MOHAMMAD S. ALAM

[redacted]

EDUCATION

Ph.D. Electrical Engineering, University of Dayton, Dayton, Ohio, 1992
M.S. Computer Engineering, Wayne State University, Detroit, Michigan, 1989
M.S. Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology, 1985
B.S. Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology (BUET), 1983

PROFESSIONAL DEVELOPMENT

Negotiation for Senior Executives, Harvard Law School, Harvard University
Managing Technical Professionals, Sloan School of Management, Massachusetts Institute of Technology
Chairing the Academic Department, American Council on Education, Washington DC
CASE Development Workshop for Deans and Academic Leaders, San Francisco, California

PROFESSIONAL EXPERIENCE

Minnesota State University (MSU), Mankato, Minnesota, 2023 - Present
Dean, College of Science, Engineering and Technology (CSET)
Professor, Department of Electrical, Computer, and Robotics Engineering

- Providing leadership in advancing the CSET's mission of teaching, research and service, including long-range strategic planning; managing and enhancing the academic, research and outreach programs; building cooperative relationships with internal and external stakeholders; and expanding collaborative efforts with industry and government agencies
- Managing all internal/external activities of the college consisting of 10 academic departments, 6 research centers/institutes, and 3 external campuses (Twin Cities Engineering, MinnPoly, and Iron Range Engineering)
- 250+ direct/indirect reports - 10 department chairs, 6 center/institute directors, 1 associate dean, 1 director of operations, 1 director of marketing and communications, 1 director of development, 1 outreach coordinator, 1 executive assistant, 1 administrative assistant; 141 tenured/tenure-track faculty; 100+ fixed-term faculty/staff; hired 30+ faculty/staff members (~16,000 students enrolled at MSU and ~3,000 students in CSET)
- Managing all activities involving 9 collective bargaining units with strong commitment to shared governance
- Inculcating a culture of customer friendly and inclusive environment across the college
- Initiated the development of the first 5-year strategic plan for the college

- Managing and responsible for 98 programs (43 undergraduate, 17 graduate, and 38 minor/certificate programs)
- Streamlined academic programs by phasing out unsustainable degree programs and introduced new programs in niche areas through a comprehensive academic portfolio review process with buy-in from all stakeholders
- Added 7 new academic programs: MS in artificial intelligence, BS in robotics engineering, BS in automotive engineering, BS in manufacturing engineering, BS in software engineering (project and co-op based), BS in integrated science and technology, BS in agronomy (with South Central College), and two certificate programs
- Added 4 new asynchronous online undergraduate programs for place-bound active service members (US Navy, Marine Corps, and Coast Guard) located throughout the globe in collaboration with the Alexandria Technical Community College (projected addition of 300 to 500 new students under this program)
- Infusing entrepreneurial mindset into the STEM curriculum with funding ($250K) from the Kern Family Foundation
- Used data-driven, result-oriented marketing strategies for outreach and recruitment leading to increased enrollment
- Implemented a Student First Strategy by providing robust support for advising, mentoring, supplemental instruction, academic progress monitoring, and career guidance leading to significantly increased retention and graduation rates
- Building strategic relationships with regional community colleges for seamless transition of transfer students
- Led accreditation efforts leading to reaccreditation for all engineering programs for the maximum possible period
- Participated in the campus level review of all academic programs for quality and sustainability using data analytics
- Assisted in the preparation of MSU's self-study report for the Higher Learning Commission (HLC) reaccreditation

- Investing resources in targeted areas leading to increased faculty participation in externally funded research
- Increased externally funded research by ~300% (from nearly $3.8M in FY23 to nearly $11.2M in FY25)
- Developing partnerships with key stakeholders to pursue large scale multidisciplinary funded research (e.g., MedTech 3.0, Mayo Clinic, NUBRIC, EDA, MNDoT, DoE, and NSF)
- Initiated the development of a multidisciplinary research center - Center for AI, Imaging, and Robotics (CAIR)

- Pursuing a robust fund-raising strategy by engaging the alumni base, industry, and other stakeholders (raised ~$12M)
- Developed and executed mission-focused, outcome-oriented budget strategies
- Responsible for the preparation and management of the college budget totaling nearly $34M

Texas A&M University - Kingsville (TAMUK), 2016 - 2023
Special Assistant to the Vice President for Research and Graduate Studies (February 2021 – August 2022)
Dean, Frank H. Dotterweich College of Engineering (August 2016 - January 2021)
Head, Texas A&M Engineering Experiment Station (TEES) at TAMUK
Interim Executive Director, Eagle Ford Center for Research, Education and Outreach (2017 - 2020)
Interim Executive Director, High Performance Computing Center, College of Engineering (2017 - 2018)
Professor, Department of Electrical Engineering and Computer Science (2016 - 2023)

- Administered all internal and external activities of the college consisting of 6 academic departments, 2 research centers, 2 institutes, RGV Engineering Initiative, and Texas A&M Engineering Experiment Station at TAMUK
- 17 direct reports - 6 department chairs, 4 center/institute directors, 2 associate deans, 1 executive director, 1 coordinator for RGV engineering initiative, 1 business administrator, 1 director of communications and outreach, 1 executive assistant; 110+ indirect reports; hired 2 associate deans, 4 chairs, 35+ faculty/staff members
- As Special Assistant to the VP for Research, led the development of several multidisciplinary research initiatives
- Implemented a cloud-based system (Workday) for all major operations in the college such as faculty/staff/student hiring, performance evaluation, financial management, and other administrative operations
- During Covid-19, coordinated all activities such as immediate transition to hybrid/online instructional delivery involving training and utilization of instructional technology, implementation of federal/state/county guidelines, facilities cleaning, counseling services, health screening protocols, baseline testing, and other related activities

- Managed and responsible for 22 academic programs - 10 Bachelors, 10 Masters, and 2 Ph.D. degree programs
- Transitioned two university supported Ph.D. programs into self-sustaining Ph.D. programs
- Added 7 new programs - BS in computer engineering, BS in industrial engineering, MS in mechatronic engineering, BAAS in occupational safety and health, online MS in natural gas engineering, online MS in mechanical engineering, and Ph.D. in engineering
- Introduced a fast track 5-year BS-MS program, and 5 minor/certificate programs
- Introduced an interactive classroom for active learning by investing over $150K
- Added a new lab for natural gas engineering and revamped all instructional labs by investing nearly $1.6M
- Implemented online/hybrid course offerings and remote learning opportunities for place-bound/international students
- Increased the number of internship/co-op opportunities for students from 888 in 2017 to over 1800 in 2019

- Increased externally funded research awards by nearly 700% (from $1.68M in FY 2016 to $11.32M in FY 2020)
- Established a new $5M NSF funded Center for Research Excellence in Science and Technology (CREST)
- Added 12 soft funded research staff (research professors, post-docs, and support staff members)
- Increased faculty participation in external research funding related activities from nearly 40% to over 90%
- Established research infrastructure in niche areas and developed robust policies and compliance procedures
- Added 2 research labs - sustainable energy systems (SES) lab; vision, imaging, and photonic systems (VIPS) lab
- Developed a Master Research Agreement with the Port of Corpus Christi for large-scale applied research projects
- Developed a research partnership agreement with Oak Ridge National Laboratory

- Introduced effective fund-raising strategies ($1.8M from the private sector and $4.1M from the university)
- Received a $41M in-kind donation from the Schlumberger Technology Corp.
- Established the first endowed chair in Civil Engineering (Eugene E. Dawson Endowed Chair)
- Renovated 3 engineering buildings to provide better learning environment for students (invested over $2.5M)
- Added a new Engineering Innovation Center for enhanced interaction with industry (invested over $1.3M)
- Invested nearly $1.6M for instructional laboratory improvement and nearly $1M for research infrastructure
- Served in the TAMUK Campus Master Plan Evaluation Committee

- Invested significant resources to provide dedicated advising, supplemental instruction, tutoring, and career guidance via the Engineering Student Success Center to ensure academic success, especially for first-generation, non-traditional, and underrepresented students
- Directed result-oriented marketing plans for outreach, recruitment and retention
- Developed articulation agreements with 6 regional community colleges and 3 international institutions

- Increased FTIC retention rate by 11% and 6-year graduation rate by 6% (during 2017 to 2019)
- Developed and executed mission-focused successful strategies for assessment and accreditation
- Secured initial ABET accreditation for the BS in Natural Gas Engineering and reaccreditation for 9 other programs
- Assisted in the preparation of the university self-study report leading to successful SACS reaccreditation
- Developed and implemented the first strategic plan for the college with buy-in from all stakeholders
- Actively participated in the development of the 5-year strategic plan for the university
- Developed and managed the College of Engineering budget totaling nearly $20M

University of South Alabama (USA), 2001 - 2016
Chair, Department of Electrical and Computer Engineering (2001 - 2015)
Warren H. Nicholson Endowed Chair Professor of Electrical and Computer Engineering (2016)
Director of four research labs (VIPS, HIPS, PIPS and FCOSH Labs)
Professor, Department of Electrical and Computer Engineering (2001 - 2016)
- Led/coordinated all activities such as faculty/staff recruitment/mentoring, performance evaluation, P&T, recruitment/retention, academic advising/orientation, curriculum/laboratory development, ABET/SACS accreditation, budget management, donor cultivation, funded research, research compliance, technology transfer, and facilities development
- 50+ direct reports - faculty, staff, post-docs, visiting scholars, teaching/research assistants, and part-time faculty

- Re-engineered undergraduate and graduate degree programs in electrical and computer engineering
- Implemented online and PodCast based course offerings for distance education
- Introduced a PreMed Track in the BSEE program; a Software Track and a Hardware Track in the BSCpE program
- Introduced Electrical, Computer and Systems Engineering Tracks in the MSEE degree program
- Replaced and/or updated over 70% of the regularly offered graduate and senior level courses to maintain currency
- Actively participated in the development of a college-wide doctoral program in Systems Engineering

- Increased externally funded research from nearly $100K to over $3M
- Added four new research laboratories using external funding by investing over $1.2M
- Increased faculty participation in externally funded research from 12.5% to 87.5% and supported 16 post-docs
- Established collaborative research with 30+ domestic and int'l institutions and private industry
- Added nearly 10,000 sq. ft. research laboratory space

- Actively sought and received donations/gifts from the private sector totaling over $2M
- Established the first Endowed Professorship in the history of the College (Warren Nicholson Endowed Chair)
- Actively involved in the planning, programming, and fund raising for a $40M engineering building (155,000 sq. ft.)
- Played an active role from the inception and the establishment of the University Research and Technology Park

- Doubled student enrollment (from 279 to 546) and increased the tenured and tenure-track faculty size by 75%
- Developed articulation agreements with 3 international institutions
- Secured initial ABET accreditation for the BSCpE program and subsequent re-accreditation for BSEE and BSCpE degree programs (2001, 2005 and 2011) for the maximum possible period
- Implemented a software-based (TracDat) assessment and tracking system for assessment and annual review

- Actively participated in the development of strategic plans for the College and the University
- Responsible for the preparation and management of the departmental budget totaling over $4M

University of Alabama, 1999 - 2001
Associate Professor, ECE Department (on leave from Purdue University - Fort Wayne)

Purdue University - Fort Wayne, 1992 - 1999
Professor of Electrical Engineering (98-99), Associate Professor (97-98), Assistant Professor (92-97)
Graduate Faculty Member, Purdue University (1993 - 1999)
Graduate Faculty Member, Indiana University (1996 - 1999)
Visiting Professor, ECE Department, University of Dayton (1996)
Summer Faculty Fellow, Sensor Technology Branch, Wright-Patterson Air Force Base (1996)
Visiting Scientist, ITT Industry, Fort Wayne, Indiana (1998)

Research Assistant, Insight Technology, Inc., Dayton, Ohio (January 1991 - June 1992)
Research Assistant, ECE Department, University of Dayton (January 1991 - August 1992)
Teaching Assistant, CSE Department, Wright State University (January 1990 - December 1990)
Research/Teaching Assistant, ECE Department, Wayne State University (September 1988 - December 1989)
Teaching Associate, University of Texas at Arlington (May 1988 - August 1988)

Bangladesh University of Engineering and Technology, 1983 - 1987
Assistant Professor, Electrical and Electronic Engineering Department (May 1986 - December 1987)
Lecturer, Electrical and Electronic Engineering Department (September 1984 - May 1986)
Teaching Assistant, Electrical and Electronic Engineering Department (July 1983 - June 1984)
Instructor, BUET Computer Center (1985 -1987)

Bangladesh Atomic Energy Commission, Assistant Engineer, 1984 - 1984

OTHER RELEVANT EXPERIENCE

2004 - 2015	Member, Board of Directors (elected), Southeastern Center for Electrical Engineering Education
2012 - 2016	President (elected), Mobile Section of IEEE, Mobile, Alabama
2003 - 2006	President/Vice President/Secretary (elected), Southeastern ECE Department Heads Association
1996 - 1997	Chair (elected), College Assembly of Representatives, Purdue University - Fort Wayne
1994 - 1996	Chairman/Vice Chairman/Secretary (elected), Fort Wayne Section of IEEE, Indiana
2002 - 2025	Project Director and Principal Investigator for many large-scale multidisciplinary research projects
2007 - Present	Organizer/Chair of several International Conferences sponsored by IEEE, IET, and SPIE

UNIVERSITY SERVICE

Minnesota State University
- Member, President's Extended Cabinet, 2023 - Present
- Member, Council of Deans, 2023 - Present
- Member, Budget Committee, 2023 - Present
- Member, University Research Committee, 2023 - Present
- Member, University Global Education Committee, 2023 - Present
- Member, Board of Trustees Awards for Excellence Review Committee, 2026 - Present
- Mentor, Presidential Scholars, 2023 - Present
- Member, Work Process Improvement Task Force, 2025 - Present
- Member, Tuition, Differentials, Fees Task Force, 2025 - Present
- Member, Academic Portfolio Review Committee, 2024 - 2025
- Member, Comprehensive Academic Plan (CAP) Development Committee, 2023 - 2025
- Co-Chair, Associate Vice Provost for Research and Dean of the Graduate School Search Committee, 2023 - 2024

- Member, Committee for Developing Comprehensive Economic Development Strategy, Region 9 EDA, 2024-Present
- Member, Chamber of Commerce (Greater Mankato Growth), Mankato, 2023 - Present
- KEEN (Kern Entrepreneurial Engineering Network) Leader, Train and empower college faculty to integrate entrepreneurial mindset into the STEM curriculum, 2023 - Present

Texas A&M University - Kingsville
- Member, University Undergraduate Program Review Committee, 2020 - 2023
- Chair, Computer Engineering Curriculum Committee, 2021 - 2023
- Member, Campus Master Plan Evaluation Committee, 2020 - 2021
- Chair, College of Education Dean Search Committee, 2019 - 2020
- Member, Covid-19 Task Force, 2020-2021
- Member, Academic Dean's Council, 2016 - 2021
- Member, University Budget Council, 2016 - 2021
- Member, University Space Committee, 2016 - 2019
- Member, Tuition Rebate Committee, 2016 - 2021
- Member, Revenue Generation Committee, 2017 - 2018
- Member, Higher Education Fund (HEF) Committee, 2016 - 2018
- Member, Research Development Fund (RDF) Committee, 2016 - 2018

- Member, Compensation Task Force, 2019
- Chair, Academic/Research Planning Committee, Weslaco Campus, 2016 - 2017
- Member, Kingsville Chamber of Commerce, 2016 - 2021
- Member, Weslaco Chamber of Commerce, 2016 - 2021

University of South Alabama
- Member, Global Engagement in International Research Committee, 2015 - 2016
- Member, Faculty/Staff Annual Fund Campaign Committee, 2007 - 2016
- Chair, College of Engineering Promotion and Tenure Committee, 2015
- Chair, ECE Department Promotion and Tenure Committee, 2015 - 2016
- Chair, ECE Department Scholarship Committee, 2015 - 2016
- Member, College of Engineering Excellence in Research Awards Committee, 2006-2008, 2015
- Member, Research and Technology Park Advisory Committee, 2002 - 2006
- Member, University Safety Committee, 2004 - 2015
- Member, College of Engineering Dean's Executive Council, 2001 - 2015
- Member, College of Engineering Scholarship Committee, 2007 - 2010
- Member, Mechanical Engineering Department Chair Search Committee, 2004 - 2005
- Chair, ECE Assessment Committee, 2001 - 2015
- Member, Research and Technology Park Director Search Committee, 2004 - 2005
- Member, College of Engineering Dean Search Committee, 2002 - 2003
- Coordinated all activities related to ABET, SACS, outreach, recruitment, retention, orientation, academic advising, curriculum/laboratory development, faculty/staff mentoring/performance evaluation, faculty/staff recruitment, budget, P&T, donor cultivation, funded research, regulatory compliance, equipment/facilities development, etc.

University of Alabama
- Member, University Information Technology Committee, 2000 - 2001
- Member, International Program Committee, College of Engineering, 1999 - 2001
- Member, International Student Recruitment Subcommittee, College of Engineering, 1999 - 2001
- Member, Faculty Search Committee, ECE Department, 1999 - 2000
- Member, Computer Engineering Curriculum Review Committee, 1999 - 2001
- Member, Board of Education, Isl. Academy of Alabama, Birmingham, 2000 - 2001
- Member, ECE ABET Visit Preparation/Planning Committee, 2000 - 2001
- Actively participated in many community and professional societal activities

Purdue University - Fort Wayne
- Member, University Research Advisory Committee, 1998 - 1999
- Member, University Academic Appeals Committee, 1995 - 1998
- Member, Faculty Colloquium on Excellence in Teaching (FACET) Committee, Indiana University, 1997 - 1999
- Member, Promotion and Tenure Committee, School of Engineering & Technology, 1998
- Member, Faculty Search Committee, 1995, 1997, 1998
- Member, ABET Accreditation Committee, 1992 - 1999
- Chairman/Vice Chairman/Secretary (elected), School Assembly of Representatives, 1994 - 1997
- Member, University Diversity Council, 1997 - 1998
- Member, University Advisory Committee for People with Disabilities, 1995 - 1998
- Member, University Honors Program Council, 1995 - 1997
- Member, University FACET Award Selection Committee, 1997
- Member, Planning Committee, FACET Workshop on Teaching Excellence, 1997
- Member, Faculty Incentives Subcommittee, Honors Program Council, 1995 - 1996
- Member, Director Search Subcommittee, Honors Program Council 1995 - 1996
- Member, General Education Subcommittee, Honors Program Council, 1996-1997
- Panel Member, Chairs-Deans Workshop on Augmenting Resources, November 6, 1997
- Panel Member, 1995 New Faculty Orientation Series, August 1995
- Member, University Speakers Bureau, 1993-1999
- Member, School of Engineering & Technology Assembly of Representatives, 1994 - 1997
- Member, School of Engineering & Technology Nominating Committee, 1994 - 1996
- Member, School of Engineering & Technology Assessment Review Committee, 1996

- Member, Excellence Awards Committee, School of Engineering & Technology, 1997
- Member, School of Engineering & Technology Open House Committee, 1993 - 1994
- Member, Departmental Promotion and Tenure Committee, 1992 - 1999
- Member, Departmental Mid-tenure Review Committee (for tenure track faculty), 1998
- Chair, Electrical Engineering Curriculum Evaluation Subcommittee, 1996 - 1997
- Member, Electrical Engineering Curriculum Committee, 1992 - 1999
- Chair, Scholarship Committee, 1995; Member, Scholarship Committee, 1994 - 1999
- Member, Department P&T Procedure Evaluation Committee, 1994
- Member, Senior Design Project Evaluation Committee, 1992 - 1998
- Member, Course Sequence Committee, 1994-1995
- Member, Graduate Program Evaluation Committee, 1994-1995
- Editor - Leading Edge, the Engineering Alumni Newsletter, 1997-1999
- Department Liaison to the University Library, September 1997 - 1999

Bangladesh University of Engineering and Technology
- Member, EEE Department Curriculum Committee
- Member, EEE Department Course Scheduling Committee
- Member, EEE Department Laboratory Management Committee
- Member, Bureau of Research, Testing and Consultations
- Joint Secretary, BUET Faculty Association

Reviewer of P&T Cases for the Following Institutions

1. Georgia Institute of Technology
2. University of Missouri - Columbia
3. Catholic University of America
4. Kuwait University
5. University of South Alabama
6. University of Michigan - Dearborn
7. Purdue University - Fort Wayne
8. Texas A&M University - Corpus Christi
9. University of West Florida
10. University of Hail, Saudi Arabia
11. Texas A&M University - Kingsville
12. University of New Orleans
13. Wichita State University
14. Temple University, Philadelphia
15. Farmingdale College, State University of New York
16. International Islamic University, Malaysia
17. University of Engineering and Technology, Pakistan
18. Islamic University of Technology, Bangladesh
19. GIK Institute of Engineering and Technology, Pakistan
20. Bangladesh University of Engineering and Technology
21. National University of Science and Technology, Pakistan
22. Auburn University - Montgomery
23. Minnesota State University
24. Quaid-i-Azam University, Islamabad, Pakistan
25. University of Denver, Colorado
26. University of Southern Mississippi

PROFESSIONAL SERVICE

Guest/Co-Guest Editor
Optical Engineering, Applied Optics, and Journal of Computers

Reviewer of research grant proposals for the following agencies
National Science Foundation (NSF), Army Research Office, Department of Energy, Louisiana Board of Regents, Alabama State DEPSCoR Committee, Ukraine National Science Committee, Southeastern Center for Electrical Engineering Education, NRL/ASEE Post-doctoral Research Program, American Association for Advancement of Science, Research Grants Council of Hong Kong

Reviewer of book proposals for the following publishers
John Wiley & Sons, Marcel-Dekker, Elsevier, Kluwer/Plenum, Academic Press, and IEEE Computer Society

Served or serves as a reviewer for 30+ journals and 15+ professional conferences including
- *IEEE Transactions on Image Processing; IEEE Transactions on Computers; IEEE Transactions on Instrumentation & Measurement; IEEE Transactions on Aerospace and Electronic Systems; IEEE Transactions on Geoscience & Remote Sensing; IEEE Transactions on Industry Applications; IEEE Transactions on Education; IEEE Transactions on Circuits & Systems for Video Technology; Optical Engineering; Applied Optics; IEEE Transactions on Parallel & Distributed Systems; IEEE Journal of Lightwave Technology*

- *International Conference on Computer and Information Technology; Int'l Conference on Ubi-media Computing; Int'l Conference on Advances in Electrical Engineering; SPIE Conference on Pattern Recognition and Prediction; Int'l Conference on Graphics and Visualization in Engineering; IEEE National Aerospace and Electronics Conference*

Leadership roles at international conferences

1. General Chair, *International Conference on Computer and Information Technology (ICCIT)*, IEEE, 2016 - Present
2. Chair, *Conference on Pattern Recognition and Prediction*, SPIE, 2024 - Present
3. Chair, *Conference on Pattern Recognition and Tracking*, SPIE, 2015 - 2023
4. Member, Executive Organizing Committee, *SPIE Defense+Commercial Sensing*, 2017 - 2023
5. Member, Program Committee, *The 10th Int'l Conference on Image and Graphics*, Beijing, August 23-25, 2019
6. Co-Chair, *Int'l Conference on Computer and Information Technology (ICCIT)*, IEEE, 2015
7. Chair, Plenary Session, *Int'l Conference on Computer and Information Technology*, IEEE, 2014 - 2024
8. Organizer and Chair, *Panel on Ethics and Professional Integrity*, ICCIT, IEEE, December 21-23, 2015
9. Chair, Technical Program Committee, ICCIT, 2015 - present
10. Co-Chair, *Int'l Conference on Optical Pattern Recognition*, SPIE, 2014 - 2015
11. Member, Advisory Board, *Int'l Symposium on 3D Imaging, Metrology & Data Security*, OSA, Sept. 26-29, 2015
12. Organizer and Chair, *Responsible Conduct in Research*, ICCIT, IEEE, Dhaka, December 22-23, 2014
13. Organizer and Chair, *Panel on Improving Engineering Education in Bangladesh - Prospects and Challenges*, *Int'l Conference on Advances in Electrical Engineering*, Dhaka, December 19-21, 2013
14. Co-Chair, International Program Committee, *Int'l Conference on Computer & Information Technology*, 2014
15. Chair, International Program Committee, *Int'l Conf. on Advances in Electrical Engineering*, Dhaka, 2011- 2013
16. Chair, Plenary Session, *Int'l Conf. on Advances in Electrical Engineering*, Dhaka, December 19-21, 2013
17. Chair, Technical Committee, *Int'l Conf. on Computer, Communication, and Informatics*, India, January 4-6, 2013
18. Member, Program Committee, *International Conference on Ubi-media Computing*, IEEE, 2008 - present
19. Member, Program Committee, *Int'l Conf. on Electrical and Electronic Engineering*, IEEE, Tripoli, 2010
19. Member, Program Committee, *Conference on Optical Pattern Recognition*, SPIE, 2000 - 2013
20. Member, Program Committee, *Conference on Automatic Target Recognition*, SPIE, 2007 - 2016
21. Member, Program Committee, *Int'l Conf. on Multispectral Image Processing and Pattern Recognition*, 2006-08
22. Member, Program Committee, Int'l Conf. on Electrical and Computer Engineering, IEEE, Dhaka, 2002 - 2012
23. Member, *SPIE International Technical Working Group on Optical Processing and Computing*, 1997 - 2000
24. Member, Program Committee, *Int'l Conf. on Imaging and Signal Processing in Healthcare & Technology*, 2010
25. Co-Chair, Plenary Session, *Int'l Conference on Computer and Information Tech.*, Dhaka, December 23-25, 2010
26. Panel Member, Skills for the 2020 Department Head, *ECEDHA Annual Meeting*, New Orleans, March 2009
27. Panel Member, *Pro-Innovation Infrastructure, Global Knowledge Forum*, Madinah, June 22-24, 2008
28. Chair, Plenary Session, *Int'l Conference on Electrical and Computer Engineering*, Dhaka, December 22-24, 2008
29. Co-Chair, *Int'l Conference on Computing, Communications and Networking*, Karur, India, Dec. 18-20, 2008
30. Conference Chair and Organizer, *Int'l Conf. on Graphics and Visualization in Engineering*, January 3-5, 2007
31. Panel Member, "Composite Filter Functions for ATR," *Int'l Symposium on Defense/Security*, SPIE, 2007
32. Co-organizer, Panel on *Strategies for Successful ABET Accreditation*, SECEDHA, Atlanta, Nov. 9-10, 2006
33. Co-organizer, Panel on *Ongoing ABET Issues Under EC 2000*, SECEDHA, Atlanta, November 3-4, 2005
34. Member, International Program Committee, ICCIIT, IASTED, St. Thomas, US Virgin Islands, 2004
35. Member, Program Committee, IEEE, ITHET *Conference*, Istanbul, Turkey, 2004
36. Member, International Program Committee, ICCIIT, Scottsdale, Arizona, November 17- 19, 2003
37. Member, Program Committee, *Conference on Opto-electro-techniques & Laser Applications*, Indonesia, 2002
38. Member, Program Committee, *Int'l Conf. on Intelligent Multimedia & Distance Education*, Fargo, June 2001
39. Member, Program Committee, *The 13th Int'l Conference on Parallel & Distributed Computing Systems*, 2000
40. Member, Program Committee, *OSA Annual Meeting*, Santa Clara, September 26 - October 1, 1999
41. Member, Program Committee, *Int'l Symposium on Intelligent Multimedia*, Germany, 1999
42. Member, Program Committee, *Int'l Workshop on Optoelectronic and Hybrid Optical/Digital Systems for Image/ Signal Processing*, SPIE, Lviv, Ukraine, September 30 - October 3, 1999
43. Co-organizer, *Symposium on New Optical Pattern Recognition Algorithms*, OSA Annual Meeting, 1999
44. Co-organizer, *Symposium on Pattern Recognition Algorithms and Hardware*, OSA Annual Meeting, 1998
45. Member, Program Committee, *Annual Meeting of the Optical Society of America*, Baltimore, October 4-9, 1998
46. Member, Program Committee, *The 50th National Aerospace and Electronics Conference*, IEEE, 1998

47. Member, Editorial Board, Proc. *Int'l Conference on Fiber-optics and Photonics*, IEEE, India, 1996
48. Member, Planning Committee, *IEEE Tactical Communications Conference*, Fort Wayne, 1996
49. Member, Program Committee, *OSA Annual Meeting*, Portland, Oregon, 10-15 September 1995
50. Organized and/or chaired 300+ technical sessions at various int'l conferences within the US and abroad

Leadership roles with community and professional societies/organizations

1. Member, ASEE Dean's Council, 2016 - 2021, 2023 - Present
2. Member, ASEE Engineering Research Council, 2023 - Present
3. Member, ASEE Engineering Dean's Institute (EDI) Program Committee, 2019
4. Member, Mobile Area Council of Engineers (MACE), 2013 - 2016
5. Member, Region III Executive Committee of IEEE, 2012 - 2016
6. Member, Fellows Selection Committee, SPIE, 2006 - 2009
7. Member, Alabama State DEPSCoR Committee, 2001 - 2008
8. Organizer, Symposium on Trends in Pattern Recognition Techniques, OSA Annual Meeting, 1995
9. Member, Richardson Medal Committee, Optical Society of America, 1997 - 2001
10. Member, Region IV Executive Committee of IEEE, 1995 - 1996
11. Faculty Advisor, IEEE Student Branch, Purdue University - Fort Wayne, 1994 - 1999
12. Faculty Advisor, IEEE Student Branch, University of Alabama, 1999 - 2000
13. Advisor, Mayor's Task Force on IT and Infrastructure, City of Mobile, 2005
14. Member, National Engineers Week Planning Committee, Fort Wayne, Indiana, 1995-1996
15. Judge, Regional Science and Engineering Fair, Fort Wayne, Indiana, 1995-1998
16. Proctor, Fort Wayne Center, Royal Conservatory of Music, Canada, 1993

POLICY AND ADVOCACY EXPERIENCE

- As a member of the ASEE Engineering Dean's Council delegation, lobbied congressional representatives for enacting policies and sustaining funding for STEM education and research
- Participated in the yearly ASEE Public Policy Colloquium to keep abreast of latest policy issues
- Worked closely with the TAMUS Office of Federal Relations in Washington DC to develop the agenda and talking points with congressional representatives from Texas
- Represented the university at the Texas Higher Education Coordination Board (THECB) state-wide open public hearing for the introduction of new programs (e.g., BS in Computer Engineering) at TAMUK
- Served in the Alabama State Committee for Defense Established Program for Stimulating Competitive Research (DEPSCoR) and developed policies and procedures for evaluation, assessment, reporting, and compliance requirements for proposals submitted through the DEPSCoR program

PARTNERSHIP DEVELOPMENT

- Developed a University Partnership agreement with Oak Ridge National Laboratory (ORNL) for utilizing research infrastructure at ORNL, faculty summer research opportunities, as well as internships/co-ops for students
- Developed a master research agreement with the Port of Corpus Christi (PCC) to establish a long-term strategic relationship incorporating three focal areas: (i) Vessel navigation and collision avoidance under low visibility conditions; (ii) Manage air emissions from vessels at berth and develop emissions capture technology; and (iii) Reduction of greenhouse gas footprint from energy production such as LNG refrigeration
- Currently developing robust partnerships with MedTech 3.0 and Mayo Clinic for applied funded research
- Initiated the initial conversation for establishing a branch campus in Bangladesh

TEACHING EXPERIENCE

Summary

- Developed and/or taught 20+ undergraduate and graduate courses in electrical engineering, computer engineering, optical engineering and computer science
- Supervised the research work of 16 post-doctoral students and 8 visiting research scholars
- Supervised the dissertation/thesis research work of 55+ Masters and Ph.D. students
- Served on the thesis and dissertation committees of many graduate students
- Supervised 35+ undergraduate senior design projects, honors projects and research projects
- Taught several short courses and tutorials at international conferences
- Serving as ABET Program Evaluator, Engineering Accreditation Commission, 2009 - present

Texas A&M University - Kingsville

- Courses Developed and/or Taught - Renewable Energy (EEEN 6303), Sustainable Energy Systems (ESEN 5303), Introduction to Computer Science (ESEN 2304), Digital Logic Design (EEEN 2340), Research Project (EEEN 5305), Thesis (EEEN 5306), Ph.D. Dissertation (ESEN 6306)
- New Laboratories Developed - Vision, Imaging, and Photonic Systems (VIPS) Lab, Sustainable Energy Systems Lab

University of South Alabama

- Courses Developed and/or Taught - Digital Logic Design (EE 263), Advanced Digital Systems (EE 469/569), Image Processing (EE 566), Biomedical Imaging (EE 567), Pattern Recognition (EE 568), Thesis (EE 599), Research Integrity/Seminar (EG 501)
- New Laboratories Developed - Hyperspectral Image Processing Systems (HIPS) Laboratory; Photonic Information Processing Systems (PIPS) Laboratory; Vision, Image Processing and Sensing (VIPS) Laboratory; and Fuel Cell Operated Smart Home (FCOSH) Laboratory

University of Alabama

- Courses Developed and/or Taught - Digital Computer Fundamentals (ECE 380), Pattern Recognition (ECE 693), Graduate Seminar (ECE 695/696), Advanced Computer Architecture (ECE 584), Computer Vision and Digital Image Processing (ECE 582), Advanced Digital Systems (ECE 493/593), Digital Signal Processing (ECE 485/585), Fiber-optic Communication Systems (ECE 593), Thesis (ECE 599), Dissertation (ECE 699)
- New Laboratories Developed - Digital Image Processing Laboratory, Optical Information Processing Systems Laboratory, and upgraded the Digital Computer Fundamentals Laboratory (ECE 380 Lab)

Purdue University - Fort Wayne

- Courses Developed and/or Taught - Optical Computing (EE 595), Advanced Digital Design Using VHDL (EE 585), Computer Architecture (EE 565), Image Processing (EE 563), Introduction to Optical Engineering (EE 495), Digital System Design Using VHDL (EE 472), Optical Fiber Communication Systems (EE 414), Senior Engineering Design (EE 406), Digital Computer Design (EE 365), Microprocessor Systems and Interfacing (EE 362), Microprocessor Systems Laboratory (EE 362L), Electromechanical Machines (EE 320), Digital Logic Design Lab (EE 267), Digital Logic Design (EE 266), Electronics (EE 265), and Electrical Circuits Laboratory (EE 207)
- New Laboratories Developed - Microprocessor Systems and Interfacing Laboratory (for EE 362L), Digital Logic Design Laboratory (for EE 267), and Optical Information Processing (OIP) Laboratory

Bangladesh University of Engineering and Technology

- Courses Taught - Electrical Circuits (EE 203), Electrical Machines (EE 205), Electronics I (EE 207), Electronics II (EE 301), Instrumentation and Measurements (EE 307), Control Systems (EE 401), Industrial Electronics (EE 407), Circuits Laboratory (EE 204), Electronics Laboratory (EE 208 and EE 302), Electrical Machines Laboratory (EE 306), Instrumentation Laboratory (EE 308), Control Systems Laboratory (EE 402), Industrial Electronics Laboratory (EE 408), and Microwave Engineering Laboratory (EE 416)
- Taught several computer programming courses as a part-time instructor for BUET Computer Center

FUND RAISING FROM THE PRIVATE SECTOR

Summary

- Implemented a robust fund-raising strategy, used data mining and engaged the alumni base, local/regional industry, community members, and other stakeholders to raise funding from the private sector
- Raised over $57M at my current and former institutions from the private sector
- Sample cash and/or in-kind donations/gifts that are $50K or higher are listed below

Minnesota State University

- Raised nearly $12M from the private sector (as of July 2026)
  - $1.2M from a community member to establish a scholarship endowment
  - $1M from a community member to establish a scholarship endowment
  - $500K from an emeritus faculty to establish a scholarship endowment
  - $75K from Thin Film Technology Corporation for the Microfabrication Lab
  - $60K from Excel Energy Foundation for student support/scholarship
  - $50K from Eagle Building Company for student scholarship
  - $50K from a community member for student scholarship
  - $50K from Weis Builders Inc. for student scholarship
  - $2.2M in-kind donation from SEIMENS Corp
  - $1.5M in-kind donation, Caresoft Global Technologies, Inc.

Texas A&M University - Kingsville

- Raised nearly $43M from the private sector
  - $500K endowment to establish scholarships for engineering students, Welhausen Estate
  - $250K endowment for the Eugene E. Dawson Professorship in Civil Engineering
  - $162K for STEM Activities, NR Electric Co.
  - $100K from Valley Crossing Pipeline to establish a scholarship for Natural Gas Engineering students
  - $100K endowment from an alumnus to establish a scholarship for Civil Engineering students
  - $100K endowment from an alumnus to establish a scholarship for Chemical Engineering students
  - $100K from American Electric Power for facilities expansion
  - $95K endowment from Bishop Community Services to establish a scholarship for an engineering student
  - $60K for RGV Engineering Initiative ($30K - Weslaco Economic Development Corp., $30K - City of Weslaco)
  - $50K from Houston Gas Processor's Association to establish a scholarship for Natural Gas Engineering program
  - $50K endowment from an alumnus to establish a scholarship for Natural Gas Engineering students
  - $50K support for the Capstone Senior Design Conference, Flint Hills Resources
  - $41M in-kind donation, Schlumberger Technology Corporation

University of South Alabama

- Raised nearly $2M from the private sector
  - $500K from Alabama Power Foundation to establish Power Electronics and Programmable Logic Controller Labs
  - $325K from an alumnus to establish the first Endowed Professorship in the ECE Department and the College
  - $150K from an alumnus to establish an Endowed Graduate Research Assistantship in the ECE Department
  - $100K endowment fund to establish ECE undergraduate scholarships (50% from an alumnus and 50% matching)
  - $500K from Kyoto University, Japan (Molecular Beam Epitaxy machine)
  - $125K from Operation Technology, Inc., Irvine, CA (ETAP Thinking Power Software Package)
  - $61K from Tektronix Corporation (mixed signal oscilloscopes, digital multimeters, and signal generators)
  - $57K from Altera Corporation (FPGA development boards)
  - $53K from FreeScale Corporation (embedded system design equipment)
  - $50K from Leptis Technologies, Rochester, NY 14618 (Copper Vapor Laser System)

RESEARCH

Summary

- Served or serves as the PI (Principal Investigator) or Co-PI of many research projects totaling over $17M
- Sponsors include NSF, NASA, DoE, ARO, DoD, FAA, AFRL, SMDC, Wright-Patt AFB, Alabama Department of Commerce, Purdue Research Foundation, Radiance Tech, nfina Tech, British Petroleum, and ITT Industry
- Established collaborative research with 30+ domestic and international research institutions and private industry
- Led many multidisciplinary flagship initiatives involving multiple campuses and industrial partners
- Research interests include digital/optical image processing, biometric recognition, AI, and renewable energy

Funded Research

1. Pathways to promote seamless transitions for undergrad engineering majors, **$2.4M**, *NSF*, 2019-2025 **(PI/PD**)
2. Develop, implement and integrate standard education modules in mechanical, chemical and electrical engineering curricula, **$114K**, *NIST*, 2023-2025 (**Co-PI**, transferred to another faculty due to my transition to MSU)
3. Cloud computing, data storage and network management system, **$550,000**, *Alabama Department of Commerce* ($250,000) and *nfina Technologies* ($300,000), 2015-2017 (**PI/PD**)
4. CCTS Pilot Project - Microwave radar and infrared sensing- based breast imaging device for cancer detection, **$30,000**, *NIH* (subcontract through the University of Alabama in Birmingham), 2016-2017 (**Co-PI**)
5. Consortium for Alabama renewable energy (CARE), **$20,000**, *Alabama Innovation Fund*, 2016 (**PI/PD**)
6. Extracting target signatures from vibrometric data, **$38,500**, *AFRL*, 2015 (**PI/PD**)
7. Performance evaluation of optimal filters for target detection and tracking, **$81,224**, *AFRL*, 2012 - 2014 (**PI/PD**)
8. Hyperspectral imaging-based estimation of physical distribution, dispersion and dilution of oil polluted contaminants, **$87,400**, *British Petroleum*, 2010 - 2011 (**PI/PD**)
9. Feasibility study of multispectral acoustical imaging techniques for estimating physical distribution of oil-derived substances, **$15,000**, *British Petroleum*, 2010 - 2011 (**Co-PI**)
10. High peak power plasmoid thruster for space propulsion applications, **$1,537,963**, *NASA*, 2006 - 2010 (**PI/PD**)
11. Smart energy management and control of fuel cell powered applications, **$954,621**, *DoE*, 2005 - 2007 (**PI/PD**)
12. Joint wavelet transform- based hyperspectral image processing, **$1,318,752**, *Space and Missile Defense Command* (joint project with Radiance Tech), 2004 - 2006 (**PI/PD**)
13. Smart energy management and control system for fuel cell operated microgrid connected neighborhoods, **$490,539**, *DoE*, 2004 -2006 (**PI/PD**)
14. Fuel cell operated smart microgrid community, **$963,372**, *DoE*, 2003 - 2005 (**PI/PD**)
15. Grid independent fuel cell operated smart home, $1,938,000, *DoE*, 2002 - 2003 (**PI/PD**)
16. Cooperative micro-satellite experiment, 35,000, *NSSTC*, 2002 - 2002 (**Co-PI**)
16. Real time target detection and tracking, **$331,025**, *ARO*, 2002 - 2005 (**PI/PD**)
17. Developing effective strategies and performance metrics for automatic target recognition, **$268,016**, *ARO*, 2001-2004 (**PI/PD**, joint project with the University of Memphis and Wright State University)
18. Integrated MEMS photonics for computer and communication systems, **$2,251,000**, *NSF*, 2001 - 2005. (**Co-PI**, joint project with University of Alabama in Huntsville, Auburn University and Tuskegee University)
19. Real time pattern recognition, **$21,300**, *NSF (Int'l Program)*, 2001 - 2005 (**PI/PD**)
20. Low-cost precision gyroscope for general aviation, **$3,643,650**, *FAA*, 2000 - 2001 (**Co-PI**)
21. Fractional power FAF-based joint transform correlation, **$56,684**, *NSF*, 1997-1999 (**PI/PD**)
22. Advanced weather satellite instrumentation, **$53,762**, *NSF*, 1997 - 1999 (**Co-PI**)
23. Advanced weather satellite instrumentation," **$53,762**, *ITT Industry*, 1997-1999 (**Co-PI**)
24. Infrared image registration and high-resolution reconstruction using rotationally translated video sequences, **$24,998**, *AFOSR*, 1997 (**PI/PD**)
25. Fast FLIR image registration and high-resolution reconstruction using multiple, rotationally translated, aliased frames, **$7,006**, *Wright-Patterson AFB*, 1996 (**PI/PD**)
26. Infrared image registration and high-resolution reconstruction for real time applications, *AFOSR*, **$9,542**, 1996
27. Ultrafast optical pattern recognition, $5000, *Purdue Research Foundation*, 1995 (**PI/PD**)
28. Multiobject real-time pattern recognition, $5000, *Purdue Research Foundation*, 1994 (**PI/PD**)
29. Fractional joint transform correlator, $5000, *Purdue Research Foundation*, 1993 (**PI/PD**)
30. USA Foundation, Mobile, Alabama ($8,000)
31. Optical Society of America, Washington DC ($5,500)
34. Purdue Research Foundation, West Lafayette, Indiana ($6,004)

35. MUCIA, West Lafayette, Indiana ($1,000)
36. Dekko Foundation, Fort Wayne, Indiana ($1,205)
37. OCF, Indiana University, Bloomington, Indiana ($1,400)
38. IPFW Foundation, Fort Wayne, Indiana ($2,885)

PUBLICATIONS

Summary

- 570+ publications: 19 book chapters, 204 journal publications, and 350+ conference publications
- 150+ keynote/invited papers, seminars, and tutorials presented at international conferences and research institutions
- Edited 20 conference proceedings, submitted 30+ project reports to funding agencies
- Organized/chaired many international conferences, symposia, technical sessions, and expert panels
- *Google Scholar Citations*: ~11,000, h-index: 50, i10-index: 192; *ResearchGate*: 50,600+ reads

Proceedings, Book, Book Chapters, and Manuals

1. M. S. Alam, Ed., *Proceedings of the SPIE Conference on Pattern Recognition and Prediction*, 2024 - Present
2. M. S. Alam, Ed., *Proceedings of the SPIE Conference on Pattern Recognition and Tracking*, 2016 - 2023
3. M. S. Alam, Co-Ed., *Proceedings of the SPIE Conference on Optical Pattern Recognition*, 2012 - 2015
4. M. S. Alam, Ed., *Proceedings of the IEEE Int'l Conference on Advances in Electrical Engineering*, 2013
5. M. S. Alam, Ed., *Proceedings of the IET Int'l Conference on Advances in Electrical Engineering*, 2011
6. M. S. Alam, Ed., *Proceedings of the International Conference on Knowledge Based Development*, 2008
7. M. S. Alam, Ed., *Proceedings of the Int'l Conference on Graphics & Visualization in Engineering*, Acta Press, 2007
8. M. Alkhatib and M. S. Alam, *IPTV Multimedia Networks: Concepts, Developments, and Design*, IEC Press, 2007
9. M. S. Alam, Ed., *Optical Pattern Recognition Using Joint Transform Correlation*, 687 pages, SPIE Milestone Series (a reference book of selected papers), SPIE Press, Bellingham, WA, August 1999
10. P. Sidike, A. Reyes-Angulo, M. S. Alam, "U-Net-based Medical Image Segmentation: A Comparative Analysis and Future Trends," *Computer Vision: Challenges, Trends, and Opportunities*, Taylor and Francis, p. 128-147, 2024
11. F. Long, J. Sang and M. S. Alam, "Machine Learning Based Diabetic Retinopathy Detection and Classification," *Intelligent Multimedia Signal Processing for Smart Ecosystems, Springer*, p. 103-136, 2023
12. P. Sidike, M. S. Alam and V. Sagan, "Robust Pattern Recognition via Joint Transform Correlation," *Advances in Pattern Recognition Research*, Nova Science Publishers, p. 81-89, 2018
13. M. Uzunoglu and M. S. Alam, "Fuel-Cell Systems for Transportation," *Power Electronics Handbook*, Butterworth-Hienemann, p. 1091-1112, 2017
14. M. S. Alam and A. Sakla, "Automatic Target Recognition in Multispectral and Hyperspectral Imagery via Joint Transform Correlation," *Augmented Vision and Reality*, Springer-Heidelberg, Vol. 6, p. 179 - 206, 2014
15. P. Katz, A. Alfalou, C. Brosseau and M. S. Alam, "Correlation and Independent Component Analysis Based Approaches for Biometric Recognition," *Face Recognition: Methods, Applications & Technology*, Nova Publishers, p. 1- 29, 2012
16. M. S. Alam, "Pattern Recognition and Tracking in Forward Looking Infrared Imagery," *Machine Vision Beyond Visible Spectrum*, Springer-Verlag, p. 87-122, 2011
17. M. M. Alkhatib, M. S. Alam, M. Bayoumi, B. Alhalabi and I. Saeed, "The Use of Intelligent Compression for Future IPTV Networks," *Development of Triple Play Services*, International Engineering Consortium, Vol. 58, p. 1-8, 2006
18. M. S. Alam, M. A. Salam and P. Polu, "CDMA - An Evolutionary Technology," *Annual Review of Communications*, IEC, Vol. 58, p. 435-446, 2005
19. M. Alkhatib, M. S. Alam and I. Saeed, "Triple Play: Current and Emerging Last Mile Network Architectures," *Achieving the Triple Play: Technologies and Business Models for Success*, IEC, Vol. 58, p. 223-231, 2005
20. S. Alsharif and M. S. Alam, "Assuring the Quality of Service for Triple Play," *Achieving the Triple Play: Technologies and Business Models for Success*, IEC, Vol. 58, p. 379-392, 2005
21. M. S. Alam, P. Polu, P. Panati, A. El-Saba and S. Alsharif, "DWDM - Changing the Landscape of Photonics World," *Annual Review of Communications*, IEC, Vol. 57, p. 511-519, 2004
22. M. S. Alam, "Optical Pattern Recognition," *Encyclopedia of Optical Engineering*, Mercel Dekker, p. 1778-1797, 2003
23. A. K. Cherri and M. S. Alam, "Optical Computing Using Trinary Signed-digit Arithmetic," *Optical Switching and Computing for Multimedia Systems*, Marcel Dekker, p. 377 - 446, 2002
24. A. K. Cherri and M. S. Alam, "Ultrafast Arithmetic, Logical and Image Processing Operations Using Polarization-encoded Optical Shadow-casting," *Optical Switching and Computing for Multimedia Systems*, Marcel Dekker, p. 447 - 504, 2002

25. G. Li and M. S. Alam, "Optics for Computing," *Introduction to Information Optics*, p. 475-569, Academic Press, 2001. (This book is also translated into Chinese)
26. M. S. Alam, "Energy Measurement," *Encyclopedia of Electrical and Electronics Engineering*, p. 103-111, Vol. 7, 1998. An enhanced version of this chapter is also published as "Electrical Energy Measurement" in the survey volume *Instrumentation and Measurement*, John Wiley & Sons, 2001
27. F. Ahmed, M. S. Alam and M. Kaykobad, "Data Recording," *Encyclopedia of Electrical and Electronics Engineering*, John Wiley & Sons, 1998. An enhanced version of this chapter is also published as "Data Storage and Recording," in the survey volume *Instrumentation and Measurement*, John Wiley & Sons, 2001
28. M. S. Alam and M. A. Karim, "Optical Symbolic Substitution Architectures," *Advances in Electronics and Electron Physics*, Academic Press, Vol. 89, p. 53-92, 1994
29. M. S. Alam, "Microprocessor Systems and Interfacing Laboratory," Published by Purdue University - Fort Wayne, includes twelve experiments on hardware, software and interfacing, 153 pages, 1998
30. M. S. Alam, "Digital Logic Design Laboratory," Published by Purdue University - Fort Wayne, 86 pages, 1998.

Journal Publications (Only 50 out of 200+ are listed, full list available upon request)

1. L. Cheng, J. Zeng and **M. S. Alam**, "An efficient virtual gradient based adaptive delta maximum power point tracking algorithm for PV Systems," to appear, *IEEE Transactions on Industry Applications*, 2026
2. H. Hu, H. Xong, F. Long, **M. S. Alam**, J. Sang, "Multi-scale Vision Mamba-UNet: A Mamba-based method for retinal vessel segmentation," Vol. 112, p. 108435, *Journal of Biomedical Signal Processing and Control*, 2025
3. J. Sang and **M. S. Alam**, "Multi-GlaucNet: A multi-task model for optic disc segmentation, blood vessel segmentation and glaucoma detection," Vol. 112, p. 106850, *Journal of Biomedical Signal Proc. and Control*, 2024
4. Y. Sang, J. Sang and **M. S. Alam**, "Image encryption based on logistic chaotic systems and deep autoencoders," *Pattern Recognition Letters*, Vol. 153, p. 59-66, 2022
5. N. Nasrullah, J. Sang, **M. S. Alam**, M. Mateen, B. Cai and H. Hu, "Automated lung nodule detection and classification using deep learning with multiple strategies," *Sensors*, Vol. 19 (17), 3722, 2019
6. S. Tehsin, S. Rehman, M. Saeed, F. Riaz, A. Hassan, M. Abbas, R. Young and **M. S. Alam**, "Self-organizing hierarchical particle swarm optimization of correlation filters for object recognition," *IEEE Access*, Vol. 5, p. 24495-24502, 2017
7. A. Bal and **M. S. Alam**, "Automatic target tracking in FLIR video sequences using tuned basis functions," *Optical Engineering*, Vol. 55, p. 073102(1-6), 2016
8. P. Sidike, V. Asari and **M. S. Alam**, "Multiclass object detection with single query in hyperspectral imagery using class- associative spectral fringe-adjusted joint transform correlation," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 99, p.1-13, 2015
9. **M. S. Alam** and A. Bal, "Detection of reappearing targets in FLIR video sequences," *Optical Engineering*, Vol. 54, p. 053114(1-6), 2015
10. M. N. Chy, A. Sakla and **M. S. Alam**, "Oil spill detection in ocean environment via ultrasonic imaging and spectral fringe- adjusted joint transform correlation," *Optical Engineering*, Vol. 52, p. 083109(1-7), 2013
11. S. M. A. Bhuiyan and **M. S. Alam**, "Color image trend adjustment using a color bidimensional empirical mode decomposition method," *Journal of Electronic Imaging*, Vol. 21, p. 033019(1-15), 2012
12. J. Sang, S. Ling and **M. S. Alam**, "Efficient text encryption and hiding with double random phase encoding," *Sensors Journal*, Vol. 12, p. 13441-13457, 2012
13. A. Alfalou, C. Brosseau, P. Katz and **M. S. Alam**, "Decision optimization for face recognition based on an alternate correlation plane quantification metric," *Optics Letters*, Vol. 37, p. 1562-1564, 2012
14. H. Oloomi, **M. S. Alam** and M. Rana, "Noise performance evaluation of uncooled infrared detectors," *IEEE Sensors Journal*, Vol. 11, p. 971-987, 2011
15. A. Sakla, S. Sakla and **M. S. Alam**, "Hyperspectral target detection via discrete wavelet based spectral fringe-adjusted joint transform correlation," *Applied Optics*, Vol. 50, p. 5545-5554, 2011
16. **M. S. Alam**, S. F. Goh and S. Dacharaju, "Three-dimensional color pattern recognition using fringe-adjusted joint transform correlation with CIELab coordinates," *IEEE Transactions on Instrumentation and Measurement*, Vol. 58, p. 2176-2184, 2010
17. **M. S. Alam**, S. Ochilov, "Spectral fringe-adjusted joint transform correlation," *Applied Optics*, Vol. 49, p. 18-25, 2010
18. J. Khan, **M. S. Alam** and S. M. A. Bhuiyan, "Automatic target detection in FLIR imagery via probabilistic neural networks," *Applied Optics*, Vol. 48, p. 464-476, 2009
19. Y. Sheng, Z. Xin, **M. S. Alam**, L. Xi, L. Feng, "Information hiding based on double random-phase encoding and public-key cryptography," *Optics Express* (online journal of OSA), Vol. 17, p. 3270-3284, 2009

20. J. Sang and **M. S. Alam**, "Fragility and robustness of binary phase-only filter based fragile/semi-fragile digital image watermarking," *IEEE Transactions on Instrumentation and Measurement*, Vol. 57, p. 595-611, 2008
21. O. Onar, M. Uzunoglu and **M. S. Alam**, "Modeling, control and simulation of an autonomous WT/PV/FC/UC hybrid power system," *Journal of Power Sources*, Vol. 185, p. 1273-1283, 2008
22. M. I. Elbakary and **M. S. Alam**, "Superresolution construction of multispectral imagery based on local enhancement," *IEEE Geoscience and Remote Sensing Letters*, Vol. 5, p. 276-279, 2008
23. N. S. Sisworahardjo, **M. S Alam** and G. Aydinli, "Reliability and availability analysis of low power portable direct methanol fuel cells," *Journal of Power Sources*, Vol. 177, p. 412-418, 2008
24. M. Uzunoglu and **M. S. Alam**, "Modeling and analysis of an FC/UC hybrid vehicular power system using a novel wavelet based load sharing algorithm," *IEEE Transactions on Energy Conversion*, Vol. 23, p. 263-272, 2007
25. **M. S. Alam** and A. Bal, "Improved multiple target tracking via global motion compensation and optoelectronic correlation," *IEEE Transactions on Industrial Electronics*," Vol. 54, p. 522-529, 2007
26. M. Tanrioven and **M. S. Alam**, "Modeling, control and power quality evaluation of a PEM fuel cell-based power supply system for residential use," *IEEE Transactions on Industry Applications*, Vol. 42, p. 1582-1589, 2006
27. O. C. Onar, M. Uzunoglu and **M. S. Alam**, "Dynamic modeling, design and simulation of a wind/fuel cell/ultracapacitor based hybrid power generation system," *Journal of Power Sources*, Vol. 161, p. 707-722, 2007
28. S. M. A. Bhuiyan, **M. S. Alam** and S. R. F. Sims, "Target detection, classification and tracking using MACH and PDCCF filter combination," *Optical Engineering*, Vol. 45, p. 116401, 2006
29. M. Y. El-Sharkh, M. Tanrioven, A. Rahman and **M. S. Alam**, "A study of cost-optimized operation of a grid-parallel PEM fuel cell power plant," *IEEE Transactions on Power Systems*, Vol. 21, p. 1104-1114, 2006
30. M. Uzunoglu and **M. S. Alam**, "Dynamic modeling, design and simulation of a combined PEM fuel cell and ultra-capacitor system for stand-alone residential applications," *IEEE Transactions on Energy Conversion*, Vol. 21, p. 767-775, 2006
31. M. Tanrioven and **M. S. Alam**, "Impact of load management on reliability assessment of grid independent PEM fuel cell power plants," *Journal of Power Sources*, p. 401-410, Vol. 157, 2006
32. A. Dawoud, **M. S. Alam**, A. Bal and C. Loo, "Target tracking in infrared imagery using weighted composite reference function-based decision fusion," *IEEE Transactions on Image Processing*, Vol. 15, p. 404-410, 2006
33. A. Bal and **M. S. Alam**, "Automatic Target tracking in FLIR image sequences using intensity variation function and template modeling," *IEEE Transactions on Instrumentation and Measurement*," Vol. 54, p. 1846-1852, 2005
34. J. F. Khan and **M. S. Alam**, "Target detection in cluttered forward-looking infrared imagery," *Optical Engineering*, Vol. 44, p. 076404, 2005
35. **M. S. Alam**, A. Bal, E. Horache, S. F. Goh, C. Loo, S. Regula and A. Sharma, "Metrics for evaluating the performance of joint transform correlation-based target recognition and tracking algorithms," *Optical Engineering*, Vol. 44, p. 067005, 2005
36. M. Tanrioven and **M. S. Alam**, "Reliability modeling and evaluation of grid-connected PEM fuel cell power plants based on Markov models," *Journal of Power Sources*, Vol. 142, p. 264-278, 2005
37. A. Khan, S. Marupaduga, **M. S. Alam** and N. Ekins-Daukes, "Radiation response analysis of wide-Gap P-AlInGaP for super- high-efficiency space photovoltaics," *Applied Physics Letters*, Vol. 85, p. 5218-5220, 2004
38. M. Y. El-Sharkh, A. Rahman, **M. S. Alam**, P. C. Byrne, A. A. Sakla and T. Thomas, "A dynamic model for stand-alone PEM fuel cell power plant for residential applications," *Journal of Power Sources*, Vol. 138, p. 199-204, 2004
39. M. El-Sharkh, A. Rahman, **M. S. Alam**, A. Sakla, P. Byrne and T. Thomas, "Analysis of active and reactive power control of a stand-alone PEM fuel cell power plant," *IEEE Trans. on Power Systems*, Vol. 19, p. 2022-2028, 2004
40. **M. S. Alam**, M. Haque, J. Khan and H. Kettani, "Target tracking in forward looking infrared imagery using fringe-adjusted joint transform correlation," *Optical Engineering*, Vol. 43, p. 1407-1413, 2004
41. A. F. Alsamman and **M. S. Alam**, "Invariant face recognition using a projection slice synthetic discriminant function-based algorithm," *Optical Engineering*, Vol. 41, p. 87-93, 2002
42. A. K. Cherri and **M. S. Alam**, "Reference phase-encoded fringe-adjusted joint transform correlator," *Applied Optics*, Vol. 40, p. 1216-1225, 2001
43. **M. S. Alam** and J. Predina, "Identification and estimation of nonlinearity in constant voltage biased infrared sensor detected signals," *Optical Engineering*, Vol. 39, p. 3264-3271, 2000
44. **M. S. Alam**, J. Bognar, R. Hardie and B. Yasuda, "Infrared image registration and high-resolution reconstruction using multiple translationally shifted aliased video frames," *IEEE Transactions on Instrumentation and Measurement*, Vol. 49, p. 915-923, 2000
45. **M. S. Alam**, J. G. Bognar, S. Cain and B. J. Yasuda, "Fast registration and reconstruction of aliased low-resolution frames using a modified maximum likelihood approach," *Applied Optics*, Vol. 37, p. 1319-1328, 1998

46. D. W. Mauritzen and **M. S. Alam**, "Comments on accurate measurement of power, energy, and true *rms* voltage using synchronous counting," *IEEE Trans. Instrumentation and Measurement*, p. 1300-1301, Vol. 46, 1997
47. S. Majumder, **M. S. Alam** and R. Gangopadhyay, "Effect of nonuniform laser FM response on the performance of multichannel optical systems using optical amplifiers," *IEEE Journal of Lightwave Technology*, Vol. 15, p. 188-193, 1997
48. **M. S. Alam**, Y. Ahuja, A. K. Cherri and A. Chatterjea, "Symmetrically recoded quaternary signed-digit arithmetic using shared content-addressable memory," *Optical Engineering*, Vol. 35, p. 1141-1149, 1996
49. **M. S. Alam**, "Efficient trinary signed-digit symbolic arithmetic," *Optics Letters*, Vol. 19, p. 353-355, 1994
50. **M. S. Alam** and M. A. Karim, "Fringe-adjusted joint transform correlation," *Applied Optics*, Vol. 32, p. 4344-4350, 1993

Conference Publications (350+ including 35 invited papers, papers since 2021 are listed, full list available upon request)

1. P. Sidike, A. R. Angulo, V. Asari and M. S. Alam, "U-PEN Mamba: Progressive expansion with selective state-space modeling for efficient retinal vessel segmentation," to appear, *Proceedings of the 25th International Conference on Machine Learning and Applications (ICMLA 2026)*, IEEE, October 2-7, 2026
2. X. Chen, D. Gong, Q. Zhang, M. S. Alam and J. Sang, "Adaptive pairwise reversible data hiding based on CVITnet predictor and dynamic programming," to appear, *Proc. SPIE*, Vol. 13040, 2026
3. Y. Mao, C. Qian. B. Su, M. S. Alam and J. Sang, "A predictive model for problematic internet use based on children's physical activity data, to appear, *Proc. SPIE*, Vol. 13040, 2026
4. M. Haque, M. S. Rana, S. Mostofa, M. T. Ahmed and M. S. Alam, "Manipulated facial image detection employing deep learning approach in the era of synthetic media," to appear, *Proc. SPIE*, Vol. 13040, 2026
5. X. Zou, C. Qian, M. S. Alam and J. Sang, "Class-agnostic object counting network via similarity-aware cross-channel interaction," Proc. SPIE, Vol. 13464, p. 134640T, 2025, https://doi.org/10.1117/12.3053580
6. J. Yang, Y. Ye, J. Zhang, M. S. Alam and J. Sang, "Scaling and adapting: a multifaceted approach to enhance crowd counting," Proc. SPIE, Vol. 13464, p. 134640X, 2025, https://doi.org/10.1117/12.3059860
7. X. Zou, P. Zhu, M. S. Alam and J. Sang, "Semantic information refinement network for precise crowd counting," Proc. SPIE, Vol. 13464, p. 134640S, 2025, https://doi.org/10.1117/12.3053578
8. W. Gong, X. Chen, M. S. Alam and J. Sang, "High-capacity reversible information hiding based on multi-difference histogram and gray coding," Proc. SPIE, Vol 13040, p. 130400H April 23-26, 2024
9. W. Gong, Y. Chen, M. S. Alam and J. Sang, "Attention-based fusion network for image forgery localization," Proc. SPIE, Vol 13040, p. 130400I, April 23-26, 2024
10. S. Paheding, A. R. Reyes, K. Patil, V. K. Asari and M. S. Alam, "U-PEN++: Redesigning U-PEN architecture with multi- head attention for retinal image segmentation," *Proc. SPIE*, Vol 12527, p. 1250702, 2023
11. Z. Wu, P. Ji, Y. Chen, M. S. Alam and J. Sang, "MSAGNet: Crowd counting network based on multi-scale attention grading," *Proc. SPIE*, Vol 12527, p. 125070S, April 30-May 4, 2023
12. Y. Chen, W. Gong; M. S. Alam; J. Sang, "Makeup transfer based on Laplacian pyramid network," *Proc. SPIE*, Vol 12527, p. 125070T, April 30 - May 4, 2023
13. P. Ji, Z. Wu, Y. Chen, M. S. Alam and J. Sang, "Real-time crowd counting via mobile-friendly vision transformer network," Proc. SPIE, Vol 12527, p. 125070U, April 30 - May 4, 2023
14. S. Paheding, A. Reyes, M. S. Alam and V. K. Asari, "Medical image segmentation using U-Net and progressive neuron expansion (**Invited Paper**)," *Proc. SPIE*, Vol. 12101, p. 1210102, April 3-7, 2022
15. J. Sang, S. Tian, J. Tan, M. S. Alam and Y. Chen, "RA-MISNet: Multilevel information sharing network based on residual attention for crowd counting," *Proc. SPIE*, Vol. 12101, p. 121010K, April 3-7, 2022
16. F. Long, J. Sang, M. S. Alam, C. Huang, and X. Qiao, "Pneumonia classification with capsule network by using X-ray images," *Proc. SPIE*, Vol. 11735, p. 11735S(1-10), April 12-16, 2021
17. Y. Shia, J. Sang, M. S. Alam, X. Liua, and S. Tiana, "MSNet: Multi-scale network for crowd counting," *Proc. SPIE*, Vol. 11735, p. 11735M(1-10), April 12-16, 2021

PLENARY/KEYNOTE ADDRESSES

1. M. S. Alam, "Trends in optical/digital image processing and pattern recognition applications," **Plenary Address** presented at the Shaoxing Institute, Zhejiang University, China, July 28, 2025
2. M. S. Alam, "Probabilistic modeling for infrared imaging systems and high-resolution reconstruction using translationally shifted video frames, **Plenary Address** presented at *Mini-Conference in Statistical Inference*, April 11, 2026
3. M. S. Alam, "Trends in artificial intelligence and machine learning," **Keynote Address** presented at the *IEEE*

International Conference on Robotics, Electrical and Signal Processing Techniques, January 12-13, 2025

4. M. S. Alam, "Pattern recognition and tracking via multidimensional imaging," **Keynote Address** presented at *ICREST*, January 7-9, 2023
5. M. S. Alam, "Multimodal imaging-based recognition and tracking," **Keynote Address** presented at the *25th International Conference on Computers and Information Technology*, IEEE, December 17-19, 2022
6. M. S. Alam, "Adaptions in new normal and relevance of e-resources to supplement classroom learning," **Keynote Address**, presented at the *IEEE-EBSCO Knowledge Feast*, July 26, 2022
7. M. S. Alam, "Multiclass object detection in hyperspectral imagery," **Keynote Address** presented at the *IEEE International Conference on Signal Processing, Information, and Communication Systems*, December 2-5, 2021
8. M. S. Alam, "Remote sensing-based oil spill detection and mitigation," **Keynote Address** presented at the *IEEE International Conference on Advanced Information and Communication Technology*, November 28-29, 2020
9. M. S. Alam, "Infrared image registration and high-resolution reconstruction," **Keynote Address** presented at the *IEEE Region 10 Symposium (TENSYMP 2020)*, June 5-7, 2020
10. M. S. Alam, "Pattern recognition via optimal filtering and photorefractive joint transform correlation," **Keynote Address** presented at the *IEEE Int'l Conference on Telecommunications and Photonics*, December 28-30, 2019
11. M. S. Alam, "Oil spill detection, identification and tracking via hyperspectral imaging," **Plenary Address** presented at the *Workshop on Pattern Recognition*, Huazhong University of Science and Technology, China, July 9-11, 2019
12. M. S. Alam, "Subsurface oil spill detection in ocean environment via ultrasonic hyperspectral imaging based spectral fringe- adjusted joint transform correlation," **Keynote Address** presented at the *IEEE SPS and EMBS Chapters Forum*, Dhaka, December 25, 2018
13. M. S. Alam, "Ultrafast biometric recognition and liveness detection," **Plenary Address** presented at the *Biometrics Workshop*, Huazhong University of Science and Technology, China, June 24-28, 2018
14. M. S. Alam, "Ultrafast computing via optical processing," **Keynote Address** presented at the *International Conference on Networking, Systems and Security (NSysS 2017)*, IEEE, December 18-20, 2017
15. M. S. Alam, "Imaging based pattern recognition and tracking for humanitarian applications," **Keynote Address** presented at the *IEEE Region 10 Humanitarian Technology Conference*, December 21-23, 2017
16. M. S. Alam, "Optical pattern recognition," **Keynote Address** presented at the *Symposium on Optical Processing*, Universidad Autónoma de Nuevo León, México, March 29-30, 2017 (as a OSA Fellows Travelling Lecturer)
17. M. S. Alam, "Trends in biometric recognition," **Keynote Address** presented at the *Symposium on Biometric Recognition*, Chongqing University, China, May 20-21, 2016
18. M. S. Alam, "Recent advances in face recognition and liveness detection," **Keynote Address** presented at the *Int'l Conference on Informatics, Electronics, and Vision (ICIEV 2016)*, IEEE, May 13-14, 2016
19. M. S. Alam, "Responsible Conduct in Research," **Keynote Address** presented at the *IEEE miniPOCO*, Bangladesh Section of IEEE, May 14, 2016
20. M. S. Alam, "Correlation based pattern recognition and tracking," **Keynote Address** presented at the *Int'l Symposium on 3D Imaging, Metrology, and Data Security (3DIM-DS 2015)*, SPIE, Shenzhen, China, September 26-29, 2015
21. M. S. Alam, "Ultrafast pattern recognition and tracking in FLIR imagery," **Keynote Address** presented at the *Int'l Conference on Ubi-Media Computing (Ubi-Media 2015)*, IEEE, Colombo, Sri Lanka, August 24-26, 2015
22. M. S. Alam, "Recent advances in optical processing-based signal detection and tracking," **Keynote Address** presented at the *Int'l Conference on Telecommunications and Photonics (ICTP 2015)*, IEEE, Dhaka, December 26-28, 2015
23. M. S. Alam, "Trends in Pattern Recognition and Tracking in FLIR imagery," **Keynote Address** presented at the *Int'l Conference on Informatics, Electronics, and Vision (ICIEV 2014)*, IEEE, May 22-24, 2014
24. M. S. Alam, "Estimating and mitigating the impact of oil spill disasters via hyperspectral imaging," **Keynote Address** presented at the *Int'l Conf. on Computer & Information Technology*, IEEE, Dhaka 22 -24, 2011
25. M. S. Alam, "Imaging based surface and subsurface oil spill detection and estimation in ocean environment," **Keynote Address** presented at the *Int'l Conference on Computer, Communications and Informatics*, IEEE, India, January 2-4, 2013
26. M. S. Alam, "Novel computing architectures and algorithms for pattern recognition and tracking," **Keynote Address** presented at the *Int'l Conf. on Electrical and Electronic Engineering*, Tripoli, Libya, October 23 -26, 2010
27. M. S. Alam, "Pattern recognition and tracking in visual, infrared and hyperspectral imagery," **Keynote Address** presented at the *Int'l Conf. on Computers and Information Technology,* December 21-23, 2009
28. M. S. Alam, "Ultrafast architectures and algorithms for pattern recognition," **Keynote Address** presented at the *Int'l*

Conf. on Multispectral Image Processing and Pattern Recognition, Yichang, China, October 29 - November 1, 2009

29. M. S. Alam, "Smart pattern recognition, identification and tracking," **Keynote Address** presented at the *Int'l Conference on Computing, Communications and Networking,* IEEE, Karur, India, December 18-20, 2008
30. M. S. Alam, "Ultrafast computing architectures and algorithms for pattern recognition and tracking," **Keynote Address** presented at the *International Computer Symposium*, Taipei, Taiwan, November 13-15, 2008
31. M. S. Alam, "Pattern recognition in three-dimensional hyperspectral imagery," **Keynote Address** presented at the *International Conference on Electrical and Computer Engineering*, IEEE, December 19-21, 2006

SHORT COURSES

1. "Enhanced Image Processing Techniques and Applications," a short course presented at the *Int'l Conference on Computing, Communications, and Networking (ICCCN '08)*, Coimbatore, India, December 17-19, 2008.
2. "Real-time Optical Pattern Recognition Techniques and Applications," a tutorial presented at the *48th National Aerospace and Electronics Conference (NAECON '96)*, IEEE, Dayton, Ohio, 20-24 May 1996

BOOK REVIEW

1. M. S. Alam, "Review of the textbook Optical Characterization of Semiconductors: Infrared, Raman, and Photoluminescence Spectroscopy (Author: Sidney Perkowitz, Academic Press, 1994)," *Optical Engineering*, Vol. 33, p. 1732, 1994

PATENTS

1. "Method and system for increasing transmission speed of wired or wireless signals while minimizing the bit error rate," US Patent No. 8,036,258B2. (Joint patent with M. M. Alkhatib)
2. "Improvements in electronic fan speed regulator and light dimmer," Bangladesh Patent No. 1002052

POST-DOCTORAL STUDENT'S RESEARCH SUPERVISION

1. Dr. G. Lazarou (2020 - 2022), Research Associate Professor, Texas A&M University - Kingsville
2. Dr. R. Gollapalli (2011 - 2012), Currently an Associate Professor, University of North Alabama
3. Dr. S. Bhuyian (2011), Currently a Senior Systems Engineer, BAE Systems, Inc., Boston, Massachusetts
4. Dr. J. Khan (2011), Currently an Associate Professor, ECE Department, Tuskegee University
5. Dr. N. Sisworahardjo (2005-2010), Currently an Associate Professor, ECE Department, U of Tennessee - Chattanooga
6. Dr. M. I. Elbakary (2005 - 2010), Currently an Associate Professor, Elizabeth City State University
7. Dr. M. Y. Elshark, (2003 - 2008), Currently an Associate Professor, ECE Department, University of South Alabama
8. Dr. T. Yalcinoz (Ph.D., Imperial College, UK, 2006 - 2007), Professor and Dean, Melik Shah University, Turkey
9. Dr. M. Uzunoglu (2005 - 2006), Professor, EE Department, Yildiz Technical University, Turkey
10. Dr. E. Sarigul (2005 - 2006), Currently an Associate Professor, ECE Department, Jackson State University
11. Dr. M. N. Islam (2004 - 2006), Currently a Professor, State University of New York, Farmingdale, New York
12. Dr. M. Tanrioven (2003 - 2005), Professor and Chair, EE Department, Yildiz Technical University, Turkey
13. Dr. A. Dawoud (2003 - 2004), Currently an Associate Professor, University of Southern Mississippi, Hattiesburg
14. Dr. E. Horache (2003 - 2004), Currently serving as Lead Engineer, Bouygues Telecom, Paris, France
15. Dr. M. A. Salam (2003 - 2004), Currently an Associate Professor, EE Department, Southern University, Louisiana
16. Dr. A. Bal (2003 - 2006), Currently a Professor, EE Department, Yildiz Technical University, Turkey

VISITING SCHOLAR SUPERVISION

1. Dr. M. Haque, Associate Professor, Rajshahi University, Bangladesh, November 2025 - Present
2. Dr. B. M. Jomaa, Professor, Department of Electrical Engineering, Alfateh University, Tripoli, May 2010 - June 2010
3. Dr. O. Onar, Department of Electrical Engineering, Yildiz Technical University, Turkey, August 2005 - August 2006
4. Dr. J. Sang, Professor, School of Software Engineering, Chongqing University, China, Sept 2004 - Sept 2005
5. Prof. J. Cai, Shijiazhuang Engineering College, China, January 2002 - July 2002
6. Dr. Y. H. Doh, Professor, EEE Department, Jeju National University, South Korea, February 2001 - March 2002
7. Dr. A. K. Cherri, Professor, ECE Department, Kuwait University, Safat 13060, Kuwait, May 1999 - July 2000
8. Z. Salman, Ministry of Education, Baghdad, Iraq, March 2011 - June 2011

DISSERTATION/THESIS SUPERVISION

1. M. A. Sajjad, Ultrafast wireless battery charging for electric vehicles, 2022-2023
2. S. Gangopadhyay, Deep reinforcement learning based detection of false data attack on energy market, 2019-2021
3. M. Moniruzzaman, Wavelet enhanced face descriptor for biometric recognition, 2016
4. D. Martin, Performance evaluation of optimal pattern recognition algorithms, 2015
5. V. Biswas, Efficient live face detection to counter spoof attack in face recognition systems, 2015
6. P. Sidike, Hyperspectral imaging-based detection & identification of surface/subsurface oil in ocean environment, 2013
7. M. H. Habib, Efficient object detection and tracking via hyperspectral and THz imaging, 2013
8. M. N. Chy, Efficient mine detection using fringe-adjusted joint transform correlation, 2013
9. S. Patrabansh, Modeling and simulation of the transient response of direct methanol fuel cells, 2010
10. M. M. Ali, A novel error control scheme for video streaming over time varying wireless channel, 2010
11. H. K. Muhammad, Performance analysis and unit sizing for WT-FC and PV-FC based hybrid systems, 2009
12. V. Kalaga, Optimizing the design and performance of dipole antennas, 2008
13. M. Islam, Human motion tracking using mean shift clustering and discrete cosine transform, 2007
14. Z. Boz, Pattern recognition using PCA and SAM in noisy environment, 2007
15. S. Mercan, Anomaly detection in hyperspectral imagery using stable distribution, 2007
16. M. Aslan, Detection and tracking in FLIR and hyperspectral imagery via TBF/DCCF/K-means clustering, 2007
17. C. Kanukuntla, Modeling of GaN-based hetero-epi wafer with reduced wafer bow, 2007
18. M. Gorantla, Modeling of GaN-based light emitting diode for uniform current spreading, 2007
19. M. Karakaya, Enhanced SEM algorithm for object detection in hyperspectral imagery, 2007
20. G. Aydinli, Reliability modeling and analysis of low power portable direct methanol fuel cell, 2007
21. M. Kisacikoglu, Fuzzy logic control of a FC/Ultracapacitor hybrid vehicular power system, 2007
22. M. F. Islam, Automatic target detection in hyperspectral imagery using 1D MACH/EMACH filters, 2006
23. S. Ochilov, 1D fringe-adjusted joint transform correlation and adaptive band selection in hyperspectral imagery, 2006
24. M. Rahman, 3D model based recognition using multidimensional Hausdorff distance geometrical invariants, 2006
25. A. Z. Sadeque, Target detection in FLIR imagery using independent component analysis, 2006
26. N. Haq, CDMA based wireless location detection systems, 2006
27. I. Saeed, Data acquisition and routing in wireless sensor network, 2006
28. S. S. Shareef, Ultracapacitor assisted fuel cell power converter for automobiles, 2005 - 2006
29. A. Z. Hossain, Cochannel interference in CDMA wireless communication systems with directional antennas, 2006
30. K. Al-Saadi, Developing an economic operational strategy to improve fuel cell power plant competitiveness, 2005
31. P. Panati, Performance evaluation of throughput in optical burst switching, 2005
32. D. N. Singh, Detection of reappearing targets in forward looking infrared video sequences, 2004 - 2005
33. S. Dacharaju, Three-dimensional color pattern recognition using joint transform correlation, 2004
34. S. M. Bhuiyan, Pattern recognition and tracking in forward looking infrared imagery using correlation filters, 2004
35. P. Polu, Enhanced bandwidth utilization in optical CDMA-WDMA-DWDMA networks, 2004
36. A. Sharma, Fusion of edge information in image segmentation, 2004
37. N. Radhakrisna, Performance metrics for pattern recognition algorithms, 2004
38. S. Ahmed, Performance evaluation of various ad-hoc wireless network protocols, 2004
39. S. F. Goh, Three-dimensional pattern recognition using fringe-adjusted JTC, 2004
40. J. F. Khan, Class-associate fringe-adjusted JTC based multiple target detection and tracking, 2004
41. A. Baker, Photonic MEMS based reconfigurable switch for multicast communication systems, 2004
42. T. Shuman, Enhanced class-associative pattern recognition, 2003
43. M. Haque, Fringe-adjusted JTC based target tracking using subframes from a video sequence, 2001 - 2002
44. A. F. Alsamman, Dissertation: Ultrafast invariant face recognition, 2001
45. S. Xiuyu, Modeling and simulation of twin-depolarizer based interferometric fiber-optic gyroscope, 2000-2001
46. I. Lugach, Dissertation: Enhanced three-dimensional visualization using computer aided tomography, 2000 - 2001
47. M. A. Hannan, Smart serrodyne signal processor, 2001 - 2002
48. C. N. Wai, Distortion-invariant color pattern recognition, 2001
49. M. M. Rahman, Class-associative pattern recognition, 2001
50. G. Ali, Serrodyne signal processing for interferometric fiber-optic gyroscope, January 2001 - May 2001
51. S. S. Ahsan, Research Topic: Three-dimensional pattern recognition, 2000 - 2001
52. M. Aktheruzzaman, Ultrafast fingerprint identification, 2000
53. X. Chen, Effective strategies for distortion invariant recognition, University of Dayton (Research Advisor), 1998-1999
54. B. Soon, Ultrafast feature extraction using optical correlation, University of Dayton (Research Advisor), 1998

55. E. Kurtzweg, Multiple target detection using photorefractive correlator, 2000
56. D. Chain, Ultrafast wavelet joint transform correlation, 1999
57. C. Moran, Incoherent erasure multi-target photorefractive joint transform processor, 1999
58. S. Mian, Real time all-optical joint transform correlation, 1997
59. Y. Gu, Optical character recognition using joint transform correlator, 1995

DISSERTATION/THESIS SUPERVISION (CO-SUPERVISOR OR EXTERNAL EXAMINER)

1. M. Z. Iqbal, Ph.D. Dissertation: A hybrid paradigm based deformable medical image registration, Quaid-i-Azam University, 2025
2. I. B. Dirawieh, Nonlinear gray and color image nonzero-order encryption based JTC and DRPE schemes, Kuwait University, 2022
3. J. Hajjami, Ph.D. Dissertation: Algorithms development for underwater image processing and positioning, University of Brittany, France, 2021
4. K. Ould, Ph.D. Dissertation: Preprocessing of underwater images based on polarization and frequency filtering: offshore applications, University of Brittany, France, 2019
5. D. Kumar, Ph.D. Dissertation: Investigations on recognition and security techniques, IIT, India, 2017
6. K. A. Taher, Ph.D. Dissertation: Performance analysis of a polarization division multiplexed fiber-optic transmission system, Bangladesh University of Engineering and Technology, Dhaka, 2017
7. S. Vijayalakshmi, Ph.D. Dissertation: Brain MR Image segmentation based on Intelligent Hilbert Huang Transform, Anna University, Chennai, India, 2017
8. R. Nandakumar, Ph.D. Dissertation: Machine learning approach via classifiers for the diagnosis of cardiovascular diseases using ultrasound images of common carotid artery, Anna University, Chennai, India, 2017
9. M. Datta, Ph.D. Dissertation: Some studies on face detection and recognition, University of Calcutta, India, 2016
10. M. Aldossari, Ph.D. Dissertation: New optical method of simultaneous compression and encryption of images (still/video) for telecommunications, University of Brittany, Brest, France, 2014
11. A. Amutha, Ph.D. Dissertation: CT Based Contour Segmentation and 3D Volume Reconstruction from 2D slices of tumor, Anna University, Chennai, India, 2015
12. A. A. Alattab, Ph.D. Dissertation: Retrieval of human facial images based on the hybrid features of visual content and semantic description, University of Malaya, Kualalumpur, Malaysia, 2013
13. P. Sashikala, Ph.D. Dissertation: Stochastic model for ECG and application in human identification, VM University, India, 2013
14. A. C. Shagar, Ph.D. Dissertation: Design and analysis of CPW-FED slot antennas for wideband applications, Anna University, Chennai, India, 2013
15. I. Leonard, Dissertation: Reconnaissance des object manufactures dans des videos sous-marines, ISEN, France, 2012
16. S. Kothainachiar, Ph.D. Dissertation: Study on unsupervised color texture image segmentation techniques using morphological watershed algorithm, Anna University, Chennai, India, 2011
17. A. K. Ghosh, Ph.D. Dissertation: Studies on implementation of multi-valued logic through optoelectronic systems and its applications, Calcutta University, Calcutta, India, 2009
18. W. A. B. Adnan, Ph.D. Dissertation: Design and analysis of digital image watermarking using wavelet transform, University of Malaysia, Kualalumpur, Malaysia, 2009
19. T. S. Chin, Ph.D. Dissertation: WDM packet switched networks: routing and wavelength assignment aware ASE noise and FWM, Multimedia University, Malaysia, 2008
20. H. Mellah, Ph.D. Dissertation: Design and performance analysis of a WDM packet switched network, Multimedia University, 2008
21. A. Abid, Dissertation: Burst-switched IP over DWDM network design and analysis, Multimedia University, 2007
22. E. Richard, Performance evaluation of satellite-based quantum optical communication systems, Multimedia University, 2011
23. S. E. Chiang, Performance analysis and design of an arrayed waveguide grating and wavelength conversion device in WDM optical networks, Multimedia University, 2007
24. K. D. Dambul, Performance analysis and design of a WDM ring network, Multimedia University, 2006
25. M. Othman, Effect of 4-wave mixing on the transmission performance of WDM network, Multimedia University, 2001
26. E. Kiang, Effect of four-wave mixing on the transmission performance of WDM solitons, Multimedia University, 2001

- Served in the dissertation and thesis committees of 17 Masters and Ph.D. students
- Supervised 1 Masters research project, 6 undergraduate research projects, and 32 capstone senior design projects

RESEARCH COLLABORATIONS

Collaborated in research, publications, and/or proposal development with the following universities or private industries:

1. University of Brittany, Brest, France
2. Chongqing University, China
3. Huazhong University of Science & Technology
4. Shanghai Institute of Optics and Fine Mechanics
5. Cheju National University, South Korea
6. Yildiz Technical University, Turkey
7. Multimedia University, Cyberjaya, Malaysia
8. Indian Institute of Technology, Kharagpur, India
9. Kuwait University, Safat, Kuwait
10. University of Parma, Italy
11. University of Basra, Iraq
12. Dhaka University, Bangladesh
13. Bangladesh University of Engineering and Technology 14. University of Alabama in Huntsville
15. Tuskegee University
16. University of Missouri - Kansas City
17. Western Michigan University
18. City University of New York, Manhattan
19. State University of New York, Farmingdale
20. University of Dayton
21. Wright State University
22. Pennsylvania State University (Erie Campus)
23. University of Tennessee, Knoxville
24. Purdue University, West Lafayette
25. University of Memphis
26. Old Dominion University
27. Catholic University of America
28. Rajshahi University, Bangladesh
29. Sensor Technology Branch, Wright-Patterson AFB
30. Rome Laboratory, Optical Signal Processing Branch
31. Lartec, Inc., Concord, New Hampshire
32. Technology/Scientific Services, Inc., Dayton, Ohio
33. LIN Technology, Fort Wayne, Indiana
34. Radiance Technology, Inc., Huntsville, Alabama
35. *Nfina* Technologies, Inc., Mobile, Alabama
36. ITT Industry, Fort Wayne, Indiana

CONSULTANCY

- Medtronic Spine, Memphis, Tennessee
- *nfina* Technologies, Mobile, Alabama
- Technology, Scientific Services, Inc. (TSSI), Dayton, Ohio
- LIN Technology, Fort Wayne, Indiana
- ITT Industry, Fort Wayne, Indiana
- Bureau of Research, Testing and Consultations, Bangladesh University of Engineering and Technology

AWARDS AND HONORS

- Fellow - The Institute of Electrical and Electronics Engineers (IEEE), The Institution of Engineering and Technology (IET), Optical Society of America (*Optica*), International Society for Optical Engineering (SPIE), Institute of Physics (IoP), Society for Imaging Science & Technology (IS&T), International Association of Pattern Recognition (IAPR), Asia-Pacific Artificial Intelligence Association (AAIA), American Association for Advancement of Science (AAAS)
- Life Fellow - Institution of Engineers, Bangladesh (IEB), Bangladesh Computer Society (BCS)
- Listed in the world's top 2% scientists across all fields (list developed by Elsevier/Stanford University)
- Joseph M. Biedenbach Outstanding Engineering Educator Award, Region 3 of the IEEE, 2016
- IEEE Outstanding Engineer Award, Mobile Area Council of Engineers, 2015
- IEEE Outstanding Engineer Award, Mobile Area Council of Engineers, 2014
- Outstanding Engineer Award, Region 3 of the IEEE, April 2013
- Outstanding Engineer Award, Region 4 of the IEEE, August 1998
- Fellows Traveling Lecturer, Optical Society of America, 2001 - present
- 50^{th} Anniversary Recognition as one of the 50 faculty who made outstanding and lasting research contributions in the 50-year history of the University of South Alabama, 2013
- Olivia Rambo McGlothren National Alumni Outstanding Scholar Award, University of South Alabama, 2005
- Excellence in Research Award, College of Engineering, University of South Alabama, May 2005
- IEEE Energy Systems Committee Prize Paper Award, *IEEE Industry Applications Society Annual Meeting*, 2004
- Scholar of the Year Award, Phi Kappa Phi, University of South Alabama, Mobile, April 2003
- Best Paper Award for an invited paper presented at the *10^{th} International Conference on Systems Research, Informatics and Cybernatics*, Baden-Baden, Germany, 17-21 August 1998
- George Rappaport Best Paper Award (second runner up) for a paper presented at the *50^{th} IEEE National Aeronautics and Electronics Conference*, Dayton, Ohio, 13-17 July 1998

- Convocation Recognition of Outstanding Faculty for Exceptional Contributions to the University by the Vice Chancellor of Academic Affairs, Purdue University - Fort Wayne, August 25, 1997
- Second Best Paper Award, *49th IEEE National Aeronautics and Electronics Conference*, Dayton, Ohio, 1997

- Excellence in Research Award, School of Engineering and Technology, Purdue University - Fort Wayne, 1997
- Researcher of the Year Award, Sigma Xi - the Scientific Research Society, Purdue University - Fort Wayne, 1996
- Excellence in Research Award, School of Engineering and Technology, Purdue University - Fort Wayne, 1993
- Outstanding Engineering Educator of the Year Award, Mobile Area Council of Engineers, 2016
- Excellence in Teaching Award, School of Engineering and Technology, Purdue University - Fort Wayne, 1999
- Teacher of the Year Award, Sigma Xi - the Scientific Research Society, Purdue University - Fort Wayne, 1998
- Faculty Colloquium on Excellence in Teaching Award (statewide recognition), Indiana University, 1997
- Excellence in Teaching Award, School of Engineering and Technology, Purdue University - Fort Wayne, 1995
- Outstanding Branch Counselor Award, the Institute of Electrical and Electronics Engineers, 1999
- Excellence in Service Award, School of Engineering and Technology, Purdue University - Fort Wayne, 1996

- Early Promotion to Professor of Electrical Engineering, Purdue University - Fort Wayne, 1998
- Early Promotion to Associate Professor with Tenure, Purdue University - Fort Wayne, 1997
- Graduate Student Fellowship - University of Dayton, Dayton, Ohio, 1992
- President - Bangladesh Student Association, Wright State University, 1990
- Honors Scholarship - BUET, Dhaka, Bangladesh, 1979 - 1983
- National Talent Scholarship - Chittagong College, Chittagong, Bangladesh, 1977 - 1978

OTHER RELEVANT INFORMATION

Language Proficiency
English (fluent), Bengali (fluent), Chittagonian (fluent), Arabic (fair), Hindi (fair), and Urdu (fair)

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