

## CURRICULUM VITAE FOR DR. PETER WAITHAKA NJORGE

### Personal Information



**Name** : Peter Waithaka Njoroge  
**Nationality** : Kenyan  
**Gender** : Male  
**Languages** : Fluent in written and Spoken English, good and command of Kiswahili  
**ADDRESS** : 75-10200 Murang'a  
**TEL** : +254 (0)722651673.  
**EMAIL** : [ptrwaithaka10@gmail.com](mailto:ptrwaithaka10@gmail.com) or [pwaithaka@mut.ac.ke](mailto:pwaithaka@mut.ac.ke)  
**ORCID No.** : <https://orcid.org/0000-0002-0040-246X>

### Research Interests:

My research interests lie at the intersection of inorganic chemistry and materials science, with a focus on the design, synthesis, and characterization of novel inorganic materials for applications in energy storage, catalysis, and environmental remediation. I am particularly interested in the development of functional nanomaterials, coordination compounds, and metal-organic frameworks (MOFs) with tunable properties. My work seeks to address global challenges by advancing sustainable material technologies, promoting green chemistry approaches, and exploring the structure–property relationships that govern material performance. I am also keen on interdisciplinary collaborations that bridge chemistry, physics, and engineering to innovate in areas such as photo-catalysis, battery materials, and water purification systems.

### EDUCATIONAL BACKGROUND

#### Post Graduate Studies

August 2010 to 2014: Kenyatta University

Doctor of philosophy in chemistry (Inorganic chemistry December 2014)

2003 - 2008: Kenyatta University

Masters of Science in Chemistry

**Under Graduate Studies**

1992- 1996: Kenyatta University  
Bachelor of Education (Science) Chemistry and Mathematics  
(Second Class Upper Division)

**O - Level Education**

1987 – 1990: Kigumo Boys High School  
Kenya Certificate of Secondary Education (Grade B Minus)

**Primary Education**

1978 -1986: Mairi Primary School  
Kenya Certificate of Primary Education

**Other Courses**

All the six courses attended

1. 2012: Jomo Kenyatta University of Agriculture and Technology  
Certificate in Environmental Impact Assessment and Environmental Audit
2. KASNEB Accounting section I
3. 1996: Computer systems and applications.

**Employment History****Murang'a University of Technology**

2020 Sept to Date	Director Research Innovation and Consultancy
2018 Sept to 2019	CoD Physical and Biological Sciences
2016 Oct to Sept 2018:	CoD Applied science
2015 to Date:	Lecturer (Inorganic chemistry)
2015 March to October:	Kirinyaga University College Lecturer (Inorganic chemistry)
2011 to 2015:	Part – time lecturer (Embu University College and Kenyatta University)

**Thika Technical Training institute:**

2010 to 2015	Teaching Chemistry
2011 to 2015	Head research section
2013 to 2015	Departmental QASO

**Murang'a High School**

2008- October 2010:	(Dean of Studies)
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2005– October 2010:	Teaching Chemistry and Mathematics.
2009: KNBS	Senior Supervisor, Gacharage Sub-location
<b>Electoral commission of Kenya</b>	
2005: Electoral commission of Kenya.	Deputy Presiding Officer 2005 Referendum
2002: Electoral Commission of Kenya.	Deputy Presiding Officer 2002 Election
<b>Kenya National Examination Council</b>	
1999 -2000: KNEC: Marking K.C.S.E Examination (Chemistry paper II)	
<b>Mukuria Secondary School</b>	
1998 -2003	- Mukuria Secondary School Teaching Chemistry and Mathematics
<b>Kegati Secondary School</b>	
1997 – 1998	- Kegati Secondary School Teaching Chemistry and Mathematics.

#### Administrative Responsibilities at Murang'a University of Technology

Director, Research Innovation and Consultancy -2019 to date.

Chairman of department (applied sciences 2016 – 2019).

Member of post graduate Committee-2017-date.

Chairman of committee for establishment of school of health sciences 2017 – 2019.

Chairman / chief returning officer during MUTSO elections 2019 and 2020.

Programme coordinator (BSc. Industrial Chemistry and MSc. Chemistry) 2018 to date.

Member of committee for implementation of Analytical and Imaging Laboratory. Member of the VC personality of the year award committee 2017 to date.

Chairman of committee for MOU and MOA development between Murang'a County Government and Murang'a University of Technology.

Chairman of committee for off campus hostels.

Chairman CCIC committee.

#### Achievements made in Administrative Responsibilities

As a director, the Directorate of Research Innovation and Consultancy has made the following strides;

- 1) The University has successfully held two international conferences in 2021 and 2023
- 2) MUT held its first Innovation Week in 2024

- 3) MUT hosted the East African regional grant writing workshop in 2024
- 4) Participation in four innovation exhibitions where in the CUE exhibition in 2024 MUT was ranked position two after University of Nairobi in 2024
- 5) The directorate also organized a capacity building workshop for student on commercialization of IPs conducted by ICT Authority
- 6) Accreditation of the Institutional Scientific and Ethics Review Committee (ISERC);
- 7) Certification for Good Financial Grant Practice (GFGP)
- 8) Development of three policies and one framework for the directorate.
- 9) I currently serve as a board member in five (5) directorate boards and a chairperson two committees.







#### Patents

1.	Utility Model entitled <i>Concentration of Laterites Using Biomass</i> No. KE/U/ 2013/ 000367
2.	(22) 12/06/2013 Registered Patents.
	End-point determination of decalcification utility model. (KE/U/2025/2956) -2024 Adsorbent (Silica Molybdate) for Removal of Phosphates from Water (KE/U/2025/2957) – 2024,

	Article Title	
1.	Njoroge, P. W.1*, Mutembei P. K1., Wachira, J. M.2 and Wanjau, R.1 (2014) Magnetic Concentration of Iron in Lateritic Soils from Kamahuha, Murang'a County, in Kenya using Carbon Monoxide Generated In-Situ. International Journal of Scientific Engineering and Technology (ISSN : 2277-1581) Volume No.3 Issue No.8, pp : 1043-1046 1 Aug 2014 IJSET@2014 Page 1043	
2.	Peterson, M. Kugeria*, Naftali. T. Muriithi, Peter W Njoroge Jackson, W. Muthengia,(2014) Effects Of Temperature On Ilmenite During Concentration Of Iron In Laterites Using Charcoal And Separation Using Magnetic Separation. International Journal of Scientific Engineering and Technology (ISSN : 2277-1581) Volume No.3 Issue No.6, pp : 1012-1017 1 June 2014 IJSET@2014 Page 1012	
3.	Naftari T. M. Peter W. Njoroge, Jackson W. M. Wachira, Ruth N. Wanjau 30th June, 2015 Concentration of Laterites Using Biomass. Industrial Property Journal (Journal of Patents, Industrial Designs, Utility Models and Trade Marks) of June 2015.	

4.	Warui S. Kariuki <sup>1</sup> , Jackson W. Muthengia <sup>2</sup> Mutembei K. Peterson <sup>2</sup> Peter N. Waithaka <sup>3</sup> (2015) Beneficiation of Iron in Thermal-Reduced Ilmenite by Magnetic Separation. International Journal of Science and Research (IJSR) ISSN (Online): Volume 4 Issue 5, May 2015 www.ijsr.net	
5.	Peterson Mutembei Kugeria <sup>a,*</sup> , Isaac Waweru Mwangib, Jackson Wachira Muthengia <sup>a</sup> , Peter Waithaka Njoroge (2018) Monitoring the extraction of copper from chicken dung leachate using analuminium electrode as anindicator. <a href="http://www.cell.com/heliyon">http://www.cell.com/heliyon</a> .	
6.	Hassan M. Lomertwala <sup>*</sup> , Peter W. Njoroge, Sylvia A. Opiyo, Brian M. Ptoton (2019) Characterization of Clays from selected sites for Refractory Application DOI: 10.29322/IJSRP.9.11.2019.p9581 <a href="http://dx.doi.org/10.29322/IJSRP.9.11.2019.p9581">http://dx.doi.org/10.29322/IJSRP.9.11.2019.p9581</a>	
7.	Peter W. Njoroge, Sylvia A. Opiyo <sup>*</sup> Some Antibacterial and Antifungal Compounds from Root Bark of Rhus natalensis American Journal of Chemistry 2019, 9(5): 150-158 DOI: 10.5923/j.chemistry.20190905.03	
8.	Peter W. Njoroge, Sylvia A. Opiyo Antimicrobial Activity of Root Bark Extracts of Rhus natalensis and Rhus ruspolii. 2019, American Journal of Basic Sciences of Medicine p-ISSN: 2167-7344 e-ISSN: 2167-7352 2019; 8(2): 23-28 doi: 10.5923/j.medicine.20190802.01	
9.	Peterson Mutembei Kugeria <sup>a</sup> , Isaac Mwangib, <sup>*</sup> , Jackson Wachira <sup>a</sup> , Peter Njorogec (2018) Copper extraction by wet chemical method; Sustainable Mining journal <a href="http://www.elsevier.com/locate/jsm">www.elsevier.com/locate/jsm</a> Research paper.	
10.	Peterson Mutembei Kugeria <sup>1*</sup> , Peter Waithaka Njoroge <sup>2</sup> , Sylvia Opiyo <sup>2</sup> , and Isaac Waweru Mwangi <sup>3</sup> . Impure Hydrazone Preparation from Chicken Dung, Chemistry and Materials Research <a href="http://www.iiste.org">www.iiste.org</a> ISSN 2224- 3224 (Print) ISSN 2225- 0956 (Online)	
11.	Peterson Mutembei Kugeria <sup>1*</sup> , Peter Waithaka Njoroge <sup>2</sup> Copper Extraction Using Aluminium in Acidic Leachate Media, Chemistry and Materials Research <a href="http://www.iiste.org">www.iiste.org</a> ISSN 2224- 3224 (Print) ISSN 2225- 0956 (Online)	
12.	Hassan M. Lomertwala <sup>*</sup> , Peter W. Njoroge, Sylvia A. Opiyo, Brian M. Ptoton Assessing Effect of Acid Treatment on the Chemical Properties of Clays from	

	selected sites in Murang'a and Nyeri Counties, Kenya, Journal of Natural Sciences Research www.iiste.org ISSN 2224-3186 (Paper) ISSN 2225-0921 (Online)	
<b>Publications done after promotion to Grade 13</b>		
13.	Sylvia A. Opiyo*, <b>Peter W. Njoroge</b> , Ephantus G. Ndirangu, Kennedy M. Kuria. A Review of Biological Activities and Phytochemistry of Rhus Species American Journal of Chemistry 2021, 11(2): 28-36 DOI: 10.5923/j.chemistry.20211102.02	
14.	Sylvia A. Opiyo, <b>Peter W. Njoroge</b> , Ephantus G. Ndirangu. A Review Pesticidal Activity of Essential Oils against Sitophilus oryzae, Sitophilus granaries and Sitophilus Zeamais, IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 15, Issue 4 Ser. I (April 2022), PP 39-51 <a href="http://www.iosrjournals.org">www.iosrjournals.org</a>	
15.	Peterson Mutembei Kugeria <sup>1,*</sup> , <b>Peter Waithaka Njoroge</b> <sup>2</sup> Analysis of Copper Deposits in Maragwa Location in Tharaka Nithi County – Kenya,. American Journal of Materials Science 2022, 12(1): 18-24 DOI: 10.5923/j.materials.20221201.03	
16.	Kelvin Mwangi Wanjiku , 1 Jackson Wachira Muthengia , 1 Joanne Ogunah, 1 Daniel Karanja Mutitu, 3 John Kinuthia, 4 Romano Mwirichia , 2 Joseph Karanja Thiong'o , 5 Munyao Onesmus Mulwa , 5 Muriithi Genson, 1 <b>Peter Waithaka</b> , 6 and David Musyoki Munya. Effects of Lysinibacillus sphaericus on Physicomechanical and Chemical Performance of OPC Blended with Natural Tuff and Pulverized Fly Ash, Advances in Materials Science and Engineering Volume 2022, Article ID 3387928, 15 pages <a href="https://doi.org/10.1155/2022/338792">https://doi.org/10.1155/2022/338792</a>	
17.	Peterson Mutembei Kugeria <sup>1,*</sup> , <b>Peter Waithaka</b> , Rutile Concentration by Reduction of Titanium Ore - Laterite Mixture Using Biomass Njoroge <sup>2</sup> American Journal of Materials Science 2022, 12(1): 1-6 DOI: 10.5923/j.materials.20221201.01	
18.	Gakuru Simon Waweru, Sharon Kiprotich, <b>Peter Waithaka</b> . Effects of Growth Temperature on the Structural and Optical Properties of Synthesized Titanium Dioxide Nanoparticles American Journal of Materials Science. p-ISSN: 2162-9382 e-ISSN: 2162-8424, 2024; doi:10.5923/j.materials.20241401.02	

19.	Sylvia A. Opiyo <sup>1</sup> , <b>Peter W. Njoroge</b> <sup>1</sup> , Kennedy M. Kuria <sup>2</sup> . Chemical Composition and Biological Activity of Extracts from Conyza Species, , IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 16, Issue 4 Ser. I (April 2023), PP 61-71	
20.	Sylvia A. Opiyo, <b>Peter W. Njoroge</b> Plant Extracts And Terpenes With Antivenom Properties, <i>IOSR Journal of Applied Chemistry (IOSR-JAC)</i> e-ISSN: 2278-5736. Volume 17 DOI: 10.9790/5736-1703013141 www.iosrjournals.org 31	
21.	Sylvia A. Opiyo <sup>1</sup> * Kennedy K. Muna <sup>2</sup> <b>Peter W. Njoroge</b> <sup>1</sup> Ephantus G. Ndirangu <sup>1</sup> Analgesic Activity of Conyza Floribunda Extracts in Swiss Albino Mice, ,IOSR Journal of Applied Chemistry (IOSR-JAC),e-ISSN: 2278-5736. Volume 15, Issue 8 Ser. II DOI: 10.9790/5736-1508023445 www.iosrjournals.org.	
22.	Haron Bosuben <sup>1</sup> , <b>Peter W. Njoroge</b> <sup>1</sup> , Sylvia A. Opiyo <sup>1</sup> , Isaac W. Mwangi, Facile Removal of Phenol from Aqueous Solution Using Modulated Cornstarch Impregnated With Triethanolamine as Adsorbent: Sorption Isotherms and Kinetics, ,IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 15, Issue 4 Ser. DOI: 10.9790/5736-1504013951 <a href="http://www.iosrjournals.org">www.iosrjournals.org</a> .	
23.	Simon Waweru Gakuru <sup></sup> , Sharon Kiprotich* <sup></sup> , <b>Peter Waithaka</b> , <sup></sup> Structural and Optical Properties of Fe Doped TiO <sub>2</sub> Nanoparticles: Investigation of Effects of Different Doping Concentration, Journal of Advances in Materials (Volume 13, Issue 2)	
24.	Simon Waweru Gakuru <sup></sup> , Sharon Kiprotich* <sup></sup> , <b>Peter Waithaka</b> , <sup></sup> Effects of Different Zn Doping Concentration on the Optical and Structural Properties of TiO <sub>2</sub> Nanoparticles. Nanoscience and Nanotechnology 2024, 13(1): 1-9 DOI: 10.5923/j.nn.20241301.01 May 2024	
25.	<b>Peter Waithaka Njoroge</b> <sup>1</sup> and C. Nyambura <sup>2</sup> , Risk Assessment of Resident Farmers in Kilimambogo, Kenya, Using RESRAD Computer Code 2024, DOI: 10.29322/IJSRP.14.09.2024.p15329. Volume 14, Issue 9, September 2024 ISSN 2250-3153.	

26.	Grace Manyu and <b>Peter Waithaka</b> . End-Point Determination In Acid Decalcification of bone: A New Novel Method. DOI: 10.29322/IJSRP.14.07.2024.p15205. Volume 14, Issue 8, August 2024 ISSN 2250-3153.	
27.	Haron Bosuben <sup>1</sup> , <b>Peter W. Njoroge</b> <sup>1</sup> , Sylvia A. Opiyo <sup>1</sup> ; Elementary Removal of Hydroquinone and 2-Naphthol from Aqueous Solutions by Aminated Cornstarch with Triethanol Amine as Bioadsorbent: Isotherms and Kinetics. Journal of emerging technologies and innovative research November 2024, Volume 11, Issue 11 <a href="http://www.jetir.org">www.jetir.org</a> (ISSN-2349-5162).	
28.	Kuria M. Serah, Isaac W. Mwangi, <b>Peter W. Njoroge</b> ; Removal Of Phenolic Compounds From Aqueous Media Using Triethylamine Anchored Rice Husks. IOSR Journal of Applied Chemistry (IOSR-JAC) ISSN: 2278-5736. Volume 17, Issue 11 Ser. 1 (November 2024), PP 36-47	
29.	<b>Peter W. Njoroge</b> , Sylvia Awino Opiyo; Chickpea: A Promising Solution for 'Hidden Hunger' IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 18, Issue 1 Ser. 1 (January 2025), PP 07-14 <a href="http://www.iosrjournals.org">www.iosrjournals.org</a> DOI: 10.9790/5736-1801010714 <a href="http://www.iosrjournals.org">www.iosrjournals.org</a> .	
30.	Joan Jepngetich*, <b>Peter W Njoroge</b> , Sylvia Opiyo and Sharon Kiprotich, Effects of Ag Doping Concentrations on Structural and Optical Properties of Citrus Reticulata Capped ZnO Nanoparticles; Journal of Nanosciences Research & Reports; ISSN: 2754-4966, Volume 7(2): 1-7	
31.	Kennedy Muna <sup>1</sup> *, <b>Peter Waithaka</b> , Phytochemical and Antifungal Analysis of Root Bark, Inner Seed and Seed Coat Crude Extracts of <i>Jatropha curcas</i> , Journal of Medical and Biomedical Laboratory Sciences Research 2025; Issue 1 Vol.4: This is an open access article published under the terms of a Creative Commons License. <a href="http://www.jmblsr.com">http://www.jmblsr.com</a>	
32.	Samuel N. Wanjiru, Sylvia A. Opiyo, <b>Peter W. Njoroge</b> , Beatrice Mugendi, Elemental Composition Of Pulp And Seed Of Avocado Cultivars From Murang'a County; IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 18, Issue 1 Ser. 1 (January 2025), PP 13-20 <a href="http://www.iosrjournals.org">www.iosrjournals.org</a> DOI: 10.9790/5736-1801011320 <a href="http://www.iosrjournals.org">www.iosrjournals.org</a> 13	

33.	Somo Q. Bilalo, Sylvia A. Opiyo, <b>Peter W. Njoroge</b> , A Comprehensive Review On Pesticides: Classifications, Sources, Impacts, And Analytical Methods; IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT) e-ISSN: 2319-2402, p- ISSN: 2319-2399. Volume 19, Issue 3 Ser. 1 (March 2025), PP 48-60, DOI: 10.9790/2402-1903014860 www.iosrjournals.org 48	
34.	Odongo Irene Akinyi, Sylvia Opiyo, <b>Peter W. Njoroge</b> and Elly T. Osewe, Heavy Metal Pollution in Water, Detection and Remediations Strategies; Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org e306, JETIR February 2025, Volume 12, Issue 2 www.jetir.org (ISSN-2349-5162) JETIR2502432	
35.	Aquiline Kathambi1, <b>Peter W. Njoroge</b> 1, Sylvia A. Opiyo1, Isaac Waweru2, Benson M. Mwangi1, Adsorptive removal of phosphates from wetland waters using silica molyb date adsorbent; Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org c822, JETIR February 2025, Volume 12, Issue 2 www.jetir.org (ISSN-2349-5162) JETIR2502297	
36.	Samuel N. Wanjiru, Sylvia A. Opiyo, <b>Peter W. Njoroge</b> , Beatrice Mugendi, Effect Of Cultivar And Altitude On Fatty Acid Composition Of Avocado From Murang'a County; IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 18, Issue 4 Ser. 1 (April 2025), PP 16-23 www.iosrjournals.org DOI: 10.9790/5736-1804011623	
37.	Aquiline Kathambi1, <b>Peter W. Njoroge</b> 1, *, Sylvia A. Opiyo1, Isaac Waweru2, , Benson M. Mwangi1. Removal of Nitrites from Wetland Waters Based on Diazonium Silica; American Journal of Chemistry 2025, 15(1): 10-19 DOI: 10.5923/j.chemistry.20251501.02	
38	Joan Jepngetich, <b>Peter W Njoroge</b> , Sylvia Opiyo and Sharon Kiprotich. Synthesis and characterization of Ag-ZnO using citrus reticulata peel extract; <a href="#">Materials Research Express</a> , <a href="#">Volume 12</a> , <a href="#">Number 5</a> Published 28 May 2025 • © 2025 The Author(s). Published by IOP Publishing Ltd.	
<b>Total publication points</b>		
<b>Conference papers</b>		
1.	Hassan M. Lomertwala, <b>Peter W. Njoroge</b> , Sylvia A. Opiyo and Brian M. Ptoton (2021), Effect of Acid Treatment on the Chemical Properties of Clays	

	from Selected Sites in Murang'a and Nyeri counties, Kenya. (1 <sup>st</sup> MUT conference)	
2.	<b>Peter W. Njoroge</b> , Sylvia A. Opiyo and Peterson Mutembei K. (2021), Beneficiation of rutile through reduction of titanium ore - laterite mixture using in-situ carbonized biomass. (1 <sup>st</sup> MUT conference)	
3.	Peterson Mutembei, <b>Peter Waithaka Njoroge</b> (2021), Extraction of Copper by Chicken Dung Leachate Using Aluminium Electrode as a Monitoring Indicator, (1 <sup>st</sup> MUT conference)	
4.	Peterson Mutembei Kugeria, Isaac Waweru Mwangi and <b>Peter Waithaka Njoroge</b> , Sylvia Opiyo (2021). Impure Hydrazone Preparation from Chicken Dung. 3 <sup>rd</sup> Annual International Research conference. (Tharaka University College Conference)	
5.	Peterson Mutembei Kugeria and <b>Peter Waithaka Njoroge</b> (2022). Analysis of copper deposits in Maragwa Location in Tharaka Nithi County – Kenya. 4 <sup>th</sup> Annual International Research Conference. (Tharaka University College conference).	
6.	Haron Bosuben <sup>1</sup> , <b>Peter W. Njoroge</b> <sup>1</sup> , Sylvia A. Opiyo <sup>1</sup> , Isaac W. Mwangi <sup>2</sup> (2023). Preparation and Characterization of Modulated Cornstarch Impregnated with Triethanolamine as Adsorbent for Removal of Phenolic Compounds: Sorption Isotherms and Kinetics. (2 <sup>nd</sup> MUT conference)	
7.	Waweru <sup>1</sup> , Gakuru Simon, Kiprotich <sup>2</sup> , Sharon, <b>Waithaka<sup>3</sup>, Peter</b> . (Murang'a University of Technology, Kenya). Effects of Zn AND Fe Concentrations on the Optical and Structural Properties of Titanium Dioxide Nanoparticles. (Kirinyaga University 7th Annual International Conference 2024)	
8.	Joan Jepngetich, Peter W Njoroge, Sylvia Opiyo and Sharon Kiprotich. Synthesis and Characterization of Ag-ZnO Using Citrus Reticulata Peel Extract. 10th South African Conference of Photonic Materials (SACPM2025) Amanzi Private Game reserve, (RSA) April 2025	
9.	Simon Waweru Gakuru, Sharon Kiprotich, Peter Waithaka and Francis Birhanu Dejene. Synergetic Effects of Zn:Fe Co-Doped TiO <sub>2</sub> Nanoparticles on the Structural, Optical and Morphological Properties 10th South African Conference of Photonic Materials (SACPM2025) Amanzi Private Game Reserve (RSA) April 2025,	

Total Conference paper points		
Student Supervision		
Doctor of Philosophy (Ph.D)		
1. Peterson Kugeria Mutembei Thesis title: “Extraction of Ccopper Using Chicken Dung and Concentration of Titanium Using Biomass from Ores in Maragwa Location, Tharaka Nithi County		
2. Muthuri Aquiline Kathambi Thesis title: “Thesis Tittle Synthesis and Characterization of Silica Molybdate and Diazonium Silica for Adsorption of Phosphates and Nitrites in Wetland Waters”		
3. Esther Ndung’u (Thesis writing stage)		
4. Daniel Murage (Thesis writing stage)		
5. Cecilia Nderitu (Thesis writing stage)		
Masters		
1. Hassan M. Lomertwala Thesis title: “Characterization and Modification of Clays from Selected Sites in Murang’a and Nyeri Counties Kenya for Assessing Refractory Applications”		
2. Haron bosben Thesis title: “Removal of Phenolic Compounds from Contaminated Water using Tertiary Amine Modulated Cornstarch”		
3. Simon Waweru Thesis title: “Growth and Characterization of TiO <sub>2</sub> Nanoparticles Co-Doped With Zn:Fe for Potential Application as a Photoanode in Solar Cell”		
4. Samuel Wanjiru Thesis title: “Characterization of Lipids and Evaluation of Elemental Composition of Avocado ( <i>Persea Americana Mill</i> ) Cultivars Grown in Murang’a County, Kenya”		
5. Joan Jepngetich Thesis title: “Synthesis and Characterization of Silver Doped Zinc Oxide Nanoparticles using <i>Citrus Reticulata</i> Peel Extract for Potential Application in Solar Cells” (Under examination)		
6. Nancy Kiprotich (Thesis examination stage)		
7. Bethwel Kiprotich (Thesis examination stage)		
Research Grants Awarded		
1. Analytical and Imaging Laboratory KSh. 46,500,000 NRF (2017)		
2. Extraction of copper using hydrazones and concentration of titanium found in ores from Maragwa in Tharaka Nithi County using biomass. 1,040,000 NRF (2018)		
3. Assessment of Minerals and Heavy Metal Pollution in water from Loroki And Kirisia Divisions In Samburu County, Kenya KSh. 150,000 MUT VC grant MUT (2018)		

4. Seeding labs project “*Establishment of Molecular Biology Laboratory*” worth KSh. 60,000,000 (2023)
5. Capacity Building for Engineering Education Practice and Research (NDICI-2023-MOBAF: Intra-Africa Academic Mobility Scheme) Grant amount: 1,790,880.00 € (1.79 million euros). (KSh. 297,286,080). Duration: 48 months, 1st January, 2024 to 31st December, 2027 (2023)
6. Synthesis and characterization of multifunctional nano-materials based on transparent conducting oxides and non oxides for possible solar cell application. (62,000 USD) -2023

#### **Professional Courses Attended**

1. Internal Auditors Training Course for ISO 9001 - 2015
2. Funded Proposal Writting Training - 2018
3. Job Análisis Training - 2017
4. Leadership and Corporate Governance Training - 2019
5. Scannin ELelectron Microscopy User course - 2023
6. XRD User course - 2023
7. Cyber Security course by ICT Authority - 2024
8. Grant writting course by Catalyse Africa Initiative - 2024
9. Research to commercialization conducted by KeNIA and Victoria Ventures - 2024
10. Internal quality auditor for ISO IEC 17025;2017 - 2024
11. Implementors course for ISO IEC 17025;20217 - 2024

#### **Workshops and and Conferences Attended**

1. Information Security Management Awareness Workshop 2015
2. Intelectual Property Protection workshop 2018
3. Project Evaluation Course Chuka Workshop 2020
4. Examination Setting and Student Evaluation Workshop 2019 Pendagogy Training Workshop 2018.
5. Kenyatta University Biennial Research and Innovation Conference 2019
6. Grant Proposal writing 2024
7. MUT internacional conferencies in 2021 and 2023
8. Tharaka University College conferences in 2021 and 2022
9. Kirinyaga University 7th Annual International Conference 2024

## 10. Research and Innovation Management Capacity Building Workshop 2023

### Community Service

1. Participation in Nyeri ASK show.
2. Contribution towards the Covid-19 emergency fund.
3. Leadership in the Nyumba Kumi initiative.
4. Mentorship in two secondary schools
5. Participated as an exhibitor in four excursions

### Membership in Professional Bodies

1. Member of the Kenya Chemical Society
2. Registered lead auditor with NEMA.

### Key Skills

**Materials Synthesis and Characterization** – Skilled in developing, including nanomaterials and metal-organic frameworks (MOFs), using modern synthesis techniques.

**Spectroscopic and Analytical Techniques** – Proficient in XRD, FTIR, UV-Vis, NMR, SEM, TEM, and TGA for structural and compositional analysis.

**Research Leadership and Supervision** – Experienced in mentoring postgraduate and undergraduate students in research projects and thesis supervision.

**Grant Writing and Research Funding** – Successful in securing competitive research funding and managing research projects.

**Curriculum Development and Teaching Excellence** – Proven ability in designing and delivering undergraduate and postgraduate courses in chemistry and materials science.

**Scholarly Publishing and Peer Review** – Strong track record of publications in peer-reviewed journals and active involvement in academic peer review.

**Interdisciplinary Collaboration** – Committed to cross-disciplinary research in chemistry, physics, environmental science, and engineering.

**Community Engagement and Outreach** – Involvement in science education outreach and initiatives that promote STEM in local communities.

**Academic Leadership** – Participation in departmental planning, quality assurance, and academic committees.

### Hobbies and Interests

1. Scientific Reading and Literature Review to remain updated with recent advancements in inorganic chemistry and materials science.
2. Mentoring Young Scientists in scientific thinking and research ethics.
3. Actively involved in promoting STEM education in schools and local communities.
4. Participating in interdisciplinary research discussions and academic networking.
5. Attending academic conferences, workshops, and seminars to enhance teaching and research skills.
6. Keen interest in exploring green technologies and environmentally responsible scientific practices.

### Referees

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