



CURRICULUM VITAE

Resume Photograph



Personal information

Surname(s) / First name(s) **Dr. MAKOKHA John Wanjala**

Address 1699-50200 Bungoma (Kenya)

Telephone(s) +254202028660/+254708085934 Mobile +254721825520
+254733364914

Website www.kibu.ac.ke

Fax(es) +2544449902

E-mail(s) • makokhajw@kibu.ac.ke • makokhajw@gmail.com

ORCID ID 0000-0003-3267-4512

Nationality Kenyan

Passport Status AK0766293 (Valid 31st March 2030)

Yellow Fever Vaccination Vaccinated against yellow fever and valid up to 5th October 2025

COVID-19 Vaccination Vaccinated against COVID-19 (Twice)

Marital Status Married to Esther Nanyama Silali

Religion Christian

Date of birth 23/06/1982

Gender Male

Home Area Mayanja, Kanduyi Constituency in Bungoma County, Kenya

Bio Brief Information

John W. Makokha is a proficient and experienced educationist and a researcher in theoretical applied nuclear and environmental physics for over 15 years. He has focused significantly on Applied nuclear and Environmental Physics with a view of minimizing radiation exposure and anthropogenic influence on climate change particularly through the utilization of both active and passive remote sensing techniques. John regularly attends both national and international

	workshops/seminars/conferences in his area of specialization to showcase the new trends in applied nuclear and environmental physics. As a strong believer in the utilization of physics principles to avert the negative effects of climate change, John encourages the utilization of renewable energy sources to minimize anthropogenic influence on climate change. He holds a Doctor of Philosophy in Environmental Physics from the University of Nairobi, which he graduated in December 2016. John is an expert, consultant and Senior Lecturer in Environmental Physics at the Department of Science Technology and Engineering, Kibabii University (KIBU), in Kenya where he is currently the Chair of Department.
Research Information	<ul style="list-style-type: none"> • Based on reseachgate I have: 32 publications with 48 citations, an RG score of 10.14 and h-index of 4. • Based on Google Scholar I have: 31 publications with 45 citations, h-index of 3 and i10-index 1.
Academic Honors and Awards	<ul style="list-style-type: none"> • Received the Vice Chancellors Appreciation for my contribution that enabled the university to receive recommendation for ISO 9001:2008 certification during stage two quality Management System External Audit.
Professional Memberships	<ul style="list-style-type: none"> • Kenya Meteorological Society (KMS) • Physics Society of Kenya • Eastern African Association for radiation protection profession • African Geophysical Society • African Physical Society • Biophysical Society of Kenya
Desired employment / Occupational field	University Professor and a Researcher in: <ul style="list-style-type: none"> • Theoretical Applied Nuclear and Radiation Physics • Atmospheric Physics • Environmental Physics
Work experience	
Dates	01/01/2019 → To Date
Occupation or position held	<ul style="list-style-type: none"> • Senior Lecturer • Chair Department of Science Technology and Engineering, Kibabii University (From 30th October 2019 to date) • Acting Chair of Department (1st March 2019 to 29th October 2019)

Main activities and responsibilities	<ul style="list-style-type: none"> • Writing Competitive and Collaborative fundable research grant proposals in my area of specialization. • Administration and coordination of academic activities at the Department of Science Technology and Engineering. • Ensuring proper and acceptable standards of teaching and research are maintained at the Department of Science Technology and Engineering. • Ensuring to the adherence of quality standards in the production of sanitizer approved by Kenya Bureau of Standards (KEBS) and liquid soap to aid in fighting the COVID-19 Pandemic within university and its surrounding. • Serving as the Chairperson of Departmental Board meetings and responsible for allocation of duties. • Representing the Department in the appropriate University Committees and other bodies as required. • Being responsible for the preparation of the annual work plan, budget, procurement plan, performance contracts, staff appraisal reports and annual reports on the work and research of the Department. • Being responsible for teaching, examinations and record of students in the Department. • Spearheading the development of diploma, undergraduate and postgraduate programmes relevant to the mandate of the University. • Teaching several undergraduate and post graduate courses including Quantum mechanics, Classical Mechanics, Environmental Physics, Nuclear and Particle Physics, Solid state physics, Electromagnetism, Mathematical physics, Statistical Mechanics, Electrical, Magnetic and optical Properties of Solids, Seminars in Physics, Advanced Laboratory Techniques and Thermodynamics etc. • Performing advanced research in Atmospheric Physics based on both active and passive remote sensing techniques and artificial intelligence e.g. Artificial Neuron Networks and Support Vector Machines. • Supervising Postgraduate Students Research in Applied Nuclear, Environmental and Radiation Physics/Atmospheric Physics/ Environmental Physics. • An extremely confident, assertive and organized individual who has the ability to prioritize workloads to meet tight deadlines with an aim of achieving University's vision and mission. • Manage as Chair of Department Six (6) academic programmes in the department of Science, Technology and Engineering i.e. Doctor of Philosophy in Physics (1), Master of Science in Physics (1) Master of Science in Organic Chemistry (1), Bachelor of Science in Physics (1), Bachelor of Science in Chemistry (1) and Bachelor of Science in Renewable Energy and Bio-fuels (1). • A programme leader in two academic programmes i.e. Doctor of Philosophy in Physics and Master of Science in Physics.
Name and address of employers	Kibabii University
Dates	18/08/2014 → 31/12/2018

Occupation or position held	<ul style="list-style-type: none"> • Lecturer • Researcher
Main activities and responsibilities	<ul style="list-style-type: none"> • Teaching several undergraduate and post graduate courses including Quantum mechanics, Classical Mechanics, Environmental Physics, Nuclear and Particle Physics, Solid state physics, Electromagnetism, Mathematical physics, Statistical Mechanics, Electrical, Magnetic and optical Properties of Solids, Seminars in Physics, Advanced Laboratory Techniques and Thermodynamics etc. • Performing advanced research in Applied Nuclear, Environmental and Atmospheric Physics using artificial intelligence techniques e.g. Artificial Neuron Networks and Support Vector Machines. • Supervising Postgraduate Students Research in Applied Nuclear, Environmental and Atmospheric Physics. • Manage as Chair of Department Six (6) academic programmes in the department of Science, Technology and Engineering i.e. Doctor of Philosophy in Physics (1), Master of Science in Physics (1) Master of Science in Organic Chemistry (1), Bachelor of Science in Physics (1), Bachelor of Science in Chemistry (1) and Bachelor of Science in Renewable Energy and Bio-fuels (1). • A programme leader for Bachelor of Science in Physics at Kibabii University.
Name and address of employers	Kibabii University (March 2016 to 31 st December 2018), University of Kabianga (18/08/2014 to March 2016)
Dates	01/02/2012 → 17/08/2014
Occupation or position held	Assistant Lecturer
Main activities and responsibilities	<ul style="list-style-type: none"> • Teaching several undergraduate courses including Quantum mechanics, Mechanics, Environmental Physics and Nuclear Physics. • Supervising undergraduate Students Projects in Applied Nuclear, Environmental and Atmospheric Physics. • Performing advanced research in Applied Nuclear and Radiation Physics using artificial intelligence techniques e.g. Artificial Neuron Networks and Support Vector Machines.
Name and address of employer	University of Kabianga 2030, 20200 Kericho (Kenya)
Type of business or sector	Education
Dates	01/09/2010 - 01/02/2012
Occupation or position held	Part-Time Lecturer
Main activities and responsibilities	Teaching several Physics courses including Quantum mechanics, Mechanics, Physics for computing Systems, Environmental Physics and Nuclear Physics.
Name and address of employer	University of Nairobi 30197, 00100 Nairobi (Kenya)
Type of business or sector	Education
Dates	01/09/2010 - 01/02/2012

Occupation or position held	Part-Time Lecturer
Main activities and responsibilities	Teaching several Physics courses including Quantum mechanics, Mechanics, Physics for computing Systems, Environmental Physics and Nuclear Physics.
Name and address of employer	Mount Kenya University (Nakuru Campus) 342, 01000 Thika (Kenya)
Type of business or sector	Education
Dates	01/09/2010 - 01/02/2012
Occupation or position held	Part-Time Lecturer
Main activities and responsibilities	Teaching several Physics courses including Quantum mechanics, Mechanics, Physics for computing Systems, Environmental Physics and Nuclear Physics.
Name and address of employer	Kabarak University PRIVATE BAG, 20157 Nakuru (Kenya)
Type of business or sector	Education
Dates	01/09/2010 - 01/02/2012
Occupation or position held	Part-Time Lecturer
Main activities and responsibilities	Teaching of Physics units including Electronics, Mechanics, Electricity and Magnetism and Waves and Optics
Name and address of employer	Kenya Methodist University 267, 60200 Meru (Kenya)
Type of business or sector	Education
Dates	01/09/2012 - 02/12/2016
Education and training	
Title of qualification to be awarded	Doctor of Philosophy in Physics
Principal subjects / occupational skills covered	PhD thesis research titled ' Retrieval and Radiative Assessment of Aerosol Characteristics in Relation to Greenhouse Gas Densities over the East African Atmosphere Utilizing Ground and Satellite Based Spectral Measurements '
Name and type of organisation providing education and training	University of Nairobi 30197, 00100 Nairobi (Kenya)
Dates	15/10/2007 - 01/09/2010
Title of qualification awarded	Master of Science in Physics
Principal subjects / occupational skills covered	M.Sc. thesis research titled ' Radiative Characterization of Atmospheric Aerosols over Selected urban, rural and maritime sites of Kenya using Sun Spectrophotometry '
Name and type of organisation providing education and training	University of Nairobi 30197, 00100 Nairobi (Kenya)
Dates	07/10/2002 - 01/06/2006
Title of qualification awarded	Bachelor of Science in Physics

Principal subjects / occupational skills covered	Physics									
Name and type of organisation providing education and training	University of Nairobi 30197, 00100 Nairobi (Kenya)									
Dates	13/02/1997 - 01/11/2000									
Title of qualification awarded	Kenya Certificate of Secondary Education									
Principal subjects / occupational skills covered	Mathematics, Physics, Chemistry, Biology, English, Kiswahili, Geography and Agriculture.									
Name and type of organisation providing education and training	Kivaywa High School 52, Webuye (Kenya)									
Name and type of organisation providing education and training	Mikuva Primary School 372, Webuye (Kenya)									
Dates	13/01/1994 - 31/11/1996									
Title of qualification awarded	Kenya Certificate of Primary Education									
Principal subjects / occupational skills covered	Mathematics, Science, English, Kiswahili, Geography History and Christian Religion education.									
Personal skills and competences										
Mother tongue(s)	Luhya									
Other language(s)										
Self-assessment	Understanding				Speaking				Writing	
<i>European level (*)</i>	Listening		Reading		Spoken interaction		Spoken production			
English	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
Swahili	B1	Independent user	B1	Independent user	C1	Proficient user	C1	Proficient user	A1	Basic User
	(*) <i>Common European Framework of Reference (CEF) level</i>									
Social skills and competences	Attended a career development seminar at personal development centre in May 2006, Nairobi.									
Organisational skills and competences	<ul style="list-style-type: none"> • A key motivator within a team setting with capabilities to motivate colleagues to perform well and above their average level with minimal supervision. • A team player with ability of building relationships across different levels and with people from all social or cultural backgrounds. • A charismatic but pragmatic leader with good organizational and problem solving skills. • An enterprising, creative thinker with well-developed supervisory and management skills. 									

	<ul style="list-style-type: none"> • A logical and evaluative decision maker with well-developed analytical skills. • Process-orientated and always ensuring the right tasks are done by the right people at the right time • I have supervised several undergraduate students through their fourth year Physics and Chemometric projects at the department of Physical Science, University of Kabianga.
Technical skills and competences	<ul style="list-style-type: none"> • Knowledge discovery and data mining using artificial intelligence techniques in Applied Nuclear and Radiation Physics/Environmental/Atmospheric Physics. • Utilization of selected Programming languages i.e. C/C++, Java, Python and R. • Writing up technical reports in my area of specialization. • Data analysis using a number of multivariate Chemometric techniques. • Utilization of various online teaching platforms i.e. Moodle, Zoom among others to enhance online teaching in Kibabii University.
Computer skills and competences	<ul style="list-style-type: none"> • Microsoft professional and trainer. • Linux system operator and administrator. • Programmer in visual Basic C++ and MATrix LABORatory (MATLAB).
Staff Performance Appraisal Report	<ul style="list-style-type: none"> • Overall staff Performance Appraisal report for the period 1st July 2019 to 30th June 2020 was Very Good
PUBLICATIONS	<p>PUBLICATIONS OF BOOKS AND BOOK CHAPTERS AFTER PROMOTION TO SENIOR LECTURER</p> <p>PUBLICATIONS OF BOOKS AFTER PROMOTION TO SENIOR LECTURER</p> <p>PUBLICATIONS OF BOOK CHAPTERS AFTER PROMOTION TO SENIOR LECTURER</p> <ol style="list-style-type: none"> 1. Makokha, J. W and Waswa, M. N. (2021). Utilizing K-Means Clustering in Understanding the Relationship between Absorbing Aerosol Index and Selected UV Absorbers over East Africa for the Period 2000 to 2014. Prof. Saket Kushwaha (Ed.). <i>Book title: Climate Change and Agriculture</i> (Volume 4, pages of chapter: 15-29). Location of publication: Rohini, Delhi-110085, India. Publisher; AkiNik Publications.
	<p>PUBLICATIONS IN REFFERED JOURNALS</p> <p>PUBLICATIONS IN REFFERED JOURNALS AFTER PROMOTION TO SENIOR LECTURER</p> <ol style="list-style-type: none"> 1. Waswa, M. N and Makokha, J. W. (2021). Superconducting Transition Temperature within the Modified Bose Fermi-Hubbard Model. International

journal of progressive research in science and engineering, 2 (6):154-156.

2. Mukubwa, A. W and **Makokha, J. W.** (2021). Energy of Plasmon-mediated boson-fermion pair condensate in high temperature superconductors, **Physica B: Condensed Matter**, page 413182, <https://doi.org/10.1016/j.physb.2021.413182>.
3. Butiki, G. W., **Makokha, J. W.**, Masinde, F. W., Wanyama, C. K. (2021). Annual effective dose from Radon-222 concentration levels in underground water in Bungoma south sub - county, Kenya. **International Journal of Hydrology**. 5(1):23–26. . DOI: 10.15406/ijh.2021.05.00261.
4. Wanyama, C.K., **Makokha, J.W.**, Masinde, F.W. and Waswa, M. N. (2020). Natural Radioactivity and External Dose rates in Tailing Samples from Rosterman Goldmine, Kakamega County, Kenya. **Journal of Engineering and Technology for Industrial Applications (ITEGAM-JETIA)**. 6 (26): 73-77. DOI: <https://doi.org/10.5935/jetia.v6i26.718>.
5. Josphat Karani MWAI, Simon Maina KARUME, **John W MAKOKHA** (2020). Transforming Service Delivery in Government through Integration of Web 3.0 and Social Media Technologies: A Case for Developing Countries. **Computer Science and Information Technology**, 8(3), 57 - 65. DOI: 10.13189/csit.2020.080301.
6. Wafula, J. W., Manyali, G. S. and **Makokha, J. W.** (2020). Temperature Dependent Elastic Constants (TDECs) and Thermodynamic Properties of B19 TiZr; Shape Memory Alloy (SMAs). **International Journal of Research and Innovation in Applied Science (IJRIAS)** | Volume V, Issue VIII, pp 117-122.
7. Wanyama, C.K., F. W. Masinde., **J. W. Makokha.**, S. M. Matsitsi. (2020) Estimation of Radiological Hazards Due to Natural Radionuclides from the Rosterman Gold Mine Tailings, Lurambi, Kakamega, Kenya. **Radiation Protection Dosimetry**, ncaa113, <https://doi.org/10.1093/rpd/ncaa113>.
8. Josphat Karani MWAI, **John W MAKOKHA** and Simon Maina KARUME, (2020). A framework for Integration of Web 3.0 and Social Media Technologies in Government Portals for personalized Integrated Service Delivery. **International Journal of Computer Trends and Technology (IJCTT)**. Vol. 68(5):66-73.
9. Wanyama, C.K., **Makokha, J.W.**, Masinde, F.W. and Matsitsi, S. M. (2020). Radiological Assessment of Activity Concentrations of ⁴⁰K, ²³²Th, ²³⁸U and Exposure in the Rosterman Goldmine of Lurambi Area, Western Kenya. **International Journal of Research and Scientific Innovation (IJRSI)**. Vol. VII (VII): 209-212.
10. Wanyama, C.K., **Makokha, J.W.** and Masinde, F.W. (2020). Assessment of Natural Radioactivity Levels in Tailings from Lurambi Rosterman Goldmine.

Kakamega County, Kenya. **Global Scientific Journals**. Vol. 8 (7): 2456-2468.

11. Munyasia, A. W., Waswa, N. M. and **Makokha, J. W.** (2020). Effect of Internal Energy on Specific Heat of Cuprates Using s-Wave and d-Wave Hybrid Model. **International Journal of Research and Innovation in Applied Sciences (IJRIAS)**. Vol. V (VII):1-4.
12. Wanyama, C.K., Masinde, F.W and **Makokha, J.W.** (2020). Activity Concentration Levels of Natural Radionuclides in the Sediments Samples from Rosterman Goldmine, Lurambi Sub-County, Kakamega County, Kenya. **International Journal of Research and Innovation in Applied Sciences (IJRIAS)**. Vol. V (VII):84-87.
13. Munyasia, A. W., Waswa, N. M. and **Makokha, J. W.** (2020). Internal Energy of Hybrid S-wave and D-wave pairing in Bismuth Cuprates. **Journal of Multidisciplinary Engineering Science and Technology (JMEST)**. Vol. 7 (6): 12127-12130.
14. Juma G. S., Nebat Kituni., **Makokha, J. W.** (2020). Advection and its Applications: Trajectories over Busia County in Kenya. **Climate Change**. 6(22):186-190.
15. Wanyama, C.K., **Makokha, J.W.** and Masinde, F.W. (2020). A Radiological Survey in Tailings: A Case Study of Rosterman Gold Mine, Western Kenya. **Open Access Library Journal**, 7: e6293. <https://doi.org/10.4236/oalib.1106293>.
16. Chisira, S. N., **Makokha, J. W.**, Masinde, F. W. and Lusamamba, S. M. (2020). Thermodynamic Properties of a Microcanonical Ensemble of Mixture of Helium-3 and Helium4 Isotopes with Duo-Fermion Spin Degeneracy. **Journal of Multidisciplinary Engineering Science and Technology (JMEST)**, Volume 7 (4): 11652-11658.
17. Josphat Karani MWAI, Simon Maina KARUME, **John W MAKOKHA** (2020). Social Media and Service Delivery in government portals: An Analysis of how Government of Kenya uses Social Media for service delivery, **IOSR Journal of Computer Engineering (IOSR-JCE)**, Volume 22, Issue 2, Ser. II (Mar - Apr 2020), PP 07-15.

PUBLICATIONS IN REFFERED JOURNALS AFTER PROMOTION TO LECTURER

1. Shem G. Juma, **John W. Makokha** and Festus B. Kelonye (2018). Hybrid single particle simulation of atmospheric pollutants over Bungoma county in Kenya, **Ethiopian Journal of Environmental Studies and Management 11 (supplementary)**: 871-881
2. Situma, Y., Odhiambo, J. O. and **Makokha, J. W.** (2018). EDXRF Spectroscopic Elemental Analysis for Efficacy of Kibabii University Sewage

Treatment System. **Open Access Library Journal**, 5, e4992. doi: <http://dx.doi.org/10.4236/oalib.1104992>.

3. Khamala, G. W., Odhiambo, J. O. and **Makokha, J. W.** (2018). Seasonal Variability in Aerosol Microphysical Properties over Selected Rural, Urban and Maritime Sites in Kenya. **Open Access Library Journal (OALib Journal)** 5:1-17. <https://doi.org/10.4236/oalib.1104821>.
4. Mukubwa, A.W., Odhiambo, J.O. and **Makokha, J.W.** (2018). Thermodynamic Properties of Yttrium Based Cuprate Due to Electron-Cooper Pair Interaction Using BVT. **Open Access Library Journal (OALib Journal)** 5:1-14. <https://doi.org/10.4236/oalib.1104880>.
5. **J. W. Makokha** and J. O. Odhiambo (2018). Optical Characterization of Atmospheric Aerosols via Airborne Spectral Imaging and Self-organizing Map for Climate Change Diagnostics". **Open Access Library Journal (OALib Journal)** 5:1-10. <https://doi.org/10.4236/oalib.1104698>.
6. **J. W. Makokha** and J. O. Odhiambo (2018). Spatial-Temporal Characterization of Atmospheric Aerosols via Airborne Spectral Imaging and Growing Hierarchical Self-Organizing Maps, **Journal of Geoscience and Environment Protection**, 6:101-110.
7. J. O. Odhiambo and **J. W. Makokha** (2018). Specific Heat and Entropy of a Three Electron Model in Bismuth Based Cuprate Superconductor. **World Journal of Applied Physics**. Vol. 3, No. 2, pp. 19-24. doi: 10.11648/j.wjap.20180302.11.
8. **J. W. Makokha**, J. O. Odhiambo and J. S. Godfrey (2018). Long Term Assessment of Aerosol Radiative Forcing Over Selected Sites of East Africa, **Journal of Geoscience and Environment Protection**, 6 (4): 22-34
9. **J. W. Makokha**, J. O. Odhiambo and J. S. Godfrey (2017). Trend Analysis of Aerosol Optical Depth and Ångström Exponent Anomaly Over East Africa, **Atmospheric and Climate Sciences**, 7(4): 588-603.
10. **J. W. Makokha**, H. K. Angeyo and J. N. Muthama (2017). Aerosol Optical Depth and Precipitation Projections Over East Africa utilizing Self-Organizing Map, **International Journal of Science & Technoledge**, 5 (3): 166-175.
11. **J. W. Makokha**, H. K. Angeyo and J. N. Muthama (2016). Long Term Change Point Detections in Total Ozone Column over East Africa via Maximal Overlap Discrete Wavelet Transform, **American Research Journal of Physics**, 2:1-9
12. **J. W. Makokha**, H. K. Angeyo and J. N. Muthama (2015). Retrieval of aerosol optical depth over ecologically stressed East African land surfaces from top of atmosphere radiance utilizing the aerosol free vegetation index. **Ethiopian**

Journal of Environmental Studies & Management 8(Suppl. 2): 949 – 965

13. **J. W. Makokha**, H. K. Angeyo and J. N. Muthama, (2015). Sun-photometric study and multivariate analysis of aerosol optical depth variability over some representative sites of the Kenyan atmosphere. *International Journal of Biochemiphysics*. 23:15-28.
14. **J. W. Makokha** and H. K. Angeyo, (2013). Investigation of radiation characteristics of the Kenyan atmosphere due to aerosols using sun Spectrophotometry measurements and the COART model. *Aerosol and air quality Research*. 13, 201-208.
15. **J. W. Makokha**, J. N. Kimani and H. K. Angeyo, (2012). Estimation of Radiative Forcing due to Aerosols over selected sites in Kenya. *J. Meteorol. Rel. Sci.* 6, 3-13.
16. Radiative Characterization of Atmospheric Aerosols over Selected Rural, Urban and Maritime Sites of Kenya Using Sun spectrophotometry, M. Sc. Thesis, University of Nairobi, (2010).

CONFERENCES AND WORKSHOP ATTENDED

CONFERENCES AND WORKSHOP ATTENDED AFTER PROMOTION TO SENIOR LECTURER

1. Wanyama, C. K., Masinde, F. W, **Makokha, J. W** and Waswa, M. N. (13th to 14th July 2021). Measurement of Radioactivity Levels in Tailings at Rosterman Gold Mine, Western, Kenya. *1st Bomet University College International Conference*; pp 41 (book of abstracts)
2. Wanyama, C. K., **Makokha, J. W** and Masinde, F. W. (28th to 30th June 2021). Natural Radioactivity and External Dose Rates In Tailing Samples from Rosterman Gold Mine, Kakamega County, Kenya. *6th Maasai Mara University International Conference*; pp 80 (book of abstracts)
3. KL University International Online Workshop on “**Environment and Ecosystem Restoration**” on 5th June 2021.
4. Santhiram Engineering College, (Nandyal), at the Department of Basic Sciences Organised an International Online Workshop on “**Advances in Atmospheric Physics and Chemistry**” from 05th October to 09th October 2020.
5. KL University International Online Workshop on “**Introduction to Origin Software (Data Analysis and Graphing Software)**” from 29th to 30th September 2020.
6. KL University International Online Workshop on “**Exploring the Science of the**

Atmosphere from Space" on 26th August 2020.

7. Job W. Wafula, George S. Manyali, **John W. Makokha** and James Sifuna (2019). Pressure Dependency of Elasticity in α -TiZr Shape Memory Alloys. Conference Proceedings of The Kabarak University International Conference on the Basic Sciences edited by Christopher M. Maghanga. 17th-18th September 2019, Nakuru, Kenya.
8. Kibabii University Fourth International Conference under the Theme "Enhancing Food Security and Universal Healthcare for Sustainable Development" from 12th to 14th June 2019.

CONFERENCES AND WORKSHOP ATTENDED AFTER PROMOTION TO LECTURER

1. Workshop on ISO/IEC 27001:2013 Information Security Management System (ISMS) Implementers Training by Millenium Management Consultants Ltd (MMCAfrica), Kibabii University on 2nd to 3rd October 2018.
2. Odhiambo, O.J., Sakwa, W.T., Ayodo, K.Y., **Makokha, J. W.** (2018). Thermodynamic properties of an interaction between cooper pairs and electrons in bismuth based cuprate superconductivity, **Proceedings of Kibabii University 2nd Interdisciplinary International Scientific Conference: 14–15**
3. **J. W. Makokha**, H. K. Angeyo and, J. N. Muthama (2015). Optical Characterization of Atmospheric Aerosols via Airborne Spectral Data for Climate Change Diagnostics. International Workshop on Multispectral imaging organized by the AFRICAN SPECTRAL IMAGING NETWORK held in Dakar, Senegal from 18 to 27 November 2015. (Presented in the Workshop).
4. Curriculum development, review and implementation workshop for four programmes of the University of Kabianga at the Tea Research Foundation of Kenya from 8-12 June 2015.
5. Stakeholder's workshop on Curriculum development for five master's programmes in the school of science, University of Kabianga at the Tea Research Foundation of Kenya from 24-26 June 2014.
6. Short Course on FTNIR Techniques by CHROM AFRICA, University of Kabianga on 25th April 2014.
7. Intellectual property rights workshop facilitated by KIPI, KEPHIS and KECOBO on 22nd and 23rd March 2012 at Kabianga University College.
8. H. K. Angeyo, J. P. Patel, A. O. Mustapha, S. O. Achola, P. Ogwari, L. Ntihakose, M. J. Mangala, **J. W. Makokha**, B. O. Odumo, G. W. Wepukhulu, D. M. Maina, I. M. Kaniu, N. O. Hashim, J. M. Kebwaro, T. S. Masinde, D.

**POSTGRADUATE STUDENTS
SUPERVISIONS/EXAMINATIONS**

Otwoma, G. N. Mayaka, J. O. Ogora, R. Kinyua and V. Atando. (2010). Status and Prospects in Research Infrastructure Development in Nuclear Analytical Spectrometry and Radiometric instrumentation Methodologies for Environmental Radiation and Associated Radioactivity Measurements and Modelling Studies in Kenya. Proceedings of IAEA Technical Meeting on Establishing a Network of Laboratories in the Field Nuclear Instrumentation for Environmental Monitoring and Related Applications, 27-30 September 2010, Krakow, Poland.

9. The African Technology Policy Studies Conference on Youth Innovation and challenge program at Sun N' Sand Hotel Mombasa, Kenya from July 15-16, 2009.

POSTGRADUATE STUDENTS SUPERVISIONS

POSTGRADUATE STUDENTS SUPERVISIONSAFTER PROMOTION TO SENIOR LECTURER

DOCTOR OF PHILOSOPHY

1. **ABEL MUKUBWA WAMALWA** (Thermodynamic, Transport and Magnetic Properties of a Plasmon-Mediated Boson-Fermion Pair Condensate in Cuprate and Iron-Based Superconductors) from February 2019 to Date. (STATUS: On going). (**Kibabii University**).
2. **MWAI JOSPHAT KARANI** (Integration of Social Media Technologies in Government Portals to Enable Social Transaction) from September 2016 to March 2021. (STATUS: Completed in March 2021). (**Kibabii University**).

MASTER OF SCIENCE

1. **FAITH ATIENO ABOK** (Characteristics of Particulate Matter over Kenya from Observations and Models) from September 2017 to Date. (STATUS: On going). (**Kibabii University**).
2. **BUTIKI GEORGE WANGILA** (Radiological Survey of Radon 222 Levels in Underground Water Sources from Selected Granite Dominated Regions of Bungoma County) from September 2017 to Date. (STATUS: On going). (**Kibabii University**).
3. **KENNEDY ESENDI OMBAJO** (Investigating the Effects of Columnar Water Vapour on Aerosol Optical and Radiative Properties over Environmentally Distinct Sites in Kenya) from September 2017 to Date. (STATUS: On going). (**Kibabii University**).
4. **BOAZ WANGILA MUKHEBI** (Statistical Modelling of Aerosol Properties and Precipitation Rate from Satellite Based Measurements for Forecasting Studies

over Kenya) from September 2016 to Date. (STATUS: On going). (**Kibabii University**).

5. **WANYAMA KHISA CONRAD** (Assessment of Hazardous Radioactivity Levels in Tailings from Rosterman Gold Mine, Western Kenya) from September 2017 to March 2021. (STATUS: Completed in March 2021). (**Kibabii University**).
6. **JOB WABWILE WAFULA** (Elasticity of Titanium-Based Shape Memory Alloys at High Temperature and Pressure) from September 2017 to March 2021. (STATUS: Completed in March 2021). (**Kibabii University**).
7. **ANDREW MUNYASIA WANYONYI** (Thermodynamic Properties of Bismuth Cuprates Based on Hybrid s-Wave and d-Wave Singlet Model) from September 2017 to March 2021. (STATUS: Completed in March 2021). (**Kibabii University**).
8. **CHISIRA SAMWEL NAMAYI** (Thermodynamic Properties of a Microcanonical Ensemble of a Mixture of Helium-3 and Helium-4 isotopes with Duo-Fermion Spin Degeneracy) from September 2017 to March 2021. (STATUS: Completed in March 2021). (**Kibabii University**).
9. **WATILA M. JOHN** (Sustainable Hardware Power Quality Management Framework for Enhancing Energy Efficiency Practices in Green ICT Centers) from September 2014 to November 2019. (STATUS: Completed in November 2019). (**Kibabii University**).

POSTGRADUATE STUDENTS SUPERVISIONSAFTER PROMOTION TO LECTURER

MASTER OF SCIENCE

1. **KHAMALA GEOFFREY WANJALA** (Characterization of Atmospheric Aerosol Optical and Microphysical Properties via Ground and Satellite Based Spectroscopic Measurements over Kenya) from September 2016 to November 2018. (STATUS: Completed in November 2018). (**Kibabii University**).
2. **WAMALWA ABEL MUKUBWA** (Thermodynamic Properties of yttrium-based cuprate using Bogoliubov-Valatin Transformation) from September 2016 to November 2018. (STATUS: Completed in November 2018). (**Kibabii University**).
3. **SITUMA YONAH** (EDXRF Spectroscopic Elemental Analysis for Efficacy of Kibabii University Sewerage Treatment System) from September 2016 to November 2018. (STATUS: Completed in November 2018). (**Kibabii University**).

POSTGRADUATE STUDENTS THESIS EXAMINATION AFTER PROMOTION TO SENIOR LECTURER

DOCTOR OF PHILOSOPHY THESIS EXAMINATION

1. **JOHN SIRENGO** (Estimation of Multiple Traits in an M-Stage Group Testing Model). (**INTERNAL EXAMINER OF A DOCTOR OF PHILOSOPHY DEGREE THESIS IN STATISTICS OF KIBABII UNIVERSITY, OCTOBER 2020**).

MASTER OF SCIENCE THESIS EXAMINATION

1. **SARAH OMARI** (Solving Generalized Boussinesq Coupled Equations using Lie Symmetry). (**INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE IN APPLIED MATHEMATICS THESIS OF KIBABII UNIVERSITY, FEBRUARY 2021**).

POSTGRADUATE STUDENTS THESIS EXAMINATION AFTER PROMOTION TO LECTURER

MASTER OF SCIENCE THESIS EXAMINATION

1. **MBIYE ENOS ADIDWA** (Effect of Heat Transport on the Transition Temperature of Mercury Doped Cuprate Superconductors). (**INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, OCTOBER 2018**).
2. **VINCENT ODHIAMBO OKETCH** (An ab initio Study of the Physical Properties of Beryllium Chalcogenides). (**INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, OCTOBER 2018**).
3. **LUSAMAMBA SIMON MWATULO** (Thermodynamic Properties of A Grand Canonical Ensemble of Helium Isotopes With Duo-Fermion Spin Degeneracy). (**INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, NOVEMBER 2017**).

RESPONSIBILITIES AND DUTIES OUTSIDE THE UNIVERSITY

RESPONSIBILITIES AND DUTIES OUTSIDE THE UNIVERSITY AFTER PROMOTION TO SENIOR LECTURER

1. Invited for a Workshop for the Development of Scope and Sequence Charts for Senior Secondary for Physics Panel (Grades 10 to 12) at Kenya Institute of Curriculum Development (KICD), Nairobi (Appointed by Director/Chief

Executive Officer, Kenya Institute of Curriculum Development from 13th to 25th February 2020).

2. Appointed as a Physics Panel member for Senior School (Grades 10 to 12) on the Competence Based Curriculum (CBC) at Kenya Institute of Curriculum Development (KICD) (Appointed by Director/Chief Executive Officer, Kenya Institute of Curriculum Development on 11th December 2019).

RESPONSIBILITIES AND DUTIES OUTSIDE THE UNIVERSITY BEFORE PROMOTION TO LECTURER/ASSISTANT LECTURER

1. Appointed as a Polling/Counting Clerk, Westlands constituency by the electoral commission of Kenya (ECK) on 27th December 2007.

RESPONSIBILITIES AND DUTIES AT THE UNIVERSITY

RESPONSIBILITIES AND DUTIES AT THE UNIVERSITY AFTER PROMOTION TO SENIOR LECTURER

1. Appointed as an Internal Examiner to moderate results for 1st year (2020/2021, Semester 1 and 2) 2nd year, 3rd year and 4th year semester 1 Examinations, 2020/2021 academic year for the department of Mathematics in the Faculty of Science (Appointed by Ag. DVC AS&A on 24th August 2021).
2. Appointed as a chairperson of the long listing committee for lecturer/research fellow (cooperative management) at Kibabii University (Appointed by Deputy Vice Chancellor (AFD) on 10th August 2021).
3. Appointed as a Member of Ad-hoc Committee tasked with the preparation of a proposal to construct the School of Medicine at Kibabii University (Appointed by Deputy Vice Chancellor (PPRI) on 21st July 2021).
4. Appointed to be in charge and perform Duties of Dean, School of Graduate Studies From 30th June 2021 to 13th July 2021. (Appointed by Dean School of Graduate Studies).
5. Interview by NTV on World Environment day: Environment and Ecosystem Restoration. Accessed on <https://www.youtube.com/watch?v=ADw-NYh4Xu8>
6. Appointed as an Internal Examiner to moderate results for 2nd year Examinations, 2019/2020 academic year for the department of Agriculture and Veterinary Sciences and Biological Sciences in the Faculty of Science (Appointed by Ag. DVC AS&A on 27th April 2021).
7. Appointed to perform the Duties of Dean, Faculty of Science From 26th April 2021 to 30th April 2021. (Appointed by the Vice Chancellor).

8. Appointed as a Member of Ad-hoc Committee tasked to develop and review two policies of Kibabii University i.e. quality assurance policy and external examination policy (Appointed by Deputy Vice Chancellor (ASA) on 18th March 2021).
9. Appointed as a Member of Ad-hoc Committee tasked with reviewing the Intellectual Property Rights Management Policy of Kibabii University (Appointed by Deputy Vice Chancellor (PPRI) on 3rd March 2021).
10. Appointed as a Member of the Linkages and International Affairs (LIA) Advisory Committee of Kibabii University (Appointed by Deputy Vice Chancellor (PPRI) on 27th January 2021).
11. Appointed to perform the Duties of Acting Deputy Vice Chancellor (Academic and Student Affairs) From Thursday 7th to Friday 8th January 2021. (Appointed by Ag. Deputy Vice Chancellor (ASA)).
12. Appointed as a Member of an Ad-Hoc Committee on Planning for Capital Projects and Acquisition of Assets of Kibabii University (Appointed by Deputy Vice Chancellor (PPRI) on 3rd December 2020).
13. Appointed as a Member of an Ad-Hoc Committee to Explore Possibilities of Setting up a Technology and Innovation Support Centre (TISC) at Kibabii University (Appointed by Deputy Vice Chancellor (PPRI) on 23rd September 2020).
14. Appointed as the Chairperson of the FY 2020/2021 and 2021/2022 Tender Evaluation Committee of Kibabii University (Appointed by the Vice Chancellor effective 15th September 2020).
15. Appointed In-Charge of Office of the Director-Research, Consultancy and Extension (Appointed by the Vice Chancellor effective 10th August 2020 up to and including 18th September 2020).
16. Appointed as a member of Investigations Committee into the alleged theft in the University (Appointed by the Vice Chancellor effective 24th June 2020).
17. Appointed as a member of Part Time Teaching Management Committee (Appointed by the Vice Chancellor effective from 17th June 2020).
18. Interview by NTV on Environmental impacts of the Pan Paper Company. Accessed on <https://www.youtube.com/watch?v=236SQTlzt6w>
19. Interview by NTV on World Environment day: Kenya pledge to work towards attaining 10% forest cover. Accessed on <https://www.youtube.com/watch?v=F7ai-pr3sgo>
20. Appointed as a member of Kibabii University Board of Career Services (Appointed by the Vice Chancellor effective from 20th May 2020).

21. Appointed as a Chairperson of the Ad-Hoc Evaluation Committee for Online Admission and Clearance System (Appointed by Vice Chancellor on 18th May 2020)
 22. Appointed as a member of COVID-19 Planning and Response Committee (Appointed by the Vice Chancellor effective from 20th March 2020).
 23. Appointed as a Convener of the Ad-hoc committee on the report on the status of Laboratories. (Appointed by Dean FS on 12th March 2020).
 24. Appointed as a Convener of the Ad-hoc committee to investigate cases of examination irregularities committed in 2018/2019 academic year special/supplementary examinations and first semester, 2019/2020 academic year regular examinations. (Appointed by DVC (ASA) on 04th March 2020).
 25. Appointed as a member to develop/review KIBU human Resource Policies (Appointed by Ag. DVC AFD on 29th November 2019).
 26. Appointed as an Internal Examiner to moderate results for the 2018/2019 academic year 3rd year second semester Examinations (Appointed by DVC AS&A on 3rd October 2019).
 27. Appointed as the Chairman of department of Science Technology and Engineering, Kibabii University with effect from 31st October 2019 to 30th October 2022. (Appointed by Vice Chancellor on 31st October 2019).
- Main Achievement:** As a chair of department, I steered the department through the chemistry section to manufacture hand wash sanitizer (Approved by Kenya Bureau of Standards) and Liquid Soap Detergent to combat the COVID-19 pandemic.
28. Appointed as a member to an Ad-hoc committee to Investigate Fraud Involving Cheques Purported to be County Bursary Disbursements (Appointed by Vice Chancellor on 23rd May 2019).
 29. Appointed as the acting Chairman of department of Science Technology and Engineering, Kibabii University with effect from 1st March 2019 to 30th October 2019. (Appointed by Vice Chancellor on 1st March 2019).

RESPONSIBILITIES AND DUTIES AT THE UNIVERSITY AFTER PROMOTION TO LECTURER

1. Appointed as a member of Kibabii university Board of Directorate of Open, Distance and Electronic Learning (ODEL) Directorate (Appointed by the Vice Chancellor effective from 17th April 2018).

Main Achievement: As a member of the Board, We operationalized the directorate making it possible for the university to offer online learning particularly after face-to-face learning being disrupted by the COVID-19

<p>FUNDS ATTRACTED AND ANY OTHER ADDITIONAL INFORMATION</p>	<p>pandemic.</p> <ol style="list-style-type: none"> 2. Appointed as a member of the publicity sub-committee for the 3rd Kibabii University International Conference (Appointed by DVC PPRI effective from 20th February 2018). Main Achievement: As a member of the publicity sub-committee, we discharged our functions diligently for the success of the 3rd international conference at Kibabii University. 3. Appointed as a member of the steering sub-committee for the 3rd Kibabii University International Conference (Appointed by DVC PPRI effective from 20th February 2018). Main Achievement: As a member of the steering sub-committee, we discharged our functions diligently for the success of the 3rd international conference at Kibabii University. 4. Appointed as a member of Kibabii University Security Committee (Appointed by the Vice Chancellor effective from 24th November 2017). 5. Appointed as a member of the ad hoc committee of the University Research, Consultancy and Extension (RCE) to develop a memorandum of understanding with the national museum of Kenya (Appointed by DVC PPRI effective from 1st July 2017). 6. Faculty Examination and Time Tabling Co-ordinator (Faculty of Science, Kibabii University from 30th January 2017 to 30th June 2020). 7. Departmental Examination and Time Tabling Co-ordinator (Science Technology and Engineering, Kibabii University from 30th January 2017 to 6th February 2020). 8. Appointment as a programme leader for Bachelor of Science (Physics) (Department of Science, Technology and Engineering, Faculty of Science, Kibabii University from 11th October 2016 for three years). 9. Departmental Tours and Trips Co-ordinator (Department of Physical Sciences, University of Kabianga from January 2014 to March 2016). 10. The Acting Head of Department (Department of Physical Sciences, University of Kabianga from May to July 2015 and from September to October 2015 when the Substantive HOD was on official matters of the University. <p>SCHOLARSHIPS, AWARDS AND GRANTS</p> <p>SCHOLARSHIPS, AWARDS AND GRANTS RECEIVED AFTER PROMOTION TO SENIOR LECTURER</p> <p>SCHOLARSHIPS, AWARDS AND GRANTS RECEIVED AFTER PROMOTION TO</p>
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LECTURER

1. The Grant by the National Commission for Science, Technology and Innovation funded by the Government of Kenya (NACOSTI/RCD/ST&I/7TH call MSc/126) (One Hundred and eighty Thousands Shillings only). This Grant was to support John Watila my student for his MSc studies titled “**Intelligent Power Quality Improvement Framework for Green ICT Centres in Kenya Public Technical Training Colleges**”.
2. The Grant by the National Council for Science and Technology funded by the Government of Kenya (NCST/ST&I/RCD/4TH call PhD/201) (Seven Hundred Thousands Shillings only). This Grant was to support my PhD studies.
3. The University of Nairobi Scholarship to undertake a fulltime Master of Science degree in Applied Nuclear and Radiation Physics, Department of Physics (2007-2010).

PERSONAL INTERESTS

Love almost every kind of music. Enjoy all sports especially soccer, tennis and basketball. Love travelling and exploring different cultures

KEY COMPETENCIES & OFFERINGS

- Commitment to teaching and research
- Dedication to student success
- Student support
- Course and program development
- Public speaking
- Professional conduct
- Subject expertise
- Strategic planning
- Team leadership
- Passion for quality and excellence
- Good work ethics
- Results-oriented
- Innovativity
- Skills in computer programming language

REFFEREES

1. Prof. John. N. Muthama
Department of Meteorology
University of Nairobi
P.O. BOX 30197-00100
NAIROBI
Tel no. 0733-865-392
2. Prof. Francis. W. Nyongesa

Department of Physics
University of Nairobi
P.O. BOX 30197-00100
NAIROBI
Tel no. 0721-742-930

3. Prof. Dr.-Ing. Benedict M. Mutua, PhD, Rer. Nat.
Deputy Vice Chancellor (Planning, Partnership, Research and Innovations)
Kibabii University
P.O. BOX 1699-50200
BUNGOMA
Tel no. 0735-968-699