Curriculum Vita
August, 2025

Instructor: Dr Sharif I.M., Sheikh

Academic Department: Engineering and Technology

University Address: Engineering and Technology
AG/ET #219
East Texas A&M University
PO Box 3011
Commerce, TX 75429-3011

Office Phone: 903.886.5474

University Email Address: Sharif.Sheikh@etamu.edu

Faculty Web Page Address: https://www.etamu.edu/people/sharif-sheikh/

Education and Credentials:

- **Doctor of Philosophy** in Electrical Engineering, University of Manchester, UK.
- **Master of Science** in Communication Engineering and Digital Electronics, University of Manchester Institute of Science and Technology (UMIST), UK.

- **Bachelor of Science** (Honors) in Electronics Engg. The University of San Carlos.
- **Senior member: T**he Institute of Electrical and Electronics Engineers (IEEE), USA (since 2005).
- **Fellow: T**he Institute of Engineering Technology (IET or IEE), UK (since 2008).
- **Member:** American Society of Engineering Education (ASEE), USA.
  Applied Computational Electromagnetic Society (ACES);
  The institute of Engineers in Bangladesh (IEB)

Professional Experience:

Teaching experience:

- Wentworth Institute of Technology (WIT), Boston, Massachusetts.

Visiting Associate Professor, Electrical Engineering (2021 – 2022).

- K.F. University of Petroleum & Minerals, KFUPM (2024 QS ranking of #180), Dhahran, KSA.
  Associate Professor, Department of Electrical Engineering (1998 – 2021, 2023 - current).
- Southern Methodist University (SMU), Dallas, Texas.
  Visiting Scholar, Dept. of Electrical and Computer Engg. (Summer terms 2019, 2020 and 2022)
- University of Manchester, Manchester, UK.
  Visiting Research Fellow, Dept of Electrical and Electronic Engg. (Summer terms 2000 and 2003)
- Arizona State University (ASU), Tempe, Arizona.
  Post-Doctoral Research Fellow, Telecommunications Research Center (Summer term of 2001)

Responsibilities:

- Consistently earned 'Distinguished' (A+) teaching evaluations and played a key role in ABET accreditation and curriculum enhancement for electrical engineering programs
- Managed Digital systems, Electronics and RF/microwave measurement labs and chaired computer and software utilization committee.
- supervised students in PCB fabrication, troubleshooting, and measurement techniques and ensured adherence to industry standards and safety protocols.

Industrial Experence:

- Schlumberger Dhahran Center for Carbonate Research, Dhahran, KSA.
  Project Lead (2005-2006).
- Arabian-American Oil Company (ARAMCO), Dhahran 31311, KSA.
  Project Lead (2019-2000).
- Saudi Basic Industries Corporation (SABIC), Riyadh 11422, KSA.
  Project Lead of five contracted projects (2010-2021)
- King Abdulaziz City for Science and Technology (KACST), Riyadh 11422, KSA.
  Project Senior Researcher (2014-2016)
- IBCO Limited, 648 Ashton Old Road, Manchester M11 2WD, UK.
  Engineer (1991-1992)
- Philips International Center, 36/2 Senpara Parbata, Dhaka, BD.
  Electronic Engineer, Maintenance Department (1990-1991)

Responsibilities:

- Developed innovative sensors for applications in the petroleum and gas industry.
- Designed, fabricated and tested engineering solutions as per industry requirements.
- Develop RFID and remote sensing solutions.

Research Interests:

- Electromagnetics and High-Frequency Engineering – Design, modeling, optimization, and experimental validation of RF, microwave, and millimeter-wave devices.
- Advanced Antenna Systems – Development of high-gain, multi-band, and reconfigurable antennas for space, IoT, CubeSat, and next-generation wireless communication systems.
- Sensing Technologies – Design and implementation of micro/millimeter-wave sensors for industrial monitoring, environmental detection, and biomedical applications.
- Metamaterials and Nanocomposites – Exploration of magnetic-meta materials and nanocomposites for tunable, compact, and high-performance high-frequency electronics.
- Applied Electromagnetics in Emerging Applications – Integration of electromagnetic technologies into wearable biosensors, smart cities, and advanced security scanning systems.

Awards:

- Winner of the Best Antenna Paper Award at the IEE International Conference on Antennas and Propagation, Manchester, UK.
- Two-time recipient of the Outstanding Capstone Project Advisor Award.
- Twice awarded the University Distinction Award for Excellence in Teaching.
- Two-time recipient of the Distinguished Instructional Technology Award.
- Twice honored with the University Excellence in Academic Advising Award.
- Three-time recipient of the Distinguished Performance in Student Activities Award.
- Recognized for Scientific Patent Achievements in 2015, 2018, 2020 (twice), 2022, 2024, and 2025 (three times)
- Multiple University Rector's Cup Sports Awards in badminton, football, and table tennis
- 'Hermann-Gmeiner Foundation Academic Award' for Post-Graduate Education from 1990 to 1995.

Scientific Publications (Google Scholar page):

US Patents

- "Ten Element Single-band MIMO Antenna for 5G Smartphones", *US Patent App.* US20250167429A1, May 2025.
- "Shared Aperture Antenna for Medical Devices", *US Patent App.* US20250038416A1, Jan. 2025.
- "Dual Polarized UHF Band CubeSat Antenna, *US Patent No. US12308519B2*, May 2025.
- "Shared Aperture Folded Dipole Antenna", *US Patent* US12155135B2, Nov. 2024.
- "Highly miniaturized folded-slot based MIMO antenna design for CubeSat applications", *US Patent No. US11450968*, Sep. 2022.

- "Low-frequency apparatus and method for insect infestation detection" *US Patent No US20200348254A1, Nov. 2020.*
- "Metering System for Three-Phase Oil Flow in Horizontal Pipeline", US *Patent No. US10527470*, Jan. 2020.
- "Ferrite Loaded Circular Waveguide Antenna for 3D Scanning", *US Patent No. US9979085B2, May 2018.*
- "Ferrite-Loaded, Fabry-Perot Cavity Antenna", *US Patent No. US9035843, May 2015.*

Journal Publications (selected from past 5 years)

- A. Alofi, A. Shamseldin, **S. I. M. Sheikh**, and H. Attia, "Fuel Adulteration Detection using Open-Ended Coaxial Line and Circular Waveguide Techniques", IEEE Sensors Journal, Accepted with correction in March 2025.
- A. AlMojahid, A. Mahbuba, S. S. Shah, **S. I. M. Sheikh**, et al., " Advancing Electrical Engineering with Biomass-derived Carbon Materials: Applications, Innovations, and Future Directions," *The Chemical Record (Japan)*, https://doi.org/10.1002/tcr.202400144, November 2024.
- Abubakar Hamza, **Sharif I.M. Sheikh**, and Hussein Attia, "Efficient Design of Super-Directive Antenna Array using Schelkunoff Method and Genetic Algorithm," *IEEE Canadian Journal of Electrical and Computer Engineering*, June 2024.
- Gaya, Sagiru,, **Sharif I.M. Sheikh** et al., "Electronically Switchable Frequency and Pattern Reconfigurable Segmented Patch Antenna for Internet of Vehicles", IEEE Internet of Things (IOT), DOI: 10.1109/JIOT.2024.3362906, Feb. 2024.
- A. R. Chishti,… **Sheikh S. I. M.**, et al. "Advances in Antenna-Based Techniques for Detection and Monitoring of Critical Chronic Diseases: A Comp. Review", IEEE ACCESS, Vol. 11, pg. 104463, Sep., 2023.
- A. M. Hoque,… **S. I. M. Sheikh** et al., "U-grooved Selectively Coated and Highly Sensitive PCF-SPR Sensor for Broad Range Analyte RI Detection", *IEEE ACCESS*, Vol.11, pp. 74486-74499, March 2023.
- M. Al-Omari, H. Attia, K. Qureshi, **S. I. M. Sheikh,** "Design of Frequency Reconfigurable Antenna on Dielectric and Magnetic Metamaterial Composite Substrate", *IEEE Antennas and Wireless Propagation Letters (IEEE AWPL)*, Vol.22, #4, pp. 943- 947, April 2023.
- Jawad Mirza,… **S. I. M. Sheikh** etal., "Design of an efficient Thulium-doped fiber amplifier for dual-hop earth to satellite optical wireless links", Ain Shams Engg. Journal, Vol 14, #7, July 2022.
- M. N. Islam,… **S. I. Sheikh** et al., "Design of a Hollow-Core Photonic Crystal Fiber-Based Edible Oil Sensor", Crystals, Vol. 12, pp. 1362, September 2022.
- Jawad Mirza, S. Ghafoor, A. Aramghan, K. K. Qureshi, S. I. M. Sheikh, "Performance Enhancement of Ytterbium-doped Fiber Amplifier Employing a Dual-stage in-band Asymmetrical Pumping", Micromachines (MPDI), Vol. 13, No. 9, pp. 1488, September 2022.

- M. Musab, H. Attia, K. Qureshi, **S. I. M. Sheikh**, "Microwave Sensing of Elemental Sulfur Deposition in Gas Pipelines", *IEEE Sensors Journal*, Vol. 22, No. 14, pp. 14058, July 2022.
- H. Rifaqat, M. Ikram, A. M. Algarni, and **S. I. M. Sheikh**, "Dual Sense Circularly Polarized Compact Slot Antenna for CubeSat Applications", *IEEE ACCESS*, Vol. 10, pp. 111732-111737, October 2022.
- M.A. Munira, ... **S.I. Sheikh** et al., "Alterations in the magnetic and electrodynamic properties of hard-soft Sr0.5Ba0.5Eu0.01Fe12O19/NixCuyZnwFe2O4 nanocomposites", *Journal of Material Research and Technology*, Vol. 15, pp. 1416-1429, Nov 2021
- K. Harb, .. **S. I. M. Sheikh,** et al., "Non-uniform Scattering of Microwave Radiation due to Layered DUSA Storm: Theory and Experiment", *IEEE Canadian Journal of Elec. & Com. Engg. (IEEE CJECE)*, Vol. 44, No. 3, pp. 384-389, July 2021.
- S. Gaya, **S.I. Sheikh** et al. "Multiple-input-multiple-output antenna with pattern reconfigurable and correlation reduction for WLAB application", *Engineering Reports*, pp 1-15, September 2020.
- **S. I. M. Sheikh**, E. Hassan, J. Iqbal, "Capacitance-Based Monitoring of a Three-phase Crude-Oil Flow", *IEEE Transactions on Instrumentation and Measurement (IEEE-TIM)*, pp. 1, July 2019.
- **S. I. M. Sheikh**, E. Hassan, J. Iqbal, H. Attia, "Novel Solution for Multi-Phase Semi-Cylindrical Capacitive Sensors", *IEEE ACCESS*, Vol. 7, pp 116342-116347, August 2019.
- M.A. Meriche, **Sheikh S. I. M** et al., "Directive Wideband Cavity Antenna with Single Layer Meta-Superstrate", *IEEE Antennas and Wireless Propagation Letters (IEEE-AWPL)*, Vol: 18 (9), Sept. 2019.

Conference Publications ((selected from past 5 years))

- U. Fayyaz, …, **S.I.M. Sheikh**, et al., "Effective Design of a Sixth Order Circular Polarized OAM Mode Ring Patch Antenna", *IEEE Int. Symposium on Antenna and Propagation*, Ottawa, Canada, July 2025.
- M. Ali, …, **S.I.M. Sheikh**, et al., "A Novel High gain Ultra-wideband Antenna for W-band Applications", *IEEE Int. Symposium on Antenna and Propagation*, Ottawa, Canada, July 2025.
- S. Mukhtar, R. Hussain ,and S.I.M. **Sheikh**, "Beam Steerable Standing Wave Antenna", IEEE Texas Symposium on Wireless and Microwave Circuits and Systems, Baylor, Texas, April 2025.
- A. Haeruman, S. U. Haq, M. Mohandes, S. Rehman and **S. I. M., Sheikh**, "AI-Based PV Panels Inspection using an Advanced YOLO Algorithm", 7th Int. Conf. on Renewable Energy Generation and Application (ICREGA'24), 21-24 April 2024.
- U.F. Fayyaz,.., **S.I.M. Sheikh** et al., "Design of a Compact Combined OAM Modes Uniform Circular Antenna Array", *IEEE Int. Symposium on Antenna and Propagation*, Italy, July 2024.
- **S.I.M. Sheikh**, M.G, Magam, H. Attia, K. Qureshi, "Detecting Solid Sulfur Deposition using Dual-Band Antenna", *IEEE Int. Symposium on Antenna and Propagation*, Portland, Oregon, July 2023.
- M. Al-Omari, H. Attia and **S.I. Sheikh**, "Magnetic Metamaterial Frequency Tunable Antenna", *IEEE Int. Symposium on Antenna and Propagation*, Portland, Oregon, July 2023.

- M. N. Abbasi, A. Aziz, A. Al-Garni, **S.I.M. Sheikh**, H. Rifaqat, "Transparent MIMO Antenna for Closely Spaced Antenna Elements *IEEE Int. Symposium on Antenna and Propagation*, Oregon, July 2023.
- H. Rifaqat, A. Al-Garni, **S.I.M. Sheikh**, Q. Abbasi, "Multi-Band CubeSat Antenna and Design Considerations for Space Environment", *IEEE Int. Symposium on Ant. and Prop.,* Oregon, July 2023.
- H. Rifaqat, **S. I. M. Sheikh** etal., "Miniaturized Slot MIMO Antenna with Pattern Diversity for CubeSat Applications", IEEE Int. Symposium on Antenna and Propagation, Denver, Colorado, July 2022.
- A. Hassebo, **S. I. Sheikh**, and D.E. Dow, "Robust Cellular Connection-Based Smart Street Lighting System for Supporting Strategic IoT Smart City Applications", American Society for Engineering Education (ASEE) Northwest Conference, Boston, April 2022.
- **S. I. M. Sheikh** et al., "Detection of Red Palm Weevil Infestation in Palm Trees", American Society for Engineering Education (ASEE), Boston, April 2022.
- O. Sokunbi, **S. I. Sheikh** etal., "Enhanced Isolation of MIMO Slot Antenna Array Employing Modified EBG Structure and Rake-shaped Slots", IEEE Int. Symposium on Antenna and Prop., Canada, July 2020.
- M. Magam, **S. I. Sheikh**, H. Attia, K. Qureshi, "Multi-Resonance Stacked Patch Antenna for Detection of Elemental Sulfur", IEEE Int. Symposium on Antenna and Propagation, Montreal Canada, July 2020.
- O. Sokunbi, **S.I. Sheikh** et al., "Magnetic Metamaterial based Wideband Frequency Reconfigurable Monopole Antenna", IEEE Int. Symposium on Antenna and Propagation, Montreal Canada, July 2020.
- A, Hamza, K. Qureshi, **S. I. Sheikh** and H. Attia, "Linear and Planar Antenna Array Nulling based on Schelkunoff Polynomial and Genetic Algorithm Monopole Antenna with Beam Scanning in Both End-fire and Broadside Directions", IEEE Radio & Wireless Symposium, San Antonio, January 2020.
- O. Sokunbi, H. Attia, **S. I. M. Sheikh**, "Microstrip Antenna Array with Reduced Mutual Coupling Using Slotted-Ring EBG Structure for 5G Applications", IEEE International Symposium on Antenna and Propagation (APS), Atlanta, 7-12 July 2019.

Publications on Engineering Education (selected):

- **S. I. Sheikh**, A. Hassebo and J.R. McCusker, "Inclusion of PCB Fabrication and Testing within Lab experiments", ASEE Northwest conference, Boston, April 2022.
- A. Hassebo, **S. I. Sheikh**, and A. Ghanavati, "Filling the Gaps Between Courses: A Proposal to Develop a Network Analysis Laboratory Manual", ASEE Northwest conference, Boston, April 2022.

Published Technical Reports to Funded Industrial Projects (selected):

- **Sheikh S. I. M., AlGarni, A.,** et al., "Higher Order OAM Generation for Antenna Maximum Gain Diversity extended to CubeSat Transparent Antennas Analysis", Interactive Research Center for Communication systems & Sensing, KFUPM, 2023.
- K. Qureshi, H. Attia, **Sheikh S. I.**, "Detection of Elemental Sulfur Deposition in Gas Pipeline using Microwave and Optical Techniques", Final report for Saudi ARAMCO, Saudi Arabia, January 2023.

- H. Attia, Y. Mahnashi, S.I.M. Sheikh, K. Qureshi, "Electromangetic-based Wearable Biosensor for Non-invasive Blood Blucose Monitoring Systems", Final report for IRC-CS, KFUPM, Saudi Arabia, Dec. 2022.
- R. Hussain, S. I. M. Sheikh, "Design and Implementation of a CubeSat Antenna Design for Space Communication", Final report for DSR, KFUPM, Saudi Arabia, October 2021.
- H. Attia, S. I. M. Sheikh, "EBG/SNG Integrated Antenna System with Improved Mutual Isolation for 5G Wireless Systems", Final report for DSR, kFUPM, Saudi Arabia, October 2020.
- **Sheikh S. I.**, "*Simple Microwave Technique for Monitoring Fluid Level in a Petroleum Carrying Pipeline"*, Final report, *Saudi Basic Industries Corporation (SABIC, KSA)*, December 2016
- **Sheikh S. I.**, Ragheb H. A., "Design of a Directive Ferrite Loaded Waveguide Antenna for Multi-directional Beam Steering", Final reports, *Saudi Basic Industries Corp. (SABIC, KSA)*, Feb 2015.
- **Sheikh S. I.**, Qureshi K., "A Novel Phase Shifter-less Beam Scanning Technique using Engineered Gyrotropic Superstrate", Final Report, *Saudi Basic Industries (SABIC, KSA)*, November 2014.
- Hassan E., **Sheikh S. I.,** and Umar J., "Design of Active 24-GHz phased-array ant. for microwave sensors", Final Report, *King Abdulaziz City for Science and Technology (KACST, KSA)*, October 2014.
- **Sheikh S. I.**, Al-Qureshi K., Ragheb, H.A., "Measuring the Water-level in the Oil Transmission Pipes using EM-waves", Final report, *Schlumberger Carbonate Research (Dhahran, KSA)*, January 2013.

For the remaining publications, please visit my Google Scholar page

---