

2024

# PETER WAITHAKA NJOROGE

## CURRICULUM VITAE

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By Peter Waithaka Njoroge  
12/3/2024



**Name** : Peter Waithaka Njoroge  
**Nationality** : Kenyan  
**Gender** : Male  
**Languages** : Fluent in written and Spoken English, good and command of Kiswahili  
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### **Overall career Objective**

**My broad career objective is to be a part of a team committed to the development of human capacities for self-reliance and determination through training, research, innovation, mentorship and motivation. I aim to use my experience and expertise in university level for teaching, conducting applied research, innovation and mentoring young Kenyans.**

## **Key Career areas of Interest**

### RESEARCH INTERESTS

- a) Coordination Chemistry
- b) Solid-State Chemistry
- c) Bioinorganic Chemistry
- d) Organometallic Chemistry
- e) Catalysis
- f) Materials Chemistry
- g) Nanomaterials
- h) Environmental Chemistry
- i) Supramolecular Chemistry.
- j) Green manufacturing practices
- k) Mineralogy
- l) Food chemistry
- m) Natural products

## **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 Applied Chemistry (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

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

2019 Sept to Date	Director Research Innovation and Consultancy
2018 Sept to Sept 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)
2005– October 2010:	Teaching Chemistry and Mathematics.
2009: KNBS	Senior Supervisor, Gacharage Sub-location
2005: Electoral commission of Kenya.	Deputy Presiding Officer 2005 Referendum
2002: Electoral Commission of Kenya.	Deputy Presiding Officer 2002 Election
1999 -2000: KNEC:	Marking K.C.S.E Examination (Chemistry paper II)
2005	- Kenya Chemical Society: Rapp touring during annual conference
1998 -2003	- Mukuria Secondary School Teaching Chemistry and Mathematics
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.

## PATENTS

1. Developed and patented a Utility Model entitled *Concentration of Laterites Using Biomass* No. KE/U/2013/000367 (22) 12/06/2013 that was granted patent on June, 2015 and published in the *Industrial Property Journal (Journal of Patents, Industrial Designs, Utility Models and Trade Marks)* of 30<sup>th</sup> June, 2015.

Have applied four utility patents







1. Intelligent solar powered non-contact hand sanitizer dispenser registered as (KE/UM/2020/1445)
2. Rutile Concentration by Reduction of Titanium Ore using Laterite Biomass Mixture (under process)

## Papers and Publications

1. Njoroge, P. W.<sup>1\*</sup>, Mutembei P. K<sup>1</sup>., Wachira, J. M.<sup>2</sup> and Wanjau, R.<sup>1</sup> (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*

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. <http://www.cell.com/heliyon>.
6. Hassan M. Lomertwala\*, Peter W. Njoroge, Sylvia A. Opiyo, Brian M. Pton (2019) Characterization of Clays from selected sites for Refractory Application DOI: 10.29322/IJSRP.9.11.2019.p9581<http://dx.doi.org/10.29322/IJSRP.9.11.2019.p9581>
7. Peter W. Njoroge, Sylvia A. Opiyo\* 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: 2167-73522019; 8(2): 23-28 doi: 10.5923/j.medicine.20190802.01
9. Peterson Mutembei Kugeria<sup>a</sup> , Isaac Mwangib,\* , Jackson Wachira<sup>a</sup> , Peter Njorogec (2018) Copper extraction by wet chemical method; Sustainable Mining journal [www.elsevier.com/locate/jsm](http://www.elsevier.com/locate/jsm) 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 [www.iiste.org](http://www.iiste.org) 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 Leachage Media, Chemistry and Materials Research [www.iiste.org](http://www.iiste.org) ISSN 2224- 3224 (Print) ISSN 2225- 0956 (Online)
12. Hassan M. Lomertwala\*, Peter W. Njoroge, Sylvia A. Opiyo, Brian M. Pton 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](http://www.iiste.org) ISSN 2224-3186 (Paper) ISSN 2225-0921 (Online)

13. Sylvia A. Opiyo\* , Peter W. Njoroge, 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, Peter W. Njoroge, 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 [www.iosrjournals.org](http://www.iosrjournals.org)
  
15. Peterson Mutembei Kugeria1,\* , Peter Waithaka Njoroge2 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 Peter Waithaka, 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 <https://doi.org/10.1155/2022/338792>
  
17. Peterson Mutembei Kugeria1,\* , Peter Waithaka, Rutile Concentration by Reduction of Titanium Ore - Laterite Mixture Using Biomass Njoroge2 American Journal of Materials Science 2022, 12(1): 1-6 DOI: 10.5923/j.materials.20221201.01
  
18. Gakuru Simon Waweru, Sharon Kiprotich, Peter Waithaka 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. Opiyo1, Peter W. Njoroge1, Ephantus G. Ndirangu1 and Kennedy M. Kuria, A Review of Biological Activities and Phytochemistry of Rhus Species, American Journal of Chemistry, p-ISSN: 2165-8749 e-ISSN: 2165-8781 2021; 11(2): 28-36 doi:10.5923/j.chemistry.20211102.02
  
20. Sylvia A. Opiyo1, Peter W. Njoroge1, Kennedy M. Kuria2 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
  
21. Sylvia A. Opiyo, Peter W. Njoroge Plant Extracts And Terpenes With Antivenom Properties, *IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 17* DOI: 10.9790/5736-1703013141 [www.iosrjournals.org](http://www.iosrjournals.org) 31
  
22. Sylvia A. Opiyo\*, Peter W. Njoroge, Ephantus G. Ndirangu, Kennedy M. Kuria A Review of Biological Activities and Phytochemistry of Rhus Species, Journal of Natural Sciences Research [www.iiste.org](http://www.iiste.org), ISSN 2224-3186 (Paper) ISSN 2225-0921 (Online) Vol.12, No.12, 2021
  
23. Sylvia A. Opiyo1\* Kennedy K. Muna2 Peter W. Njoroge1 Ephantus G. Ndirangu1 Analgesic Activity of Conyza Floribunda Extracts in Swiss Albino Mice, ,IOSR Journal of Applied Chemistry

24. Haron Bosuben<sup>1</sup>, Peter W. Njoroge<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 [www.iosrjournals.org](http://www.iosrjournals.org).
25. Simon Waweru Gakuru<sup></sup>, Sharon Kiprotich\*<sup></sup>, Peter Waithaka,<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)
26. Simon Waweru Gakuru<sup></sup>, Sharon Kiprotich\*<sup></sup>, Peter Waithaka,<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
27. Peter Waithaka Njoroge<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.
28. Grace Manyu <sup>1</sup>, Peter Waithaka <sup>2</sup> 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.



<b><u>DOCTORATE</u></b>			
	Student name	Institution	Status of the work
1.	Peterson Mutembei	UoE	Degree awarded
2.	Esther Ndung'u	KU	Data analysis
3	Aquiline Kathabi	MUT	Data analysis
3.	Hassan Mnagat	MUT	Proposal Approved
<b><u>MASTERS</u></b>			
1.	Hassan M. Lomertwala	MUT	Degree awarded
2.	Haron bosben	MUT	Degree awarded
3.	Samuel Wanjiru	MUT	Data analysis
4	Vincent Kobia	UoE	Proposal approved
4	Isabel Wanjiru	MUT	Proposal development
5	Serah Muthoni Kuria	KU	Awaiting Graduation

### **RESEARCH GRANTS**

1. Analytical and Imaging Laboratory 46,500,000 NRF- Kenya
2. Targeting Early Neoplastic Changes in Tumour Microenvironments as a Promising Cancer Treatment Target and Preventive Strategy 16,490,000 NRF- Kenya
3. Extraction of copper using hydrazones and concentration of titanium found in ores from Maragwa in Tharaka Nithi County using biomass. 1,040,000 NRF- Kenya
4. Assesment Of Heavy Metal Pollution In Water From Loroki And Kirisia Divisions In Samburu County, Kenya 150,000 MUT VC grant MUT

### **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. SEM User course 2023
6. XRD User course 2023

### **Workshops 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

### **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

### **MAJOR AWARDS**

1. Vice Chancellor's award for attraction of funds for the analytical and imaging laboratory.
2. Vice chancellor's recognition for contribution towards the Covid-19 emergency Fund

### **MEMBERSHIP IN PROFESSIONAL BODIES**

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

### **Key Skills**

1. Strong organizational skills
2. Effective mobilization skills.
3. Computer literacy skills.
4. Oral presentation skills
5. Proposal writing skills
6. Report writing skills
7. Research skills.
8. Team spirit skills
9. Motivation skills
10. Mentoring skills

### **Hobbies and interests**

Reading, Spiritual, Counselling, Social and Community work

## REFEREES

1. Prof. Alex K. Machocho  
Department of Chemistry,  
Kenyatta University,  
P.O Box 43844 Nairobi  
Phone 0722252877
2. Prof. Ruth. Wanjau  
Department of Chemistry,  
Kenyatta University,  
P.O Box 43844 Nairobi  
Phone 0722423183
3. Prof. Jackson Muthengia Wachira  
University of Embu  
P.O. BOX 6 - 60100  
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