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Qualification: Ph.D.

Membership of Professional Bodies:

- Nigerian Society of Engineers (NSE)
- Nigerian Institute of Electrical and Electronic Engineers (NIEEE)
- Nigerian Institute of Management (NIM)
- Institute of Electrical and Electronic Engineers (IEEE)

Award Received:

- *Epitome of Hardwork Award*, Heritage Echo Newspaper (ISSN 2360-7394), December 3, 2022
- *TETFund IBR Grant*, the Federal University of Agriculture, Abeokuta, Ogun State, Nigeria, 2022.
- *Research Grant*, Nigerian Communication Commission Research Fund, 2021
- *Best Lecturer Award*, College of Engineering by Nigerian University Engineering Student Association, Federal University of Agriculture, Abeokuta Chapter (2019/2020 Session)
- *Best Lecturer Award*, College of Engineering by Nigerian University Engineering Student Association, Federal University of Agriculture, Abeokuta Chapter (2012/2013 Session)
- *Post-graduate Scholarship Award*, JDA/Addax Petroleum JDZ, Block 4 Scholarship Scheme, Y2007/2008
- *Best Graduating Student Prize*, Electrical Engineering Department, University of Ilorin, Ilorin (1997/1998 Session)
- *University Scholar Award*, Electrical Engineering, University of Ilorin, Ilorin (1992/1993 Session)
- *Best Student in Academics Prize*, Oranyan Grammar School, Oyo, Oyo State (1990/1991 Session)

Research Conducted:

Completed

1. Development of tri-modal method for medical images enhancement 2022
2. Development of a PC-based American sign language translator 2022
3. Optimised enhancement scheme for low contrast underwater images 2020
4. Noise removal in digital images via hybrid neuro-fuzzy networks 2019
5. Development of a SONAR-based water level monitoring system 2018
6. Development of a two-level verification vault access control system 2016
7. Development of an intrusion detection and alert system 2016

Progress

1. Development of IoT- unmanned aerial vehicle animal feeder.
2. Development of a compact and affordable RECTENNA for RF energy harvesting
3. Compression of digital data via some classes of wavelet transforms.
4. Development of web-based and wireless enabled emergency exit control system

5. Harvesting of electromagnetic waves energies as alternative power supply source
6. Modelling and optimisation of path-loss on Digital Terrestrial TV links in Nigeria

Conferences Attended:

1. International Conference on Electromagnetics in Advanced Applications/IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications/USNC-URSI Radio Science Meeting, August 9 – 13, 2021, Honolulu, Hawaii, USA
 - Significance of the Ground Plane Width and Frequency on the Patterns Radiated by Rectangular Slot Antennas
 - Significance of the Ground Plane Dimensions and Slot Antennas Performance
2. 2nd International Conference on Science Engineering and Technology held at Federal University of Agriculture, Abeokuta, Nigeria, May 2018
 - Performance Characteristics of a Rectangular Slot Operating within 890-960 MHz Bands.
 - Investigation of Radiation Characteristics of Linear Arrays of Slot Antennas
3. 3rd IEEE International Conference on Electro-Technology for National Development held at Federal University of Technology, Owerri, Nigeria, Nov. 2017
 - Effects of slot dimensions and operating frequencies on the equivalent magnetic current distributions in the slot antennas.
 - Impact of the ground plane size on fields radiated by Slot Antennas.
 - Analysis of broadside and end-fire linear arrays of slot antennas
4. 1st International Conference on Science Engineering and Technology held at Federal University of Agriculture, Abeokuta, Nigeria, March, 2016
 - Two Level Verification Vault Access Control Systems.
 - Intrusion Alarm System using Pyro-Electric Infra-Red Sensor and GSM Module.

Few of Recent Publications:

1. Fehintola.O.T., Adejumobi I.A., **Amusa K.A.** and Olajuwon, B.I. (2023):Optimal placement of Unified Power Flow Controller on Power System for Voltage Stability Enhancement. *LAUTECH Journal of Engineering and Technology*. 17(1):96-103.
2. Amusa K.A., **Olanipekun, A.J.**, Erinosh T.C., Salaam A.A., Razaq S.S. (2023) Development of a PC-based sign language translator, *International Journal of Informatics and Communication Technology*, 12(1):23-31. <https://doi.org/10.11591/ijict.v12i1.pp23-31>.
3. **Amusa K.A.**, A. Adewusi, T.C. Erinosh, S.A. Salawu, D.O. Odufejo (2022). On the Application of Wavelet Transform and Huffman Algorithm to Yoruba' Language Syntax Text Files Compression. *Serbian Journal of Electrical Engineering*, 19(3):351-368. <https://doi.org/10.2298/SJEE2203351A>
4. Oyetunji I.O., **Amusa K.A.**, Adejumobi I.A., Mustapha A.O. (2022). Performance evaluation of selected adaptive filters for acoustic echo cancelation over voice over IP. *FUOYE Journal of Engineering and Technology*, 7(3):328-333. <https://doi.org/10.46792/fuoyejet.v7i3.897>
5. **Amusa K.A.**, Idowu O.A., Adejumobi I.A., Adebayo G.A. (2022). Tri-modal techniques for medical images enhancement. *International Journal of Advances in Applied Sciences*, 11(3):110-122. <https://doi.org/10.11591/ijaas.v11.i3.pp110-122>
6. Ilori A.O, **Amusa K.A.**, Erinosh T.C. (2022). Digital Terrestrial Television in Nigeria: A technical review of path-loss modelling and optimization techniques. *International Journal of Advances in Applied Sciences*, 11(3):277-286. <https://doi.org/10.11591/ijaas.v11.i3.pp277-286>
7. **Amusa K.A.** and S.A. Adekola. (2021). Significance of the ground plane width and frequency on the patterns radiated by rectangular slot antennas. In *2021 Int. Conf. on Electromagnetics in Advanced Applications/IEEE-APS Topical Conf. on Antennas and Propagation in Wireless Communication/USNC-URSI Radio Science Meeting, Honolulu, Hawaii, USA*. 142-146. <https://10.1109/ICEAA52647.2021.9539535>
8. **Amusa K.A.** and S.A. Adekola. (2021). Significance of the ground plane dimensions and slot antennas performance. In *2021 Int. Conf. on Electromagnetics in Advanced Applications/IEEE –APS Topical Conf. on Antennas and Propagation in Wireless Communication/USNC-URSI Radio Science Meeting, Honolulu, Hawaii, USA*. 167-171. <https://10.1109/ICEAA52647.2021.9539861>
9. T.C. Erinosh, S.A. Adekola and **K.A. Amusa** (2020). Impedance matching techniques in half-wave dipoles for radio-frequency energy scavenging. *Premier Journal of Engineering and Applied Sciences*. Published by Nigerian Society of Engineers, Ibadan Branch. 1(2):58-68. <https://nseibadan.org.ng/journals/vol1no2.pdf>
10. T.C. Erinosh, S.A. Adekola and **K.A. Amusa** (2020). Grating lobes suppression in linear arrays of resonant half-wave dipoles. *Premier Journal of Engineering and Applied Sciences*. Published by Nigerian Society of Engineers, Ibadan Branch. 1(2):114-123. <https://nseibadan.org.ng/journals/vol1no2.pdf>
11. **Amusa K.A.**, A. Adewusi., T.C. Erinosh and V.O. Solana (2020). Optimised enhancement scheme for low contrast underwater images. *Engineering Research Express*. Published by Institute of Physics Publishing Ltd, UK. 2(2020) 035043:1-15. <https://doi.org/10.1088/2631-8695/abba09>
12. S.A. Adekola and **K.A. Amusa** (2019). Effects of ground plane dimensions on patterns radiated by slot antennas. *International Journal of Electronics*. Published by Informa UK Limited UK. 106(9):1295-1319. [doi/full/10.1080/00207217.2019.1584922](https://doi.org/10.1080/00207217.2019.1584922)
13. Adewusi A., **Amusa K.A.** and Are S.A. (2019). Performance evaluation of selected cost functions in non-negative matrix factorization-based decomposition of acoustic mixture. *FUOYE Journal of Engineering and Technology*, Published by Federal University of Technology, Oye-Ekiti. 4(1):107-112. <https://dx.doi.org/10.46792/fuoyejet.v4i1.320>
14. Erinosh T.C., Adekola S.A., and K.A. Amusa. (2019). Design of Practical Rectennas for RF Energy Harvesting. 2019 PhotonIcs & Electromagnetics Research Symposium, Spring (PIERS | SPRING), Rome, Italy, 17-20 June, 1149-1156.
15. Adekola S.A., Erinosh T.C., and K.A. Amusa. (2019). Resonant Half-wave Dipole and Its Odd Integral Multiples. 2019 PhotonIcs & Electromagnetics Research Symposium, Spring (PIERS | SPRING), Rome, Italy, 17-20 June, 1149-1156.

