



**WANJAU RUTH NDUTA, (PH D)**

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### **1. TEACHING EXPERIENCE AT UNIVERSITY**

Senior Lecturer: September 2007 to present

Lecturer: January 1996 to September 2007

Tutorial Fellow: July 1992 to December 1995.

Graduate Assistant: 1990-1991

All positions held at Department of Chemistry, Kenyatta University.

### **2. EDUCATION**

**DOCTOR OF PHILOSOPHY (Ph.D), CHEMISTRY (2002)**

Wuhan University

College of Chemistry and Molecular Sciences

Laboratory of Atomic Spectroscopy group

**MASTER OF SCIENCE (M. SC), CHEMISTRY (1993), Kenyatta University**

**BACHELOR OF EDUCATION (B. ED., SC) {1986}, Kenyatta University**

### **3. POSTGRADUATE SUPERVISION**

Currently supervising one (1) doctorate student and three (3) others are in the process of writing proposals and registering.

Have supervised five (6) and currently supervising seventeen (17), of which two (2) have submitted and six (6) are polishing their thesis, Master of Science students of Kenyatta University.

Have supervised six (6) and is currently supervising eight (8) undergraduate students of Kenyatta university taking research projects.

### **Research interests**

- Analysis foods, medicine and other consumer products, for heavy metals, essential elements, vitamins etc
- Analysis of soils
- Environmental analysis of air-indoor and outdoor, lake-, river-, and well-water
- Development of analytical methods for determination of trace elements
- Investigation of plants and other substances that can best be used for organic farming-agriculture
- Histological studies to investigate the role of heavy metals in animals
- Development of food based supplements for management of various conditions including compromised immune system.

#### **4. ADMINISTRATIVE RESPONSIBILITIES AT KENYATTA UNIVERSITY/**

- Kenyatta University TP Board: Member
- TP posting: Thika Area
- TP supervision
- Pre-university Coordinator
- Chairperson: SPAS Scholarship and Grants Committee
- SPAS Undergraduate Application Review Committee: Member
- SPAS HIV and AIDS Committee: Member
- Chairperson: Department of Chemistry Board of Postgraduate Studies
- Mentor: KUFEST
- Mentor: Kenyatta University students
- Chemistry Department Exhibitions Committee: Member
- Postgraduate Seminar: Chairman of one of the sessions; 2004
- Chemistry Department Academic Advisor: Third Year
- Chemistry Department Recorder of departmental minutes
- Chemistry Department Recorder of manual committee minutes
- Chemistry Department Manual committee: Member
- Chemistry Department Library representative and book review: Member

#### **5. CONFERENCES/ SEMINARS / WORKSHOPS**

##### **Participation and Presentation**

- KU Industrial and Analytical Club Seminar, 11th Oct. 2008.

- Kenyatta University/Makerere University Joint Post Graduate Seminar 9-10th Sept, 2008 KU, AVU Hall
- The 20th International Conference on Education-Satellite Meeting at UON; The Relevance of Chemistry in a global Society. 11-12th Aug. 2008
- KCS Nairobi Chapter Seminar/Education Day, 30th Aug. 2008.-KU, AVU Hall
- National Science Congress Seminar and Competitions, Embu, Kangaru Girls'-5th-7th June, 2008
- Intellectual Property Rights, April 2008, KU, KENYA

- Pan Africa Chemistry (PAC) network; Biodiversity Conference (10-12 Sept. 2008, UON, Nairobi
- ISO training conducted by IGS, Feb, 2008 (KU) (**Participated**)
- Mentoring Capacity Building Seminars at Utalii Hotel (July, 2007) (**Participated**)
- EPPI training March/May 2007(KU, KARI-MUGUGA)
- FANUS conference, May 2007 QUARZAZATE, MOROCCO) (**Participated and presented two papers**)

Jane I. Murungi, **Ruth N. Wanjau**, Grace.N Muchemi., Wilson Njue, Hamisi M. Malembo. Pumpkin seeds as reservoirs of essential trace elements needed for the health and well being of women and children

Judith Munga, Hudson Nyambaka, Judith Waudu, **Ruth N. Wanjau**  
Determination of glycemic index for nutritional management of diabetes

- ISO training conducted by KEBS, May 2007 (KU) (**Participated**)
- SPAS HIV and AIDS Mainstreaming Workshop at Utalii Hotel (April, 2007) (**Participated**)
- HIV and AIDS and reproductive Health conference, April 2007 (KIE) (**Participated and presented**)

**Ruth N. Wanjau** , Crispus Muriuki., John K. Mbugua. RAAG  
participatory education and training for community development

- ISO training Feb 2007 (KU) (**Participated**)
- JICA-NET seminars at JICA office Nairobi: Regional Development: One Village and One Product in Japan (August, 2006) (**Participated**)
- HIV and AIDS Curriculum Induction Workshop at KU (August, 2006) (**Participated**)
- Mentoring Capacity Building Seminars at Utalii Hotel (July, 2006) (**Participated**)
- Proposal writing workshop at Utalii Hotel (July, 2006) (**Participated**)
- The 5<sup>th</sup> Kenya Chemical Society Conference at Kenyatta University (August, 2005) (**Participated and presented**)

Muchemi Grace, **Ruth Wanjau**, Jane Murungi, Wilson Njue, Levels of Zn, Cr, V and Se in food grains

- Harambee Youth Week/International Youth day (August 2005) **(Participated and presented)**  
**Ruth Wanjau**, Youth Motivation and best practices as alternative to sustainable livelihoods
- Kenya DAAD Scholars Association Conference (May, 2005) **(Participated)**
- The 9<sup>th</sup> Chinese Conference of analytical Chemistry of Rare Earth Elements Research. (Sept. 2001), Wuhan **(Participated and presented)**  
**Wanjau Ruth**, Zucheng Jiang, Bin Hu, Yongchao Qin, Pei Liang, Separation and Determination of Some Trace Metal Impurities in High purity Cerium Oxide by HPLC with Fluorination-assisted ETV-ICP-AES.
- Hubei Province 6th Chemistry and Chemical Engineering Association of Analytical Chemistry Scientific Report (May 2001). Wuhan **(Participated and presented)**  
**Ruth Wanjau**, Jiang Zucheng, Hu Bin, Qin Yongchao, Liang Pei, Determination of trace non-rare earth impurities in high purity cerium oxide by ICP-AES after HPLC separation using p507 resin
- Kenya Chemical Society Inaugural Conference (June 1993), Nairobi **(Participated and presented)**  
**R. Wanjau**, G. Nyagah, Determination of Levels of Aluminium in Kenyan Tea by AAS, Kenya Chemical Society Inaugural Conference Proceedings, p. 156. (June 1993)
- Kenya Chemical Society Conference at Jomo Kenyatta University of Agriculture and Technology (1999) **(Participated)**
- Theoretical Chemistry Conference at Nairobi (1995). Nairobi **(Participated)**
- Leadership Seminar (2002)- Beijing, China. **(Participated)**
- Kenyatta University postgraduate seminars **(Presented-1993, Participated-2005)**

### Convening and coordinating conferences/workshops/seminars

- A member of the committee organizing for the African family strength international conference (2008)
- A member of the committee that organized for the SPAS HIV and AIDS Mainstreaming Workshop (April, 2007)
- Chairperson of one of the session of the SPAS HIV and AIDS Mainstreaming Workshop (April, 2007)
- An organizer for the SPAS graduads seminar (March, 2007)
- A local organizer for the 5th international Kenya Chemical Society Conference (2005)

- Chairperson of the last session of the 5th international Kenya Chemical Society Conference (2005)

## **6. RESEARCH AND PUBLICATIONS**

1. Faridah Hussein Were, Wilson Njue, Jane Murungi, **Ruth Wanjau**. Use of Human nails as bio-indicators of heavy metals environmental exposure among school age children in Kenya Science of the Total Environment, 2008, **392**: 376-384.

2 Muchemi G.N., **Wanjau R.N.**, Murungi J.I., Njue W, Determination of some immune boosting trace elements in selected food grains grown in Kenya J. of The Kenya Chemical Society 2007, **4**(1): 27

3. J.M. Nguyo, **R. N. Wanjau**, J.I. Murungi, F. N. Moko, Assessment of the Impact of Anthropogenic Activities on the Levels of Nitrates and Nitrites in Mathare-Gitathuru Drainage Basin ( In preparation-2007)

4. **Ruth Wanjau**, Hu Bin, Jiang Zucheng, He Man, Liang Pei, Determination of Trace Metal Impurities in Cerium Oxide by Fluorination-Assisted ETV-ICP-AES HPLC Separation Using P507 Resin, J. Rare Earths, 2004, **22**(2): 197.

5. **Ruth Wanjau**, Hu Bin, He Man Jiang Zucheng, Wu Ying-liang, Direct Determination of trace Impurities in High Purity Neodymium after In-Situ Analyte Matrix Separation by Fluorination Assisted ETV-ICP-AES J. Rare Earths, 2004, **22**(3): 319.

6. **Ruth Wanjau**, Jane Murungi, Gathu Nyaga, The Effects of Cleaning Technique on Aluminium Leaching from Aluminium Cookware, J. of The Kenya Chemical Society J. of The Kenya Chemical Society 2004, **2**(1): 4.

7. **Wanjau Ruth**, Jiang Zu-cheng, Hu Bin, Qin Yong-chao, Wu Ying-liang, Zhu Xia-shi, Simultaneous Determination of Trace Rare Earth Elements and Other Elements in High purity Terbium Oxide ( $Tb_4O_7$ ) by ICP-AES After HPLC Separation Using P507 Resin, Wuhan Journal of Natural Sciences, 2002, **7**(2): 221

8. **Ruth Wanjau**, Jiang Zucheng\*, Hu Bin, Shuai Qin, Qin Yongchao, Wang Lei, Determination of Non-Rare Earth Impurities in High purity Lanthanum Oxide by Inductively Coupled Plasma Atomic Emission Spectrometry after HPLC Separation Using P507 Resin, J. Rare Earths, 2001, **19**: 299.

9. Shuai Qin, Hu Bin, Qin Yongchao, **Ruth Wanjau**, Jiang Zucheng, Determination of Trace Rare Earth Impurities in High –purity Cerium Oxide by Using electrothermal Vaporization/ICP-AES after HPLC Separation with 2-ethylhexyl

hydrogen 2-ethylhexyl phosphonate resin as Stationary Phase, J. Anal. Atom. Spectrom., 2000, **15**: 1413.

### **Collaboration for research**

- Have applied for collaboration for research with Nelson Mandela Metropolitan University, South Africa
- KAPP RCIC member, 2008, for Amaranth project.

### **Research grant**

- KU VC research grants (Avocado soap and animal feed project) -2008
- KU VC research grants (NPK fertilizer and animal feed from chicken feathers)-2008

## **7. COMMUNITY SERVICE/ RECOGNITION**

### **Kenyan Community**

- Chairperson-Kahawa Wendani Bible Baptist Church Women group, 2007 to present.
- Youth Patron- Kahawa Wendani Bible Baptist Church Youth group, 2008 to present.
- Secretary- St. Faith Upper Matasia ACK Church; 2002
- Form 1 PTA representative (2004)- Kaheti High School
- Giving academic/social/spiritual talks to schools, colleges and churches
- CWN SACCO Board member
- CWN SACCO member
- Bible League associate member
- Bible League Board member
- Westlands association member
- RAAG member

### **International Community**

- Leader: Wuhan City Christian Fellowship, China (2000-2002)
- An associate member of PACE International (NGO)
- An associate member of Rescue Hope International (NGO)