** **Instructor**, Department of Electrical Engineering, Tennessee Tech. University
- Courses taught: Physical Electronics, Electromagnetic Field Theory and Applications, and Fundamentals of Electrical Eng. Research Advisor, NSF Young Scholar Program at TTU.
- 9/84-6/85** **Teaching Assistant**, Department of Electrical Eng., Tennessee Tech. University.
- Courses and labs taught: Instrumentation and Measurements.
- 6/80-3/82** **Executive Engineer**, The Syrian Power & Telephone Networks Co., Damascus.
- Supervised a group responsible for designing, connecting, testing, and repairing primary, secondary, and inter-stations telephone networks.

Grants Awarded/Participated in

- Computer Forensics, two Department of Justice Federal Grants, 2009-2012, \$1.3 M.
- "Will Mind Mapping Improve Technical Education?" FRCAC grant, 2005, \$6500.
- "Electrical Properties of Concrete," FRCAC grant, 2005, \$21,000.
- Seven TAF-funded grants to enhance instruction in the electronics laboratories and classrooms, \$580 K.
- "Center for IT Education," MTSU Coordinator, NSF-funded \$2 M grant, spring 2003-2004.
- "South East Advanced Tech. Ed. Consortium," Team Leader, NSF-funded \$1.8 M grant, 1998-2002.

- “Collaboration in Glow Discharge Mass Spectrometry to Study Gas-Phase Interactions of Ions and Molecules,” Lockheed-Martin Energy Research Corporation, ORNL, Contract # 22X-SV915V.
- “Mass Spectrometer Based Gas Analyzer..,” Academic Year Research Grant, MTSU, 1999.
- “Tennessee Exemplary Faculty for Advanced Tech. Education”, NSF-funded \$550 K grant, 1996-1998.
- “Mass Spectrometer Gas Analysis for Power Transformer..,” Summer Research Grant, MTSU, 1998.
- “RF Glow Discharge Ion Source for Mass Spec..,” Summer Research Grant, MTSU, 1997.
- “High-Voltage Switch-Mode Power Converter Design for..,” Summer Research Grant, MTSU, 1995.

Service to Professional Organizations

- **ETAC/ABET Program Evaluator** representing IEEE/ASEE, 11 visits, 2006 - Present.
- **American Society for Engineering Education, ASEE, 1996 - Present**
 1. Chair, Systems Engineering Division, 2015-2016.
 2. Program Chair, Systems Engineering Division, 2014-2015. Twenty six papers were reviewed and processed from abstracts to presentation and publication in ten sessions (technical, panel, and workshop).
 3. Chair/member, The Robert G. Quinn Award for Excellence in Eng. Education, 2000-2006.
 4. Chair, Instrumentation Division, 2000-2002.
 5. Vice-Chair, Instrumentation Division, 1998-99.
 6. Program Chair, Instrumentation Division, 1997-98.
 7. Reviewed over 100 papers and moderated numerous sessions.
- **Program Evaluator**, Reviewed over five academic undergraduate and graduate programs.
- **IEEE Pulse Panel**, 2005-2011.
- **PC Magazine Advisory Panel**, 2005-2011.
- **Editorial Board**, *Journal of SMET Education: Innovations and Research*. Also served as a Guest Editor. Reviewed several papers and coordinated the review process of two articles.
- **Editorial Board**, “*The 21st Century Engineer.*” A web-based refereed eng. and technology journal.
- **External Reviewer** for promotion and tenure of five individuals at The University of Memphis, Penn State University, Penn State Harrisburg, and Texas A&M CC. 1997-2002.

Service to the University, Community, and Student Organizations

- **Faculty Advisor**, Saudi Student Association, MTSU 2011-Present.
- **Faculty Advisor**, Muslim Student Association, MTSU 2000-Present.
- **Chair, Instructional Technologies & General Education Committees**, MTSU, 2008-2010.
- **Graduate Council**: Member & served on the Faculty and Curriculum Review Committee, 04-08.
- **Faculty Research and Creative Activities Committees**: Member, 2003-2005.
- **Chair, Department Curriculum Committee**: 1996-2003.
- **Departmental Committees**: Graduate, Accreditation, Institutional Effectiveness, P&T, and others.
- **Merit Badge University, Boy Scout**: MTSU 1994-2016.
- **Expand Your Horizons in Science and Math, Girl Scout**: MTSU 1997-2007.

- Honors:**
- Outstanding Teacher Award, 2006 MTSU.
 - Outstanding Classroom Teacher, College of Basic and Applied Sciences, 2001.
 - Faculty Achievement Award, College of Basic and Applied Sciences, 1995-1996.
 - Who's Who Among the Students in American Univ., Tennessee Tech., Fall 1988.
 - Top Graduating Student, College of Elec. and Mech. Eng., Damascus University, AY 1979-1980.
 - Dresden University Top Students Scholarship, Summer 1978, Dresden, Germany.
 - International Honorary Society for Professionals in Technology, Epsilon Pi Tau.
 - The Honor Society of Phi Kappa Phi.
 - The National Honors Engineering Society of Tau Beta Pi.
 - The Electrical Engineering Honor Society of Eta Kappa Nu.

Refereed Publications and Continuous Improvement Activities

- Published over 38-refereed publications and attended/conducted over 65 workshops and presentations.

- **Journal Publications**

1. S. Sbenaty, *"I Want My Pizza Hot!"* Journal of SMET Education: Innovation and Research, January-April 2000.

- **Refereed Publications — All Papers Have Been Presented as Well.**

1. *"An Automated Real-Time Monitoring System for the Study of Seeds Biology,"* with Mr. T. Balachandran and Dr. J. Walck. Proceedings of the 4th Annual IAJC/ISAM Joint International Conference, September 25-27, 2014 – Orlando, Florida.
2. *"Designing, Building, and Testing an Autonomous Search and Rescue Robot — An Undergraduate Applied Research Experience,"* with Cody Hazelwood. Proceedings of the American Society for Engineering Education 2014 Annual Conference and Exposition, June 15-18, 2014, Indianapolis, Indiana.
3. *"Remote Humidity and Temperature Real-Time Monitoring System for the Study of the After-Ripening Process in Seeds,"* with B. Thiruparan and J. Walk. Proceedings of the American Society for Engineering Education 2013 Annual Conference and Exposition, June 23 - 26, 2013, Atlanta, Georgia.
4. *"Mobile Data Design and Applications for Emergency Response Vehicles,"* with W. Brown. Proceedings of the American Society for Engineering Education 2012 Annual Conference and Exposition, San Antonio, TX, June 24-27, 2012.
5. *"Animal Record Management Using an Embedded RFID-Based System,"* with D. Bowker. Proceedings of the American Society for Engineering Education 2011 Annual Conference and Exposition, Vancouver, BC, Canada June 26-29, 2011.
6. *"Computer Forensics – Seizing and Securing Digital Evidence,"* with S. Mitchell and H. Berryman. Proceedings of the 2009 American Society for Engineering Education (ASEE) Annual Conference and Exposition, Austin, Texas, June 14-17, 2009.
7. *"Industrial Partnership For The Enhancement Of Engineering Technology Education,"* Proceedings of the 2009 American Society for Engineering Education (ASEE) Annual Conference and Exposition, Austin, Texas, June 14-17, 2009.
8. *"Reinventing Home Automation: A Reliable, Cost Effective Approach,"* with C. Lloyd. Proceedings of the 2007 American Society for Engineering Education (ASEE) Annual Conference and Exposition, Honolulu, Hawaii, June 25-27, 2007.
9. *"Designing, Building, and Testing a Closed Compartment Stage Incubator, CCSI,"* with R. Hoehn. Proceedings of the American Society for Engineering Education (ASEE) 2006 Annual Conference and Exposition, Chicago, Illinois, June 19-21, 2006.

10. *"Designing, Building, and Testing an Advanced Industrial-Grade Three-Phase Digital Power Meter,"* with B. J. Meredith. Proceedings of the American Society for Engineering Education (ASEE) 2006 Annual Conference and Exposition, Chicago, Illinois, June 19-21, 2006.
11. *"Using Mind Mapping in Technical Education,"* Proceedings of the 2005 ASEE Annual Conference and Exposition, Portland, Oregon, June 12-15, 2005.
12. *"Designing, Building, and Testing a Microcontroller-Based System for Industrial Applications,"* with R. Hoehn. Proceedings of the 2005 ASEE-GSW Annual Conference (American Society for Engineering Education-Gulf South West), Corpus Christi, TX, March 23-25, 2005.
13. *"Ethernet Control of Microcontrollers using the Built-in Interface,"* with C. Lloyd. Proceedings of the 2005 ASEE-GSW Annual Conference (American Society for Engineering Education-Gulf South West), Corpus Christi, TX, March 23-25, 2005.
14. *"Collaborative Efforts between the Local Industry and Engineering Technology and Biology Students in Building a DNA Microarrayer."* Proceedings of the 2004 ASEE Annual Conference and Exposition, Salt Lake City, Utah, June 20-23, 2004.
15. *"Industry-Based Case-Study Models in Technical Education,"* Proceedings of the 2003 ASEE Annual Conference and Exposition, Nashville Tennessee, June 16-19, 2003.
16. *"Assessments and Transfer of Knowledge in Case-Based Instruction — Promising Results!"* Proceedings of the 2002 ASEE Annual Conference and Exposition, Montréal, Canada, June 16-19, 2002.
17. *"Curriculum Development and Delivery Using Industry-Based Case-Study Models,"* Proceedings of the 2002 ASEE Annual Conference and Exposition, Montréal, Canada, June 16-19, 2002.
18. *"Active Collaborative Learning in Engineering and Technology Using Industry-Based Case Studies,"* Proceedings of the 2002 ASEE Annual Conference and Exposition, Montréal, Canada, June 16-19, 2002.
19. *"Teaching Problem-Solving Using Industry-Based Case Studies,"* Proceedings of the 2002 ASEE Annual Conference and Exposition, Montréal, Canada, June 16-19, 2002.
20. *"Improving Student Learning and Retention in Technology Programs Using Industry-Based Case Studies,"* Proceedings of the 2001 ASEE Annual Conference and Exposition, Albuquerque, NM June 24-27, 2001.

21. *“Transfer of Knowledge and Skills Assessments in Engineering and Technological Education,”* Proceedings of the 2001 ASEE Annual Conference and Exposition, Albuquerque, NM, June 24-27, 2001.
22. *“Innovations in Curriculum Development, Delivery, and Assessment for Engineering and Technology Programs,”* Proceedings of the Electrical and Electronics Engineering Education in the Third Millennium, ICEECEE, Davos, Switzerland, September 10-15, 2000.
23. *“Air Pollution Monitors — A Survey,”* with V. Ramirez. Proceedings of the 2000 ASEE Annual Conference and Exposition, St. Louis, Missouri, June 18-21, 2000.
24. *“An Innovative Approach to Curriculum Development for Engineering Technology Programs,”* with Melvin Montgomery, Jackson State Community College, Proceedings of the 2000 ASEE Annual Conference and Exposition, St. Louis, Missouri, June 18-21, 2000.
25. *“Curriculum Integration Using Case Study Approach for the Enhancement of Technology and Engineering Education,”* with William Call, Murray State University (Kentucky), Proceedings of the 2000 ASEE Annual Conference and Exposition, St. Louis, Missouri, June 18-21, 2000.
26. *“SEATEC-An Innovative Approach to Engineering and Technology Curriculum Development,”* with Claudia House, Nashville State Technical Institute, Proceedings of the 2000 ASEE Annual Conference and Exposition, St. Louis, Missouri, June 18-21, 2000.
27. *“Innovations in Curriculum Integration, Delivery, and Assessment for Engineering and Technology Education,”* Proceedings of the 2000 ASEE Annual Conference and Exposition, St. Louis, Missouri, June 18-21, 2000.
28. *“Cooperative Education and Case Study Approach for the Enhancement of Engineering Technology Education,”* Proceedings of the 2000 ASEE Annual Conference and Exposition, St. Louis, Missouri, June 18-21, 2000.
29. *“An Innovative Approach to Curriculum Development Through Industrial/Business Partnership with the South East Advanced Technological Education Consortium,”* Proceedings of the Interamerican Council on Engineering and Technology Education, Intertech 2000, Cincinnati, OH, June 12-14, 2000.
30. *“SEATEC — A Creative Approach to Curriculum Development and Delivery for Engineering and Technology Programs,”* Proceedings of the 2000 ASEE-SE Annual Conference, Roanoke, VA, April 2-4, 2000.
31. *“I want My Pizza Hot, a Case-Study,”* Proceeding of the Eighth Annual Southeast Case Research Association, SECRA, Conference, Myrtle Beach, South Carolina, Feb. 17-19, 2000.

32. *"SEATEC—Year One: Productive and Exciting!"* The Case Files, Volume 1, Issue 2, December 1999.
33. *"Industrial Partnership for the Enhancement of Engineering Technology Education,"* Proceedings of the American Society for Engineering Education (ASEE) 1999 Annual Conference and Exposition, Charlotte, NC June 20-23, 1999. Paper # 2547.
34. *"Efficiency Measurements of a High-Voltage High-Frequency Switch-Mode Power Supply: A Research Project,"* Proceedings of the American Society for Engineering Education (ASEE) 1998 Annual Conference and Exposition, , Seattle, WA, June 28- July 1, 1998. Paper # 3659.
35. *"A Quadrupole Mass Spectrometer Based Gas Analyzer for Power Transformer Fault Assessment,"* Proceedings of the American Society for Engineering Education (ASEE) 1997 Annual Conference and Exposition, Milwaukee, Wisconsin, June 15-18, 1997. Paper # 1559.
36. *"Riding with the Sun: MTSU's Experience in Solar Car Design and the Impact on Community,"* Proceedings of the American Society for Engineering Education (ASEE) 1997 Annual Conference and Exposition, Milwaukee, Wisconsin, June 15-18, 1997. Paper # 1280.
37. *"A Mass Spectrometer Based Gas Analysis System for Transformed Fault Diagnostics,"* with H. Powell. Transactions of the 7th Annual Power Industry Division Symposium, POWID/EPRI Controls and Instrumentation, Instrument Society of America, Dallas, TX, 1987.

- **Selected Invited Presentations**

1. *"Not in my backyard: Religious Freedom and Building a Mosque in America,"* Interfaith Student Leader & Muslim Student Association, Florida Atlantic University, Boca Raton, Florida, April 18, 2011.
2. *"Introduction to Electricity and Magnetism,"* Several presentations for elementary and middle school students, 2010.
3. *"Computer Crimes: An Introduction to Digital Evidence."* Twenty eight high school students from Rutherford and surrounding counties were introduced to computer crimes as well as proper ways for collecting digital evidence during their three-day CSI Forensic Camp at MTSU in June 2009.
4. *"Seizing and Securing Digital Evidence."* Organized and completed a half-day workshop, which was held at Nashville State Technical Community College on Jan. 12, 2009. The

workshop was attended by over 300 members of the Middle Tennessee Chapter of the Association of Certified Fraud Examiners.

5. *"Computer Crimes: An Introduction to Digital Evidence."* Twenty eight high school students from Rutherford and surrounding counties were introduced to computer crimes as well as proper ways for collecting digital evidence during their three-day CSI Forensic Camp at MTSU in June 2008.
6. *"Seizing and Securing Digital Evidence,"* Forensic Institute for Research and Education, MTSU, Feb. 8, 2008. Designed, organized, and completed the POST approval of the 8-hour workshop.
7. *"The Pedagogy of Teaching Religion in the Classroom,"* MTSU Middle East Center, MTSU, Middle East Workshop for teachers, April 12, 2008.
8. *"Commemorating MLK Birthday,"* Martin Luther King Candlelight Vigil, MTSU, Jan. 21, 2008.
9. *"An Introduction to Islam,"* Judaism, Christianity, and Islam course, MTSU, April 24, 2008.
10. Participated in a 90-minute panel presentation entitled *"Religious/Spiritual Outreach in a Culturally Diverse World"* during the International Diversity Conference (sponsored by MTSU), Oct. 29 - 31, 2003, Nashville, TN.
11. Presented a 90-minute presentation entitled *"Introduction to Islam,"* for a Religious Study course, RS 4050, Judaism, Christianity, and Islam, April 22, 2004, MTSU.
12. *"Industry-Based Case Studies in Technical Education,"* Teaching and Learning Seminar, College of Basic and Applied Sciences, April 16, 2003.
13. Presented, coordinated, and moderated a 90-minute panel presentation entitled *"the Status and Leadership of Women in Islam"* during the Women and Power Conference, Feb 27-March 1, at MTSU. The panel included three presenters in addition to the moderator.