

# CURRICULUM VITAE

**Name:** Dr. Ruth Akech Odhiambo

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**Date of Birth:** 24<sup>th</sup> June 1971

**Place of birth:** Kisumu County

**Nationality:** Kenyan

**Marital Status:** Married

**Objective:** Committed to transforming the young minds in the society through enthusiastic, dynamic teaching and mentoring

## Education

- 2010 - 2015      University of Nairobi  
PhD (Chemistry)  
Date of completion: December, 2015  
Thesis: **Development of a Sensing Probe for Soft Heavy Metals Using Oxathiocrown Ethers**
- 2012 - 2015      Lund University, Sweden  
Conducting **Synthesis, Characterization and Complexation Reactions of Ruthenium- and Rhenium-Oxathiocrown Ethers**  
(Sponsored by International Science Program, ISP)
- 2003 - 2007      Kenyatta University  
MSc (Chemistry)  
Date of completion: December, 2007  
Thesis: **Synthesis, Characterization and Electrochemical Studies of Hetero-Bimetallic Complexes Containing Redox-Active Molybdenum Nitrosyl Tris(3,5-Dimethylpyrazolyl) Hydroborate Group**
- 1990 - 1993      Egerton University  
B.Ed. (Science)  
Date of Completion: December, 1993  
Teaching subjects: **Maths/Chemistry**

## Work Experience

- 2012 May – Present      Tutorial Fellow at the Department of Chemistry, University of Nairobi
- Involved in teaching undergraduate courses in Inorganic Chemistry:  
FME 151 / FEB 105 / FCE 181 – General & Inorganic Chemistry  
SCH 406 – Solid State Chemistry  
SCH 401 – Chemistry of Transition Elements (Evening Class)  
SCH 304 – Coordination Chemistry (Evening Class)  
SCA 301 – Instrumental Methods of Analysis (Day)
  - Involved in supervision of research projects
    - 1) Mbugua Simon Ngigi, **Synthesis and Characterization of Trans-bis(Ferrocenylimine) Palladium(II) And Platinum(II) Complexes: Apoptosis Against Selected Cancer Cell Lines** (PhD research, ongoing)
  - Coordinator, Student Mentorship Program for Undergraduate Students (1<sup>st</sup> Years)
  - A member of the following committees in the Department of Chemistry: Registration & Examination, Timetabling (BPharm I & II) and Postgraduate & Seminars

- 2008 – May 2012 Senior Administrator, Pan Africa Chemistry Network (PACN), Department of Chemistry, University of Nairobi
- Involved in managing the PACN project
- 2007 - 2008 Teacher at Moi Girls School, Nairobi County
- Executed expected duties that appertain to the teaching profession (teaching, guidance, counselling and role model provision and Head of Science Department)
- 2005 - 2007 Teacher at Muongoiya Secondary, Kiambu County
- Executed expected duties that appertain to the teaching profession (teaching, guidance, counselling and role model provision and Head of Science Department)
- 1994 - 2005 Teacher at Kanga High, Migori County
- Executed expected duties that appertain to the teaching profession (teaching, guidance, counselling and role model provision and Head of Chemistry)

## Administrative Responsibilities

- ✚ Managing the PACN project which includes organizing international conferences/ workshops/seminars; promoting chemical sciences in high school through science congress; distributing books within the Universities in Africa
- ✚ H.O.D. (Sciences), Moi Girls' School Nairobi (2007 – 2008)
- ✚ H.O.D (Sciences), Muongoiya Secondary School (2005 – 2007)
  - Resource Management
    - In charge of departmental records, schemes of work and laboratory inventories.
    - Ensuring safety and proper use of all apparatus/chemicals in the laboratory.
  - Curriculum implementation
  - Human Capacity Development
    - Providing leadership, direction and pragmatic hands-on execution of measured objectives through seminars and workshops.
- ✚ Head of Chemistry, Kanga High School (2000 – 2003)
  - Supervision and overseership
    - Setting, moderation of marking schemes, marking exams and handling remedial classes for slow learners.
    - Chemistry Projects for Science Congress.
  - Organizing inter-schools competition in the district.
  - Records and inventory
    - Keeping files for record of work, schemes of work and laboratory Inventories
  - Placing requisition for chemicals for school practicals
- ✚ Vice Secretary, Migori Chemistry Teachers Association (2001 – 2003)
  - Coordinated the dispatch and delivery of the Association Exams to various institutions in the district.

## Research Interests

- ✚ Synthesis of novel complexes with practical application in the detection of heavy metals in the environment and remediation of polluted water

## Publications in Peer Reviewed Journals

- 1) **Ruth, A. Odhiambo**, Austin, O. Aluoch, Lydia, W. Njenga, Stanley, M. Kagwanja, Shem, O. Wandiga and Ola, F. Wendt; Synthesis, Characterization and Ion-Binding Properties of Oxathiacrown Ethers Appended to  $[\text{Ru}(\text{bpy})_2]^{2+}$ : Selectivity Towards  $\text{Hg}^{2+}$ ,  $\text{Cd}^{2+}$  and  $\text{Pb}^{2+}$ . *Submitted for publication*
- 2) **Odhiambo, R.**, Muthakia, G.K. and Kagwanja, S.M.; Synthesis, Physical and Electrochemical Characterization of Mono- and Heterobinuclear *m*-Functionalized Iron(III) Schiff Base Complexes. *Trans Met Chem.*, **2012**, 37(5): 431-437: DOI: 10.1007/s11243-012-9606-3
- 3) **Ruth, A. Odhiambo**, Gerald, K. Muthakia and Stanley, M. Kagwanja; Synthesis and Characterization of Redox – Active Complexes of Molybdenum (II) Nitrosyl Linked to *p*-Functionalized Iron (III) - Schiff Bases, *Int. J. Chem. Res.*, **2011**, 1(3): 16-33
- 4) **R. Odhiambo**, G.K. Muthakia and S.M. Kagwanja; Synthesis, Characterization and Electrochemistry of Heterobimetallic Complexes Containing Molybdenum (II) Nitrosyl and Manganese(II)-Schiff Base Centers, *Bull. Chem. Soc. Ethiop.*, **2010**, 24(1): 47-58.
- 5) **R. Odhiambo**, G.K. Muthakia and S.M. Kagwanja; Synthesis and Characterization of Molybdenated *meta*-functionalized Manganese(II) Schiff Base Complexes, *Int. J. BioChemiPhysics*, **2009**, 17(1): 37-44

## Patent

- 1) Selective Recognition of Mercury (II) Ions Using Rhenium (I) Complexes Appended to Oxathiacrown Ether Ligands – *Submitted to KIPi* – KIPi number - KE/P/2016/002548

## Fellowships and Scholarships

- 1) International Foundation for Science (IFS) – USD 12,000
- 2) National Council for Science & Technology (NSCT) – Ksh 1,200,000
- 3) L'ORÉAL/UNESCO Regional Fellowships for Women in Science in Sub-Saharan Africa – USD 20,000
- 4) International Science Programme (ISP) – Joint award for the Inorganic Chemistry Research Group - USD 198,000 (2015 – 2018)

## Conferences, Seminars & Workshops

### List of Contributions

- 1) **Ruth, A. Odhiambo**, Ola F. Wendt, Shem O. Wandiga, Lydia W. Njenga, Stanley M. Kagwanja and Austin O. Aluoch; *Detection of Soft Heavy Metals Ions Using Ruthenium Oxathia Crown Ethers*. Oral presentation at the 5<sup>th</sup> SEANAC Conference, 9-13 Jun 2014, Reef Hotel, Mombasa.
- 2) **Odhiambo, R.**, Muthakia, G.K. and Kagwanja, S.M., “*Synthesis, Characterization and Electrochemistry of para Functionalized Manganese (II) Schiff- Base Complexes*” – Oral presentation at the 2<sup>nd</sup> Tanzanian Chemical Society International Conference, 5-7 Oct 2011, Giraffe Reef Hotel, Dar es Salaam, Tanzania
- 3) **Odhiambo, R.A.**, Muthakia, G.K. and Kagwanja, S.M., *Synthesis, Spectral and Electro-Chemical Studies of Heterobimetallic Complexes Containing Redox Active Molybdenum Nitrosyl Tris (3,5-Dimethyl Pyrazolyl) Hydroborate* – Poster presentation at the 4<sup>th</sup> International Kenya Chemical Society Conference; 22-26 Aug 2005, Kenyatta University
- 4) “*Challenges of Teaching Chemistry in High School*” Presented at the 2<sup>nd</sup> Conference of the IYC2011 Celebrations, 15-17 Feb 2012, University of Nairobi
- 5) “*Achieving Academic Excellence in Sciences*” Presented at a meeting between the 1<sup>st</sup> year female students and the Women in Chemistry on 14 Dec 2011, University of Nairobi, Chiromo Campus
- 6) “*Development of a Sensor for Soft Heavy Metals using Oxathiacrown Ether Macrocycles*” My PhD research proposal presented on 14 & 15 May, 2011 at the Universities of Lund and Göteborg, SWEDEN: Funded by International Science Programme (ISP)
- 7) “*Challenges of Awareness of Chemistry*” Presented at the Women in Chemistry International Year of Chemistry (IYC2011) launch breakfast on 18 Feb 2011, University of Nairobi, Chiromo Campus

### Attended/Participated

- 1) Workshop Training on Pedagogy and Andragogy; 28-30 June 2016, University of Nairobi, CCU
- 2) Workshop on Grant Proposal Writing; 18-20 May 2016, University of Nairobi, Chiromo Campus
- 3) National Workshop on the Trends in Teaching and Research in Inorganic Chemistry and its Applications in Kenya; 12-13 May 2016, University of Nairobi, Chiromo Campus
- 4) PACN Congress 2015 Healthcare: From Discovery to Delivery; 17-19 Nov 2015, University of Nairobi, Chiromo Campus
- 5) Workshop on Thesis and Paper Writing; 26 Jun 2014, University of Nairobi, Chiromo Campus
- 6) Conference on Oorgandagarna – Inorganic Days; 17-19 Jun 2013, AhusStrand, Ahus, Sweden
- 7) Workshop on Trends in Organic Chemistry: Organic Synthesis at Large Scale; 25 Apr 2013, Medicon Village, Lund, Sweden

- 8) AuthorAID Post-PACN-Congress Workshop on Research Writing; 24–25 Nov 2011, Centre for African Wetlands, University of Ghana, Ghana
- 9) UNES Proposal Writing Workshop; 19-25 Sept 2011, University of Nairobi, Chiromo Campus
- 10) NAPRECA Pre-symposium Workshop; 1-5 Aug 2011, University of Nairobi, Chiromo Campus
- 11) 22<sup>nd</sup> International Symposium: Synthesis in Organic Chemistry; 11-14 Jul 2011, Churchill College, University of Cambridge, UK
- 12) UNEP/IVM Workshop on Analysis of POPS in Environmental Samples; 11-22 Oct 2010, University of Nairobi, Chiromo Campus
- 13) The Second Science with Africa Conference (SWA II); 22– 25 Jun 2010, United Nations Economic Commission for Africa, Addis Ababa, Ethiopia
- 14) The 42<sup>nd</sup> IUPAC Congress on Chemistry Solutions; 2–7 Jul 2009, SECC, Glasgow, Scotland, UK
- 15) PACN International instrumentation workshop on GC-MS; 2– 6 Mar 2009, Jomo Kenyatta University of Agriculture and Technology

## Organized

- 1) National Workshop on the Trends in Teaching and Research in Inorganic Chemistry and its Applications in Kenya; 12-13 May 2016, University of Nairobi, Chiromo Campus
- 2) PACN Congress 2015 Healthcare: From Discovery to Delivery; 17-19 Nov 2015, University of Nairobi, Chiromo Campus
- 3) Chemistry Week for High Schools & Colleges; 26-30 May, 2014, University of Nairobi, Chiromo Campus
- 4) PACN International Instrumentation Workshop on GC-MS; 2-6 Sept 2012, Jomo Kenyatta University of Agriculture and Technology
- 5) The 2<sup>nd</sup> Conference of the International Year of Chemistry (IYC2011) Celebrations, “*Popularizing Chemistry with respect to Vision 2030,*” 15-17 Feb 2012, University of Nairobi
- 6) 1<sup>st</sup> PACN Agricultural Productivity Congress; 21-23 Nov 2011, Accra International Convention Centre (AICC), Accra, Ghana
- 7) PACN International Instrumentation Workshop on GC-MS; 22-26 Aug 2011, Jomo Kenyatta University of Agriculture and Technology
- 8) UNEP-GEF National Stakeholders Workshop on “*Strengthening Capacity of Developing Countries to Analyze POPS in Core Media,*” 27 Jul 2011, University of Nairobi, Chiromo Campus
- 9) International Year of Chemistry 2011 (IYC 2011) Celebrations Launch, 25 Mar 2011, University of Nairobi, Chiromo Campus
- 10) 1<sup>st</sup> PACN Green Chemistry Post-Congress Workshop on Writing Scientific Papers; 18-19 Nov 2010, Addis Ababa University, Ethiopia
- 11) 1<sup>st</sup> PACN Green Chemistry Congress at UN ECA, Addis Ababa, Ethiopia; 15-17 Nov 2010
- 12) PACN International Instrumentation Workshop on GC-MS; 23-27 Aug 2010, Jomo Kenyatta University of Agriculture and Technology

- 13) Symposium on the “*Recent Developments in Organic Chemistry Industry, Research and Teaching in Kenya*” 23 Jul 2010, University of Nairobi, Chiromo Campus
- 14) PACN Water Quality Workshop; 26 Mar 2010, University of Nairobi, Chiromo Campus
- 15) PACN Kenya - PACN Ethiopia Mini-Symposium on “*Chemistry and Innovation - from Spin-out to Market*” 6 Oct, 2009, Reef Hotel, Mombasa
- 16) PACN International Conference on Sustainable Water; 26-28 Aug, 2009, University of Nairobi, Chiromo Campus
- 17) PACN Green Chemistry and Sustainability Workshop on “*Education and Basic Research in Green Chemistry and Sustainability*” 25 Aug 2009, University of Nairobi, Chiromo Campus
- 18) PACN International instrumentation workshop on GC-MS; 2-6 Mar 2009, Jomo Kenyatta University of Agriculture and Technology
- 19) PACN Inaugural International Conference on Biodiversity; 10-12 Sept 2008, University of Nairobi, Chiromo Campus
- 20) The 20<sup>th</sup> ICCE satellite workshop on “*The Relevance of Chemistry in a Global Society*” 11–12 Aug 2008, University of Nairobi, Chiromo Campus
- 21) The 6<sup>th</sup> Kenya Chemical Society/East and Southern Africa Environmental Chemistry/8<sup>th</sup> Theoretical Chemistry in Africa International Conference; 5-10 Oct 2009, Reef Hotel, Mombasa

## Outreach Work

### Community Involvement and Activities

- 1) Senior Pastor, International Christian Assemblies, Jamhuri [2009 – To date].  
Am also involved in the following missional work:
  - Feeding the poor and hungry children (below 12 years) in Kibera slums twice a month
  - Empowering the community through trainings e.g. in healthcare & sanitation, micro-enterprise development, football academy (for football coaches within Kibera)
- 2) Co-Patron, Kibera Saints Football club [2014 – To date]
- 3) Board member, Olympic Primary School [2016 – To date]
- 4) Board member, Hope Community School [2015 – To date]
- 5) Board member, St Christine Community Centre and School [2014 – To date]
- 6) National Judge, Chemistry Exhibits in Kenya Science and Engineering Fair (for secondary schools) [2009 – To date]
- 7) Member of Women in Chemistry (WIC) [2013 – To date]
  - Am involved in reaching out to the secondary schools within Nairobi and its environs to promote chemistry and mentor young girls to pursue career in sciences
- 8) Assistant Presiding Officer, 2002 General Election

## Membership of Professional Societies

- 1) Kenya Chemical Society
- 2) Royal Society of Chemistry

## Referees

**Prof. Shem Wandiga**

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