

## Europass Curriculum Vitae



<b>Personal information</b>	
First name(s) / Surname(s)	<b>Dr Michael Nakitare Waswa</b>
Address(es)	166, Kimilili-Kenya
Telephone(s)	Mobile: +254721688769; +254739901829
Fax(es)	
E-mail	<a href="mailto:mwaswa@kibu.ac.ke">mwaswa@kibu.ac.ke</a> ; <a href="mailto:michaelnakitare439@gmail.com">michaelnakitare439@gmail.com</a>
Nationality	Kenyan
Date of birth	22/08/1981
Gender	Male
<b>Desired employment / Occupational field</b>	<b>University Professor and Researcher in Physics</b>
Dates	<b>October, 2023-To Date</b>
Occupation or position held	<b>Senior Lecturer</b>
Main activities and responsibilities	<ul style="list-style-type: none"> <li>• Teaching Physics Units and conducting research</li> <li>• Supervising Postgraduate Students</li> </ul>
Name and address of employer	Kibabii University P.O BOX 1699-50200, Bungoma-Kenya
Type of business or sector	Higher Education
Dates	<b>December, 2019-To Date</b>
Occupation or position held	<b>Lecturer</b>
Main activities and responsibilities	<ul style="list-style-type: none"> <li>• Teaching Physics Units and conducting research</li> <li>• Supervising Postgraduate Students</li> </ul>
Name and address of employer	Kibabii University P.O BOX 1699-50200, Bungoma-Kenya
Type of business or sector	Higher Education
Dates	<b>February, 2019-November, 2019</b>
Occupation or position held	<b>Lecturer</b>
Main activities and responsibilities	<ul style="list-style-type: none"> <li>• Teaching Physics Units and conducting research</li> <li>• Supervising Postgraduate Students in Physics</li> </ul>
Name and address of employer	University of Kabianga, P.O BOX 2030-20200, Kericho-Kenya
Type of business or sector	Higher Education
Dates	<b>November, 2015-January, 2019</b>
Occupation or position held	<b>Tutorial Fellow</b>

Main activities and responsibilities Name and address of employer	Teaching Physics Units and conducting research in Condensed Matter Physics University of Kabianga, P.O BOX 2030-20200, Kericho-Kenya
Type of business or sector	Higher Education
Dates	<b>2013-2019</b>
Occupation or position held	<b>Part-time Lecturer</b>
Main activities and responsibilities	<ul style="list-style-type: none"> <li>Teaching undergraduate &amp; post graduate Physics Units and conducting research in Condensed Matter Physics</li> <li>Supervising Postgraduate Students in Condensed Matter Physics</li> </ul>
Name and address of employer	Kibabii University, P.o Box 1699-50200, Bungoma-Kenya
Type of business or sector	Higher Education
Dates	<b>2006-2015</b>
Occupation or position held	<b>Teacher and HOD (Physical Sciences)</b>
Main activities and responsibilities	Teaching (Physics & Chemistry), Patron Science and Engineering Fair
Name and address of employer	Teachers Service Commission, P.O BOX Private Bag, Nairobi-Kenya
Type of business or sector	Secondary Education
<b>Education and Training</b>	
Dates	<b>2015-2018</b>
Title of qualification awarded	<b>Doctor of Philosophy in Physics</b>
Principal subjects/occupational skills covered	PhD Thesis Research titled ' <b>Thermodynamic Phase Transition in High Temperature Cuprate Superconductors within the Bose-Fermi-Hubbard Model</b> '
Name and type of organisation providing education and training	Masinde Muliro University of science and Technology 190-50100, Kakamega
Dates	<b>2010-2013</b>
Title of qualification awarded	<b>Master of Science in Physics</b>
Principal subjects/occupational skills covered	Masters Thesis Research titled ' <b>Effect of <i>Aspergillus niger</i> on Mechanical, Diffusion and Thermal Properties of High Density Polyethylene/ Cellulose Blend</b> '
Name and type of organisation providing education and training	Kenyatta University 43844-00100, Nairobi-Kenya
Dates	<b>2001-2005</b>
Title of qualification awarded	<b>Bachelor of Education Science; B.Ed (Science)</b>
Principal subjects/occupational skills covered	Physics and Chemistry
Name and type of organisation providing education and training	Moi University 3900, Eldoret
Level in national classification	Bachelors Degree (Second class Honors, Upper Division)
Dates	<b>1996-1999</b>
Title of qualification awarded	<b>Kenya Certificate of Secondary Education (KCSE)</b>
Principal subjects/occupational Covered	Mathematics, English, Kiswahili, Physics, Chemistry, Biology, Geography, History and Accounting.
Name and type of organisation providing education and training	St Mary's Kibabii Boys High School 85-50200, Bungoma, Kenya
Level in national classification	B+ (Plus)

<p>Dates</p> <p>Title of qualification awarded</p> <p>Name and type of organisation providing education and training</p> <p>Level in national classification</p> <p><b>Personal skills and competences</b></p> <p>Mother tongue(s)</p> <p>Other language(s)</p> <p>Computer skills and competences</p> <p>Driving licence</p> <p><b>Additional information</b></p>	<p><b>1988-1995</b></p> <p><b>Kenya Certificate of Primary Education (KCPE)</b></p> <p>Nakalira R.C Primary School</p> <p>89, Kamukuywa</p> <p>Attained 538 Marks Out of the Possible 700</p> <p>Bukusu</p> <p>Fluent in English and Kiswahili</p> <p>Competent in: Ms Word, Excel, Access, PowerPoint &amp; Internet</p> <p>Covers BCE type of vehicles</p> <p><b>Publications in Refereed Journals after Promotion as a Senior Lecturer</b></p> <ol style="list-style-type: none"> <li>1. Wanyam, C.K., <b>Waswa, M.N.</b> and Mugambi, J.L. (2026) Assessment of Radiological Risks, Radiogenic Heat and Natural Radioactivity in Kamukuywa River Sediments in Mt. Elgon Bungoma County, Kenya. <i>Open Access Library Journal</i>, 13: e15037. <a href="https://doi.org/10.4236/oalib.1115037">https://doi.org/10.4236/oalib.1115037</a></li> <li>2. <b>Waswa, M.N.</b>, Juma, M.W. and Mukhekhe, S.M. (2026) Localized Surface Plasmon Resonance, SERS, and Density of State Characterization of Phenols for Waste water Remediation. <i>Open Access Library Journal</i>, 13: e14876. <a href="https://doi.org/10.4236/oalib.1114876">https://doi.org/10.4236/oalib.1114876</a></li> <li>3. Musawa, E.W., <b>Waswa, M.N.</b> and Nalianya, K.M. (2026) Investigating Effects of Direction of Sampling on the Tensile Properties of Cows Leather Treated with Sulphonated Synthetic Fatliquor of Different Concentrations. <i>Open Access Library Journal</i>, 13: e14323. <a href="https://doi.org/10.4236/oalib.1114323">https://doi.org/10.4236/oalib.1114323</a></li> <li>4. Wanyama, M.K., <b>Waswa, M.N.</b>, Wanjala F.O., and Hashim, N.O. (2026) Radiological Assessment Due to Natural Radioactivity in Rocks and Associated Health Impacts in Chetambe Hills, Kenya. <i>Open Access Library Journal</i>, 13: e14863. <a href="https://doi.org/10.4236/oalib.1114863">https://doi.org/10.4236/oalib.1114863</a></li> <li>5. Abner Ainea Wamocho, <b>Michael Nakitare Waswa</b>, Horace Kibe, (2026). Thermodynamics of Many Body Interactions in Optical Lattices. <i>Journal of Multidisciplinary Engineering Science and Technology (JMEST)</i>ISSN: 2458-9403; Vol. 13 Issue 2, February - 2026</li> </ol>
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**Additional  
information**

6. **Michael Nakitare Waswa** & Kere Mukanda Wanyama (2025). Assessment of Natural Radionuclides and Their Associated Radiogenic Heat Production in Soils of Ahero Fields, Kisumu County, Kenya. *IRES PUB Journal of Natural & Applied Sciences*. Volume: 3 | Issue: 3 | NOV - DEC 2025 | Available Online: [www.irespub.comhttps://doi.org/10.62179/irespub-jnas.v3i3.1](http://www.irespub.comhttps://doi.org/10.62179/irespub-jnas.v3i3.1)
7. Mukhekhe SM, Juma MW, **Waswa MN**, Situma SW, Ngounou ELT (2025). A DFT Calculation Study of the Interaction between Silver and Phenols Towards Water Treatment. *JWWT* 2025, Oct., 4(1):131. **DOI: 10.31021/JWT20254131**
8. Abner Ainea Wamocha, Horace Kibe, **Michael Nakitare Waswa** (2025). A Study of Cold Atoms In Optical Lattices Using The Bose-Hubbard Model With Local Three-Body Interactions. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*ISSN: 2458-9403; Vol. 12 Issue 8, August - 2025
9. *Musawa, E.W., Waswa, M.N., Nalyanya, K.M. and Kilee, T.(2025) Investigating Effects of Lisuline Cufb Concentration on the Tensile Properties of Leather. Open Access Library Journal, 12:e13601. https://doi.org/10.4236/oalib.1113601*
10. Oduor Churchil Wanyera., Kibe, Horace & **Waswa, Michael Nakitare** (2025): Pressure effects on Energy of H<sub>3</sub>S and LaH<sub>10</sub> Superconductor due to Collective Excitation of cooper Pairs. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*; Vol. 12 Issue 3, March – 2025, ISSN: 2458-9403. <https://www.jmest.org/wp-content/uploads/JMESTN42354504.pdf>
11. Horace Kibe, **Michael Nakitare Waswa**, Godwin Wabuyi (2025). Crystal Structure And Mechanism of Superconductivity In Cerium Based Heavy Fermions. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*; Vol. 12 Issue 2-February-2025, ISSN: 2458-9403
12. **Waswa, M. N.**, Wanyama, M. K., (2025). Radiogenic Heat Production in Selected River Sediments of Bungoma Country, Kenya. *IRES PUB Journal of Environmental & Material Sciences*, 4(1), 1-7. <https://doi.org/10.62179/irespub-jems.v4i1.1>

13. Debora Nameme, George S. Manyali, **Michael Nakitare Waswa** and Job W. Wafula (2024). First-principles calculations to investigate the bulk, electronic, optical and thermoelectric properties of BaGe<sub>2</sub>As<sub>2</sub> and BaGe<sub>2</sub>P<sub>2</sub> alloys. *Results in Materials* 24(2024), 100635. <https://doi.org/10.1016/j.rinma.2024.100635>
14. Mukanda, Kere Wanyama., **Micahael Nakitare Waswa**,., & Felix Omonya. (2024). Assessment of Radiogenic Heat Production Due To 238U, 232Th and 40K In Surface Soils of Ortum Region, West Pokot County, Kenya. *IRESPUB Journal of Environmental & Material Sciences*, 3(4), 11-18.
15. Edwin Chemos Natang'ah, **Michael Nakitare Waswa**, Peter Nyongesa Khakina and Horace Eyinda Kibe (2024). A Comparative Study of Natural Radioactivity and Associated Radiological Hazards of Imported Sanitary Ware Products Sold in Kenya. *IRESPUB Journal of Environmental & Material Sciences*, 3(2), 1-9.
16. Mukanda, K. W., **Waswa, M. N.**, & Ouma, L. (2023). Monitoring of Annual Effective Dose in Surface Soils of Ahero Rice Fields, Kenya. *ITEGAM-JETIA*, 9(44), 4-8.

#### **Publications in Refereed Journals after Promotion as a Lecturer**

17. Barasa Ezekiel Simiyu. **Waswa, Michael Nakitare** & Ouma Linda. (2023): Activity Concentration and Associated Radiation Dose in Machinjoni Dumpsite in Trans-Nzoia County, Kenya. *International Journal of Novel Research & Developments in Engineering and Science*, 8(9), 491-496
18. Oduor Churchil Wanyera., **Waswa, Michael Nakitare** & Kibe, Horace. (2023): Thermodynamic Properties of Pressurized LaH<sub>10</sub> Superconductor due to Collective Excitation of cooper Pairs. *International Journal of Novel Research & Developments in Engineering and Science*, 8(8), 880-888
19. Mukanda, K. W., **Waswa, M. N.**, & Ouma, L. (2023). Assessment of Natural Radionuclides in the Top Soil Sample of Ahero Fields, Kenya. *International Journal of Modern Developments in Engineering and Science*, 2(5), 22-25.
20. Mukanda, K. W., **Waswa, M. N.**, & Ouma, L. (2022). Radiological risk assessment of 238U, 232TH and 40K in the top soils of ahero paddy fields of Kisumu county, Kenya. *ITEGAM-JETIA*, 8(36), 32-36.
21. John Simiyu Nalianya; **Michael Nakitare Waswa**; Francis Maingi Conrad Khisa Wanyama (2022). Assessment of Radiation Dose Levels in Tiles Used for Decoration in Bungoma County, Kenya. *International Journal of Research and Scientific Innovation (IJRSI) |Volume IX, Issue III, March 2022|ISSN 2321-2705*.
22. John Simiyu Nalianya; **Michael Nakitare Waswa**; Francis Maingi Conrad Khisa Wanyama (2022). Radiological measurement of hazardous levels in construction tiles in bungoma county, kenya. *Journal of Engineering and Technology for Industrial Applications (ITEGAM-JETIA)*, 8(33), Jan/Feb, 2022; 40-43.

23. Lazarus Sindani; **Michael Nakitare Waswa**; Francis Maingi Conrad Khisa Wanyama (2022). Measurement of radiological parameters in harvested sand in bungoma county rivers, kenya. *Journal of Engineering and Technology for Industrial Applications (ITEGAM-JETIA)*, 8(33), Jan/Feb, 2022; 21-25.
24. Lazarus Sindani; **Michael Nakitare Waswa**; Francis Maingi Conrad Khisa Wanyama (2022). Determination of Hazardous Levels for Harvested Construction Sand in Selected Rivers of Bungoma County, Kenya. *Global Scientific Journals, GSJ: Volume 10, Issue 2, February 2022; ISSN 2320-9186, PP 2083-2090.*
25. Jasper Sifuna Wabomba, **Michael Nakitare Waswa**, Peter Khakina, Conrad Khisa Wanyama (2022). Natural radioactivity levels in agricultural soils in transNzoia county, Kenya. *IRES PUB Journal of Environmental & Material Sciences. Volume: 2 | Issue: 1 | JAN - FEB 2022, PP 11-17.*
26. Wabuyi G.P., **Waswa, M.N.**, & Kibe H. (2022). Electron-Hole Pairing of Excitonic-Type in Heavy Fermion System. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*, 9(1), January 2022; 15073-15077.
27. Simon Mwatulo Lusamamba; **Michael Waswa Nakitare**, and Thomas Welikhe Sakwa (2021). Spin-Mediated Energy of Cuprate Superconductors. *IOSR Journal of Applied Physics (IOSR-JAP). Volume 13, Issue 3 Ser. II (May – June. 2021), PP 10-14*
28. Simon Mwatulo Lusamamba; **Michael Waswa Nakitare**, and Thomas Welikhe Sakwa (2021). The Specific Heat of Spin-Fluctuated Cuprate superconductors with Strong Electronic-Phonon Correlations. *IOSR Journal of Applied Physics (IOSR-JAP). Volume 13, Issue 3 Ser. II (May – June. 2021), PP 15-19*
29. **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, Vol.2, No.6, June 2021.*
30. 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 Gold Mine, Kakamega County, Kenya. *Journal of Engineering and Technology for Industrial Applications (ITEGAM-JETIA)*, 6(26), Nov/Dec, 2020; 73-77
31. Wanyonyi, A. M., **Waswa, M.N.**, & 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 Science (IJRIAS) | Volume V, Issue VII, July 2020|ISSN 2454-6194*

32. Wanyonyi, A. M., **Waswa, M.N.**, & 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)*, 7(6), June 2020; 12127-12130.
33. **Waswa, M.N** and Kibe H. E. (2019). Sommerfeld Coefficient for Hole- And Electron-Doped Cuprates. *International Journal of Research and Innovation in Applied Science (IJRIAS) | Volume IV, Issue VIII, August 2019|ISSN 2454-6194*
34. Kibe, H.E and **Waswa, M.N** (2019). S-wave Superconducting Model within the Finite Coulomb Regime in Cerium and Uranium Based Heavy Fermion Compounds. *International journal of Innovative Science, Engineering & Technology*, 6(8): 53-57
35. Sangura, M.T and **Waswa, M.N** (2019). Gamma ray Spectrometric determination and multivariate analysis of radionuclide fluxes in shore sediment at port victoria-Kenya. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*, 6(1), 9433-9438.

#### Book Chapter

36. John W. Makokha and **Michael N. Waswa** (2021). *Climate Change & Agriculture: 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*. AkiNik Publications; New Delhi; 15-29.

#### Publications in Refereed Journals before Promotion as a Lecturer

37. **Waswa, M.N.**, Ayodo, Y.K., Sakwa, T.W, Ndinya, B., and Kibe, H. (2017). Doped Mott Insulators within the Strong Coupling Regime. *International Journal of Recent Engineering Research and Development (IJRERD)*, 2(7), 01-07.
38. **Waswa, M.N.**, Ayodo, Y.K., Sakwa, T.W., and Ndinya, B. (2017). Specific Heat of Doped High- $T_c$  Cuprate Superconductors within the Bose-Fermi-Hubbard Model. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*, 4(2), 7020-7025.
39. **Waswa, M.N** and Merenga, A.S (2014) "Effect of Inoculation on Storage and Loss Moduli of High Density Polyethylene/Cellulose Blend" *International journal of Applied Science and Engineering Research*, 3(2): 464-472.
40. Riara, M.M and **Waswa, M.N** (2014) "Creep Analysis Characterization and Study of Biodegradation Effect on Compression Molded LDPE/Cellulose Composites" *International journal of polymer and composites*, 3(1): 37-45.
41. **Waswa, M.N**, Abdallah S. Merenga, Charles M. Migwi (2014) "Thermal and Diffusion Characterization of High Density Polyethylene/Cellulose Blend Inoculated with *Aspergillus niger* Fungus" *International journal of Science and Technology*, 3(6): 320-327.
42. **Waswa, M.N.**, Boiyo, R.K. & Riara, M.M. (2013) "Characterization and Study of Biodegradation Effect on the Creep Behavior of High Density Polyethylene/Cellulose Blend" *International Journal of Biotechnology and Biochemistry*, 9(1): 115-126.

### **Conferences and workshops attended after Promotion to Senior Lecturer**

1. Attended a postgraduate supervision seminar Training held on 28<sup>th</sup> February, 2025 Facilitated by NLA University College, Bergen-Norway at Kibabii University
1. Attended a Quality Assurance and Competency Based Curriculum Training held on 22<sup>nd</sup> to 24<sup>th</sup> May, 2024 Facilitated by Kenya Universities Quality Assurance Network (KuQAn) at Kibabii University.
2. Seminar on postgraduate Supervision held at Kibabii University on 5<sup>th</sup> may, 2023
3. Second Bomet University International Conference 2022 held on 29<sup>th</sup> and 30<sup>th</sup> November, 2022
4. Participated as an event Planner and Organiser of the Biophysical Society Conference on Computational Physics: Nearness to Realia and Chapter Establishment held at Kibabii University on 4<sup>th</sup> October, 2022.

### **Conferences and workshops attended before Promotion to Lecturer**

1. Postgraduate conference on research findings organised by the Directorate of Postgraduate Studies of Masinde Muliro University of Science & Technology held on 4<sup>th</sup>-7<sup>th</sup> December 2018
2. Short course on Laboratory Safety and Management held on 14<sup>th</sup>-16<sup>th</sup> August 2018 in the Department of Physical Sciences, University of Kabianga.
3. The First Biophysical Society (BPS) Conference on Harnessing Scholarly Biophysical potential in Africa held at Masinde Muliro University of Science & Technology on 6<sup>th</sup> July 2018.
4. Stakeholder's Workshop for Curriculum Development, Review and Implementation for the Bachelor of Science, the Bachelor of Science Applied Physics, Master of Science Physics and Doctor of Philosophy Physics organised by the School of Science & Technology of University of Kabianga at the Tea Research Institute-Kericho on 9<sup>th</sup>-12<sup>th</sup> February, 2016.
5. Postgraduate conference on research findings organised by the School of Graduate Studies of Kenyatta University held on 12<sup>th</sup>-13<sup>th</sup> December 2013.

### **Postgraduate Students Supervisions**

#### **Doctor of Philosophy**

1. Simon Mwatulo Lusamamba-PhD/PHY/005/18. (Modified Hubbard-Holstein Model for Cuprate Superconductors using BVT Formalism). (STATUS: **Graduated in March, 2022**). (Kibabii University).
2. Shikali Collins- PhD/PHY/001/20. First Principles Study of Elastic, Thermal & Electronic Properties of Cesium Compounds (STATUS: **On-Going**). (Kibabii University).

#### **Masters of Science**

##### **As Senior Lecturer**

1. **Musawa Edwin Wanjala- MSC/PHY/002/22.** Investigating Effects of Lisuline CUFB Concentrations on the Mechanical Properties of Leather. (STATUS: **Graduated in November, 2025**). (Kibabii University).
2. **Abner Ainea Wamocha.** (STATUS: **Graduated in November, 2025**). (Kibabii University).
3. **Nameme Debora- MSC/PHY/010/21.** First Principles Study of the Bulk Properties of BaGe<sub>2</sub>As<sub>2</sub> and BaGe<sub>2</sub>P<sub>2</sub>. (STATUS: **Graduated in December, 2024**). (Kibabii University).
4. **Edwin Chemos Natang'ah- MSC/PHY/001/21.** A Comparative Study of the Natural Radioactivity and Associated Radiological Hazard in Sanitary Ware Products Commercially Sold in Kenya (STATUS: **Graduated in December, 2024**). (Kibabii University).

5. **Wabomba Jasper Sifuna- MSC/PHY/006/13** (Assessment of Radiation Levels and their Hazards in Agricultural and Fallow Soils in Trans-Nzoia County, Kenya. (STATUS: **Graduated in December, 2023**). (Kibabii University).
6. **Wanyama Kere Mukanda- MSC/PHY/006/20**. A Radiological Risk Assessment of  $^{238}\text{U}$ ,  $^{232}\text{Th}$  and  $^{40}\text{K}$  in the top soils of Ahero paddy fields of Kisumu County, Kenya. (STATUS: **Graduated in December, 2023**). (Kibabii University).
7. **Churchil Wanyera Oduor- MSC/PHY/005/20**. Thermodynamic Properties of Pressurized Hydride Superconductors due to Collective Excitation of Cooper Pairs. (STATUS: **Graduated in December, 2023**). (Kibabii University).
8. **Barasa Simiyu Ezekiel- MSC/PHY/001/20**. (STATUS: **Graduated in December, 2023**). (Kibabii University).

#### **As Lecturer**

9. Andrew Munyasia Wanyonyi-**MSC/PHY/009/17** (Thermodynamic properties of Bismuth as a Superconducting Material with S-Wave and D-Wave Singlet Combination). (STATUS: **Graduated in March, 2021**). (Kibabii University).
10. Wabuyi Godwin Posta-**MSC/PHY/003/18** (Thermodynamic phase transition of a singlet superconducting electron-hole pairing of excitonic type in heavy fermion system). (STATUS: **Graduated in March, 2022**). (Kibabii University).
11. John Simiyu Nalianya- **MSC/PHY/003/13** Comparative Study of Radiological Hazard Parameters of Selected Local and Imported Tiles in the Kenyan Market. (STATUS: **Graduated in March, 2022**). (Kibabii University).
12. Sindani Lazarus- **MSC/PHY/003/19**. Assessment of Natural Radioactivity Levels in Construction Sand from Selected Rivers of Bungoma County, Kenya (STATUS: **Graduated in March, 2023**). (Kibabii University).
13. **Tendet Kalexander Laban- MSC/PHY/002/20**. First Principles Study of Mechanical Stability and Opto electronic Properties of  $\text{Cs}_2\text{ScAgX}_6$  for solar cell applications. (STATUS: **On-going**). (Kibabii University)
14. **Bosibori Omayo Naom- MSC/PHY/002/19**. A Radiological Survey of Radon-222 Concentration Levels in Bottled Drinking Water in Selected Brands in Western Kenya. (STATUS: **On-going**). (Kibabii University).

#### **POSTGRADUATE STUDENTS THESIS EXAMINATION**

##### **Doctor of Philosophy**

1. **GEOFFREY WANJALA KHAMALA; PhD/PHY/004/18**; Assessment of Aerosol Total, Absorptive, Scattering and Radiative Characteristics over East Africa from Model and Spectroscopic-Based Measurements. (**INTERNAL EXAMINER OF A DOCTOR OF PHILOSOPHY DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, JANUARY 2023**)
2. **ABEL MUKUBWA WAMALWA; PHD/PHY/001/18**. Thermodynamic, Transport & Magnetic Properties of a Plasmon-Mediated Boson-Fermion Pair Condensate in Cuprate & Iron-Based Superconductors. (**INTERNAL EXAMINER OF A DOCTOR OF PHILOSOPHY DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, JANUARY 2022**)

##### **Masters of Science**

###### **As Senior Lecturer**

1. **TSIMBASI STANLEY CHIKUTSIRA; MSc/PHY/001/22**. Radiological assessment of maize & beans locally grown within bungoma county, Kenya. (**INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, August 2025**)
2. **MAKOKHA SOSTINE NYUKURI; MSC/PHY/005/19** Assessment of Physical &

Radiative Properties of Clouds over the Three Distinct Regions in Kenya  
**(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, August 2025)**

3. **KUTOTO JACOB WELAMONDI; MSC/PHY/012/21.** Long-Term MERRA-2 Characterization of Black Carbon's Surface Mass Concentration and its Impact to Climate Change over East Africa **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, August 2025)**
  4. **KHALWALE GEOFFREY MATEKEYO; MSC/PHY/008/21.** Theoretical prediction of bulk properties of  $Ba_2BiInO_6$  compound for optoelectric applications **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, August 2025)**
  5. **ABOK FAITH ATIENO; MSC/PHY/004/18.** Model-Derived Characterization of Particulate Matter (PM<sub>2.5</sub>) and its Components over Kenya during 1980-2020. **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, August 2024)**
  6. **KASUKU STEPHEN MULAGO; MSc/PHY/004/19.** Aerosol-Cloud-Precipitation Interactions over Selected Towns in Kenya: Environmental Impact & Climate Change. **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, August 2024)**
  7. **SIMIYU SIMON MAGERO; MSC/CH/001/19.** Statistical Optimization of Organic Fertilizer Production from Animal Waste. **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, August 2024)**
  8. **MATIANYI PETER MUTAMA; MSc/PHY/007/19.** A Comparative Study of the Effects of Covid-19 Lockdown on Air Quality and Aerosol Optical Properties over Kenya. **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, JUNE 2024)**
  9. **LILIAN MUTORO; MED/CIT/003/20.** Utilization of Laboratory Facilities in Learning Electricity and their Influence on Learners Achievement in Physics Practical in Secondary Schools of Trans-Nzoia County. **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, JUNE 2024)**
- As Lecturer**
10. **BUTIKI WANGILA GEORGE; MSc/PHY/007/17.** A Radiological Survey of Radon-222 Levels in Underground Water Sources from Selected Granitic Dominated Regions of Bungoma County. **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, JANUARY 2022)**
  11. **WAFULA JOB WABWILE; MSc/PHY/001/2017** (Elasticity of Titanium-Based Shape Memory Alloy at High Pressure and Temperature). **(INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, OCTOBER 2020).**

12. **CHISIRA SAMWEL NAMAYI; MSc/PHY/008/17** (Thermodynamic properties of a Micro-Canonical Ensemble of a Mixture of  $^3\text{He}$  and  $^4\text{He}$  Isotopes with Duo-Fermion Spin Degeneracy). (**INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, OCTOBER 2020**).
13. **CONRAD KHISA WANYAMA; MSc/PHY/004/17** (Assessment of Hazardous Radioactivity Levels in Tailings from Rosterman Gold Mine; Western Kenya). (**INTERNAL EXAMINER OF A MASTER OF SCIENCE DEGREE THESIS IN PHYSICS OF KIBABII UNIVERSITY, OCTOBER 2020**).

### **Responsibilities and Duties at The University**

1. Appointed as the chairperson, department of Science, Technology and Engineering from 12<sup>th</sup> May, 2025 to 11<sup>th</sup> May 2028.
2. Appointed as the acting chairperson, department of Science, Technology and Engineering from 6<sup>th</sup> January, 2025 to 30<sup>th</sup> April 2025.
3. Appointed as the acting chairperson, department of Science, Technology and Engineering from 1<sup>st</sup> July, 2024 to 30<sup>th</sup> September 2024.
4. Appointed to perform the duties of the Office of the Chair (Science, Technology and Engineering) from Monday 22<sup>nd</sup> April 2024 to Monday 6<sup>th</sup> May 2024.
5. Renewal of Appointment as the departmental time tabling and Examination coordinator with effect from 1<sup>st</sup> July, 2024 to 30<sup>th</sup> June, 2026
6. Appointed as the In-Charge of the Office of the Chair (Science, Technology and Engineering) from Tuesday 18<sup>th</sup> July 2023 to Monday 14<sup>th</sup> August 2023.
7. Renewal of Appointment as the departmental time tabling and Examination coordinator with effect from 1<sup>st</sup> August, 2022 to 31<sup>st</sup> July, 2024
8. Appointed as the Internal Examiner to Externalize 1<sup>st</sup> & 2<sup>nd</sup> Years (Semester 1 and 2) Results for the Department of Science, Technology & Engineering for 2021/2022 Academic Year-June 2022
9. Appointed as the Internal Examiner to Externalize 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> (Semester 2, 2020-2021) and Postgraduate (Semester 1, 2021-2022) Results & Draft Exams (Semester 1, 2021-2022) for the Department of Science, Technology & Engineering-December, 2021
10. Appointed as the Internal Examiner to Externalize 1<sup>st</sup> Years (Semester 1 and Two) 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> (Semester 1) and Postgraduate Results for the Department of Science, Technology & Engineering for 2020/2021 Academic Year-August 2021
11. . Appointed as the member of the Ad hoc Committee to review the curriculum Development Policy, Mentorship Policy and develop the Academic Regalia Policy-March, 2021

12. Appointed as the acting CoD (Science, Technology and Engineering) from Monday 6th July 2020 to Friday 7th August 2020.
13. Appointed as the departmental time tabling and Examination coordinator with effect from 1st August, 2020 to 31st July, 2022
14. Appointed as the departmental time tabling and Examination coordinator with effect from 6th January, 2020
15. Appointed as the departmental industrial attachment coordinator with effect from 7th January, 2019 (University of Kabianga).
16. Appointed as the departmental First Year student advisor (1st September, 2016-30th August, 2017) (University of Kabianga).

#### **SCHOLARSHIPS, AWARDS, AND GRANTS RECEIVED AFTER PROMOTION TO SENIOR LECTURER**

1. UNESCO-TWAS call-USD 44,000.00; Grant No: 3240343471; Grant proposal titled 'Machine Learning Enabled Cross Reactive Plasmonic and Spectroscopic Sensing of Selected Contaminants in Drinking Water.

#### **Staff Performance Appraisal Report**

1. Overall Staff Performance report for the period 1st July, 2021 to 30th June, 2022 was Very Good.
2. Overall Staff Performance report for the period 1st July, 2020 to 30th June, 2021 was Very Good.

#### **Professional Memberships**

1. Material Research Society of Kenya
2. Physics Society of Kenya

#### **Community Service**

1. Judge at the 60th National Kenya Science & Engineering Fair held at Garissa High School, on 30th March-5th April, 2026
2. Judge at the 60th National Kenya Science & Engineering Fair held at Mbiruri School, Embu on 6th -12th April, 2025
3. Judge at the 60th National Kenya Science & Engineering Fair held at Moi Girls High School, Nairobi on 6th -12th April, 2024
4. Appointed as the Board Member on the Board of Management of St. Peters Boys' Nakalira with effect from 26th April, 2022.

#### **REFEREES**

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