



# THE TECHNICAL UNIVERSITY OF KENYA

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NAME: MR. JOSEPH ABOK OBADHA

Faculty:	ENGINEERING AND THE BUILT ENVIRONMENT
School:	Electrical & Electronic Engineering
Department:	ENERGY AND POWER ENGINEERING
Current Designation:	Assistant Lecturer, TELECOMMUNICATIONS AND INFORMATION ENGINEERING (DTIE)
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## EDUCATION

LEVEL	QUALIFICATION NAME	INSTITUTION	YEAR
Masters of Science (M.Sc.)	TELECOMMUNICATION ENGINEERING	JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY(Kenya)	2014
Postgraduate Diploma	Education	Kenyatta University(Kenya)	2006
Bachelor of Science (BSc)	Electrical & Electronics	University of Nairobi(Kenya)	1997

## WORK EXPERIENCE

PERIOD	INSTITUTION	POSITION
2009 - To date	Technical University of Kenya	Assistant Lecturer
2005 - 2009	Kenya Polytechnic	Lecturer
1997 - 1999	Sony Sugar Company	Maintanance

## CURRENT RESEARCH PROJECTS

Application of Chaos in Telecommunication	Telecommunication Engineering
Image Processing	Signal Processing
Filter Design	Signal Processing
Computational Electromagnetics	Electromagnetics
TV over IP	Data Communication
Pattern recognition and Biomedical Imaging	Signal Processing
Security and Reliability in 5G Networks	Wireless Communications

## SELECTED PUBLICATIONS

TITLE	LINK TO PUBLICATION	YEAR
Maurice Ojijo and Joseph Abok Obadha " Internet on Terrestrial Digital TV Networks: A proposal for space allocation for Internet Data" International Journal of Advanced Research in Computer Science Volume 5, issue 7, pp 41-44	<a href="#">View online</a>	2014
Joseph Obadha, Stephen Musyoki and George Nyakoe "Radar Waveform Diversity based on Rossler Chaotic Systems, The Journal of networks and Complex Systems Vol. X No. X pp. X, 2014 (Accepted and sent for publication)	<a href="#">View online</a>	2014
Obadha, J.A., Akuon, P.O., Oduol, V.K.: Secrecy and BER analysis of antennasequence spatial modulation: An information theoreticapproach. IET Commun. 1-11 (2022). <a href="https://doi.org/10.1049/cmu2.12434">https://doi.org/10.1049/cmu2.12434</a>	<a href="#">View online</a>	2022
Joseph Obadha, Stephen Musyoki and George Nyakoe "Radar waveform generation and Optimization based on Rosler Waveforms " Journal of information Engineering and Applications, vol. 2 no. (10) pp344-360, 2012	<a href="#">View online</a>	2012
J. A. Obadha, P. O. Akuon and V. O. Kalecha, "BER of Antenna Code Sequence Modulation (ACSM) and Analysis under Repetition," 2019 IEEE AFRICON, Accra, Ghana, 2019, pp. 1-5, doi: 10.1109/AFRICON46755.2019.9133982.	<a href="#">View online</a>	2019
J. A. Obadha, P. O. Akuon and V. O. Kalecha, "BER Performance of Antenna Sequence Modulation (ASM)," 2021 IEEE AFRICON, Arusha, Tanzania, 2021, pp. 1-6, doi: 10.1109/AFRICON51333.2021.9570995.	<a href="#">View online</a>	2021
J. A. Obadha, P. O. Akuon and V. O. Kalecha, "BER Performance Analysis of Antenna Sequence Modulation (ASM) Under Arbitrarily Correlated Rician Fading Channel," 2023 IEEE AFRICON, Nairobi, Kenya, 2023, pp. 1-6, doi: 10.1109/AFRICON55910.2023.10293414.	<a href="#">View online</a>	2023
J. A. Obadha, P. O. Akuon, V. O. Kalecha.: Generalized Antenna Sequence Spatial Modulation (GASSM): Novel Frameworks for enhanced Obadha, J.A., Akuon, P.O. & Oduol, V.K. Generalized antenna sequence spatial modulation (GASSM): a novel framework for enhanced PHY layer security and energy efficiency. Journal of Electrical Systems and Inf Technol 11, 9 (2024). <a href="https://doi.org/10.1186/s43067-023-00133-x">https://doi.org/10.1186/s43067-023-00133-x</a>	<a href="#">View online</a>	2024

## COURSES TAUGHT

<b>NAME</b>	<b>DESCRIPTION</b>	<b>PERIOD</b>
EEEQ307: Electromagnetic Fields A	This is the physical foundation to the understanding, analysis and design of electronic and electrical components and systems.	03 January 2022 - TO-DATE
EEEQ309: Telecommunications and Electroacoustics	Introductory concepts on signal processing, with Telecommunication systems as a case study. Also covers the principles of acoustic generation, transmission and design of devices operating on the basis of acoustic to electrical conversion and vice versa.	03 January 2022 - TO-DATE
EEEQ453: Digital Signal Processing	This is the mathematical foundation to the understanding, analysis and design of electronic devices and systems	03 January 2022 - TO-DATE
EEEQ555: Wireless Communicatios	This course provides the basics for the design and analysis of wireless communications systems. It covers aspects ranging from the wireless propagation channel, digital communications theory, coding, to multiple access methods, frequency planning, and wireless standards.	September 2014 - TO-DATE

#### PROFESSIONAL AFFILIATIONS AND SOCIETIES

<b>TITLE</b>	<b>INSTITUTION</b>
Graduate Engineer	Engineers Registration Board of Kenya( No. B3285)
Telecom. Technical Personnel	Communication Authority of Kenya(CAK)-Class A liscence (No:TL/TP/2/11392228)
Electrician, Class C1	Energy Regulation of Kenya, ERC (License No. 003962)
Member	Kenya Society of Electrical and Electronic Engineers, KSEEE