



**Name:** Dr. Peter Waithaka Njoroge

**Title:** Senior lecturer

**Position:** Director (Research Innovation and Consultancy)

**Department:** Physical and Biological Sciences

**Area of specialization:** Inorganic chemistry

**Email:** [pwaithaka@mut.ac.ke](mailto:pwaithaka@mut.ac.ke)

**Name** : **Peter Waithaka Njoroge**  
**Nationality** : **Kenyan**  
**Gender** : **Male**  
**Languages** : **Fluent in written and Spoken English, good command of Kiswahili**  
**ADDRESS** : **75-10200 Murang'a**  
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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

1. Water related research
2. Green manufacturing practices
3. Pesticide analysis
4. Mineral related research
5. Analysis foods, medicine and other consumer products, for heavy metals, essential elements, vitamins, food additives etc
6. Analysis of soils
7. Recovery of elements from ores
8. Environmental analysis of air-indoor and outdoor, lake-, river-, and well- water
9. Development of analytical methods for determination of trace elements
10. Agriculture related research
11. Radiation chemistry
12. Development of food-based supplements for management of various conditions including compromised immune system.
13. Herbal medicines and drugs
14. Sewage analysis of pharmaceuticals and heavy metals

### **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

Ag. Director Research Innovation and  
Consultancy

2018 Sept to Sept 2019

Ag. CoD Physical and Biological Sciences

2016 Oct to Sept 2018:

Ag. 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:

2010to 2015

Teaching Chemistry

2011to 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

1. Director, research innovation and consultancy -2019 to date.
2. Chairman of department (applied sciences 2016 – 2019).
3. Coordinator student attachment 2015.
4. Member of post graduate Committee-2017-date.
5. Chairman of committee for establishment of school of health sciences 2017 – 2019.
6. Chairman / chief returning officer during MUTSO elections 2019 and 2020.
7. Programme coordinator (BSc. Industrial Chemistry and MSc. Chemistry) 2018 to date.
8. Member of committee for implementation of Analytical and Imaging Laboratory.
9. Member of the VC personality of the year award committee 2017 to date.
10. Chairman of committee for MOU and MOA development between Murang'a County Government and Murang'a University of Technology.
11. Chairman of committee for off campus hostels.
12. 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.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. 1Peterson, M. Kugeria\*, 1Naftali. T. Muriithi, 1Peter W Njoroge 2Jackson, 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](http://www.ijsr.net)
5. Peterson Mutembei Kugeria<sup>1</sup>\*, Isaac Waweru Mwangi, Jackson Wachira Muthengia<sup>2</sup>, Peter Waithaka Njoroge (2018) Monitoring the extraction of copper from chicken dung leachate using aluminium electrode as an indicator. <http://www.cell.com/heliyon>.
6. Hassan M. Lomertwala\*, 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 <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 Kugeriaa , Isaac Mwangib,\* , Jackson Wachiraa , 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 Kugeria1\*, Peter Waithaka Njoroge2, Sylvia Opiyo2, and Isaac Waweru Mwangi3. Impure Hydrazone Preparation from Chicken Dung.
11. Peterson Mutembei Kugeria1\*, Peter Waithaka Njoroge2 Copper Extraction Using Aluminium in Acidic Leachage Media

#### **Papers Accepted for publication**

1. Assessing Effect of Acid Treatment on the Chemical Properties of Clays from selected sites in Murang'a and Nyeri Counties, Kenya. Hassan M. Lomertwala\*, Peter W. Njoroge, Sylvia A. Opiyo, Brian M. Ptoon

#### **Articles under review**

1. Analysis of Copper Deposits in Maragwa Location in Tharaka Nithi County – Kenya  
Peterson Mutembei Kugeria1, Sylvia Opiyo2, Peter Waithaka Njoroge2 Isaac Waweru Mwangi3, and Jackson Wachira Muthengia1. Manuscript Number: HELIYON-D-20-05962
2. Rutile Concentration by Reduction of Titanium Ore - Laterite Mixture Using Biomass  
Peterson Mutembei Kugeria1\*, Peter Waithaka Njoroge3, Sylvia Opiyo3, Isaac Waweru Mwangi2 and Jackson Wachira Muthengia1. Manuscript Number HELIYON-D-20-06733

## Supervision of Postgraduate Students

### DOCTORATE

	Student name	Institution	Status of the work
1.	Peterson Mutembei	Embu University	Degree awarded
2.	Esther Ndung'u	KU	Proposal approved
3.	Charles Waithaka	Maseno University	Proposal development

### MASTERS

1.	Hassan M. Lomertwala	MUT	Thesis submitted for examination
2.	Haron bosben	MUT	Proposal complete
3.	Samuel Wanjiru	MUT	Proposal complete
4.	Isabel Wanjiru	MUT	Proposal development
5.	Serah Muthoni Kuria	KU	Proposal complete

### **RESEARCH GRANTS**

1. Analytical and Imaging Laboratory 46,500,000 NRF
2. Targeting Early Neoplastic Changes in Tumour Microenvironments as a Promising Cancer Treatment Target and Preventive Strategy 16,490,000 NRF
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
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



### **Workshops and Conferences Attended**

1. Information Security Management Awareness Workshop 2015
2. Intellectual Property Protection workshop 2018
3. Project Evaluation Course Chuka Workshop 2020
4. Examination Setting and Student Evaluation Workshop 2019
5. Pedagogy Training Workshop 2018
6. 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

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## **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  
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