



Europass
Curriculum Vitae

Personal information

Surname(s) / First name(s) Dr. MAKOKHA John Wanjala
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E-mail(s) makokhajw@kibu.ac.ke;makokhajw@gmail.com
Nationality Kenyan
Date of birth 23/06/1982
Gender Male

Desired employment / Occupational field University Professor and a Researcher in Atmospheric Physics

Work experience

Dates 01/01/2019 To Date
Occupation or position held Senior Lecturer
Main activities and responsibilities

- 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 in Atmospheric Physics.

Name and address of employers Kibabii University
Dates 18/08/2014 31/12/2018
Occupation or position held Lecturer

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 and Atmospheric Physics using artificial intelligence techniques e.g. Artificial Neuron Networks and Support Vector Machines. • Supervising Postgraduate Students in Applied Nuclear and Atmospheric Physics.
Name and address of employers	Kibabii University (March 2016 to Date), 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. • 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 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
Education and training	
Dates	01/09/2012 - 02/12/2016

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)

Personal skills and competences

Mother tongue(s) Luhya

Other language(s)

Self-assessment European level (*)	Understanding				Speaking		Writing	
	Listening		Reading		Spoken interaction	Spoken production		
English	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

(*) [Common European Framework of Reference \(CEF\) level](http://europass.cedefop.europa.eu)

Social skills and competences Attended a career development seminar at personal development centre in May 2006, Nairobi.

Organisational skills and competences 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	Knowledge discovery and data mining using artificial intelligence techniques in Applied Nuclear and Radiation Physics.
Computer skills and competences	Microsoft professional and trainer. Linux system operator and administrator. Programmer in visual Basic C++ and MATrix LABORatory (MATLAB).

PUBLICATIONS

PUBLICATIONS IN REFERRED JOURNALS

1. 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>.
2. 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>.
3. 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>.
4. 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>.
5. 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.
6. 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](https://doi.org/10.11648/j.wjap.20180302.11).
7. 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
8. 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.
9. 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.
10. 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

11. 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
12. 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.
13. 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.
14. 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.
15. 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

1. 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).
2. 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.
3. 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.
4. Short Course on FTNIR Techniques by CHROM AFRICA, University of Kabianga on 25th April 2014.
5. Intellectual property rights workshop facilitated by KIPI, KEPHIS and KECOBO on 22nd and 23rd March 2012 at Kabianga University College.
6. 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. 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.

7. 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/EXAMINATIONS

POSTGRADUATE STUDENTS SUPERVISIONS

DOCTOR OF PHILOSOPHY

1. MWAI JOSPHAT KARANI (Integration of Social Media Technologies in Government Portals to Enable Social Transaction) from September 2016 to Date. (STATUS: On-going). (Kibabii University).

MASTER OF SCIENCE

1. 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).
2. WATILA M. JOHN (A framework for the management of sustainable hardware power quality practices for efficient greener ICT centers) from September 2014 to Date. (STATUS: On-going). (Kibabii University).
3. 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).
4. 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).
5. 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

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 AT THE UNIVERSITY

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).
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).
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).
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 Date)
7. Departmental Examination and Time Tabling Co-ordinator (Science Technology and Engineering, Kibabii University from 30th January 2017 to Date)
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).

ADDITIONAL INFORMATION

SCHOLARSHIPS AND AWARDS

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

REFFEREES

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