

CURRICULUM VITAE (CV) – HARUN MBUVI

1. PERSONAL DETAILS

Name: Mbuvi Harun Mbatha

Current Address: Chemistry Department
Kenyatta University
P.O. Box 43844,
Nairobi, Kenya.

Cell phone 0713827513

Citizenship Kenyan

Gender Male

Place of Birth Machakos, Kenya

Current Position: Lecturer, Chemistry Department
Kenyatta University

Email Address: mbuvi.harun@ku.ac.ke,
mbuvi.harun@gmail.com

Qualification: Ph.D (Inorganic Chemistry) Iowa State
University, USA, (2007)

2. ACADEMIC QUALIFICATIONS

2007: Ph.D
Research Project – Inorganic Chemistry
Iowa State University, Ames, Iowa, USA

1998: Masters of Science
Research Project – Inorganic Chemistry
Kenyatta University, Nairobi, Kenya.

1994: Bachelor of Science, (Chemistry Major); Second Class Honors (Upper Division), Jomo Kenyatta University of Science and Technology

1989: Kenya Advanced Certificate of Education (KACE), Upper Hill High School, Nairobi.

1987: Kenya Certificate of Education (KCE), Kabete Technical School, Nairobi.

1983: Certificate of Primary Education, Nairobi River Primary School, Nairobi.

3. Professional Training

May - Nov 2014: Teaching Methodology Course organised by the Centre of teaching Excellence & evaluation, Kenyatta University between 28th May and 14th November, 2014. The course covered Teaching Methodology, Setting of Examinations, Administration of Examinations & Marking and Analysis of Scores.

Feb - March 2013: Training on Root Cause Analysis (RCA) for Departmental Quality Teams held at BSSC, Kenyatta University on 28th February 2013 and 20th March 2013.

May - June 2011: Open Education Resources and Flash animation Training Workshop organized by PHEA Educational Technology Initiative at Kenyatta University between the 9th May and 17th June, 2011. Training covered Course Design and Materials Development Guide, OER Copyright and Licensing Toolkit and use of CS-5 software to develop flash animated video clips for use in teaching and learning

4. Employment History/ Work Experience

2008 – Present: Lecturer, Chemistry Department, Kenyatta University.

2000 – 2008: Tutorial Fellow, Chemistry Department, Kenyatta University.

5. Administrative Responsibilities

2015: Committee to write a proposal for the establishment of the World Bank African higher education Centers of Excellence **Member**

2015: Committee to write a proposal for Establishment of African Centre for Excellence in 3D Printing Technology Research, Training and Fabrication **Member**

2013 – To date: Team Leader; Departmental Quality Management Committee

2009 – 2013: Departmental Examination Coordinator

2007 – 2012: Academic Advisor for fourth years

2007 – To date: Departmental Examination Moderation Committee (member)

2000 – 2002: In charge of Departmental Timetabling

2000 – 2002: In charge of recording minutes in Departmental meetings

6. Research Interests

I am interested in exploring and developing materials, techniques and practices that offer solutions to global and regional challenges through multidisciplinary research approach. Research projects in my group falls in the following broad areas

- Developing adsorbents for use in water treatment
 - In this area we have explored renewable materials, waste and there derivatives for use in remediation of waste water. We intend to build a data base that will enable development of customized household water treatment kits.
- Applying basic science to achieve sustainable agriculture
 - On this front we exploit basic science on soil, plant nutrients, adsorption and chemical ecology to pursue sustainable agriculture practices. This includes but is not limited to recovery of major nutrients, water and micronutrients from farm waste and food wastes. Adsorption studies of macro and micro nutrients in soils to enable tabulation of optimum dosage, Hydroponics as well as pursuing chemical ecology studies for use in organic farming .
- Monitoring and impact assessment of pollution and remediation
 - This area involves speciation studies of pollutants and exploring preventive measure and remedial processes
- Waste as a resource (zero waste)
 - On this front we explore value addition of waste through chemical or biochemical manipulation. Ways of value addition include composting for use in agriculture, production of adsorbent through surface modification, thermal or hydrothermal processing and extraction of valuable ingredients
- Catalysis
 - Explore and enhance green chemical processing methods and procedures by pursuing: new catalytic materials, improved catalytic turn over number and improve catalytic processes and conditions.

7. Research Publications and Impact

1. **Mbugua Gerald, Mbuvi Harun M.*, Muthengia Jackson;** *Rice Husk Ash Derived Zeolite Blended with Water Hyacinth Ash for Enhanced Adsorption of Cadmium Ions; current world environment.* (2014); 9(2):280-286. <http://dx.doi.org/10.12944/CWE.9.2.08>
2. **Kenyanya, O., Mbuvi, H.M.*, Muthengia, J.M. and Omayo, E.K.;** *Use of Adsorption Isotherm Models to Determine Potassium Fertilizer Acreage Doses for Optimum Maize Growth and Yields in Nyamira County, Kenya;* International Journal of Agriculture and Crop Science, (2014); 7(15):1525. <http://ijagcs.com/wp-content/uploads/2014/11/1525-1536.pdf>
3. **Nasiebanda, Roselyne; Onindo, Charles O.; Mbuvi, Harun M.*;** *Speciation Of Cadmium and Lead in Garage Soils From Ngara- Nairobi and Their Levels in Nearby Vegetables and Water;* International Journal of Physical and Social Sciences, (2014); 4(3):89-100. http://www.ijmra.us/project%20doc/2014/IJPSS_MARCH2014/IJMRA-4729.pdf
4. **Kenyanya, O Muthengia, J.M., Mbuvi, H.M., Omayo, E.K;** *Comparative Studies of Four Parametric Models for Potassium Adsorption in Soils of Nyamira County, Kenya,* International Journal of Management, IT and Engineering (2013); 3(11):32-42. http://www.ijmra.us/project%20doc/IJMIE_NOVEMBER2013/IJMRA-4073.pdf
5. **Kenyanya Omanga, Jackson Wachira, Harun Mbuvi *;** *Determination of Potassium Levels in Intensive Subsistence Agricultural Soils in Nyamira County, Kenya.* International Journal of Agriculture and Forestry. (2013); 3(7):294-302. <http://article.sapub.org/10.5923.j.ijaf.20130307.06.html>
6. **Chengo Katana, Murungi Jane, Mbuvi Harun*;** *Speciation of Zinc and Copper in Open-Air Automobile Mechanic Workshop Soils in Ngara Area-Nairobi Kenya.* Resources and Environment. (2013); 3(5):145-154. doi:10.5923/j.re.20130305.06 <http://article.sapub.org/10.5923.j.re.20130305.06.html>
7. **Chengo Katana, Murungi Jane, Mbuvi Harun*;** *Speciation of Chromium and Nickel in Open-Air Automobile Mechanic Workshop Soils in Ngara, Nairobi, Kenya.* world environment. (2013); 3(5):143-154. doi: 10.5923/j.env.20130305.01. <http://article.sapub.org/10.5923.j.env.20130305.01.html>
8. **Naftali T. Muriithi*, Charles O. Onindo, Harun M. Mbuvi and Dickson M. Andala;** *Oxidation of cyclic amines by molybdenum(II) and tungsten(II) halocarbonyls, [M(CO)4X2]2 (M = Mo, W; X = Cl, Br).* Bulletin of the Chemical Society of Ethiopia (2013); 27(2):233. <http://dx.doi.org/10.4314/bcse.v27i2.8>

9. **Harun M. Mbuvi, Erik R. Klobukowski, Gina M. Roberts, L. Keith Woo:** *OH insertion and tandem NH insertion/cyclization reactions using an iron porphyrin as catalyst with diazo compounds as carbene sources.* Journal of Porphyrins and Phthalocyanines - J Porphyr Phthalocya. (2010); 14(03):284. DOI: 10.1142/S1088424610001982
10. **Harun M. Mbuvi, L. Keith Woo:** *Addition of carbenes derived from aryldiazoacetates to arenes using chloro(tetraphenylporphyrinato)iron as catalyst.* Journal of Porphyrins and Phthalocyanines - J Porphyr Phthalocya. (2009); 13(01):136 DOI: 10.1142/S1088424609000036.
11. **Harun M. Mbuvi, L. Keith Woo:** *Catalytic C–H Insertions Using Iron(III) Porphyrin Complexes.* Organometallics (2008); 27(4):637-645.
12. **Lynnette K. Baumann, Harun M. Mbuvi, Guodong Du, L. Keith Woo:** *Iron Porphyrin Catalyzed N–H Insertion Reactions with Ethyl Diazoacetate.* Organometallics. (2008); 26(16).
13. **Harun Mbatha Mbuvi:** *The Reaction of Molybdenum Halocarbonyls , [Mo(CO)₄X₂]₂ (X=Cl, Br) With Alkylamines . Part1. Preparation of Substituted Aminecarbonylcomplexes of Molybdenum And Aminium Salts of The Type, HX(X=Cl, Br),.* Journal of the Kenya Chemical Society. (1999); 1(1):33-38.

Research Impact:

- Citations in Google Scholar: **113**
- Reads in Researchgate.net **1364**
- Views in Academia.edu **1158**

8. Masters Research Supervision (Completed)

SN	Name & Reg No.	Thesis Title/Link	Supervisors * principal supervisor	DOC
1	Nasiebanda, Roselyne I56/CE/11211/2007	Speciation of cadmium and lead in soils from open-air motor vehicle workshop in Nairobi and levels in nearby vegetables and stream http://ir-library.ku.ac.ke/handle/123456789/6842	Harun Mbuvi * Charles Onindo	Dec 2012
2	Mutua, Simon Mutuku I56/CE/11716/2007	Lead, Cadmium and Zinc speciation in Garage Soils, their Levels in Kales and Water along Katothyani Stream, Machakos	Jane Murungi* Harun Mbuvi	Dec 2013

		Town, Kenya http://ir-library.ku.ac.ke/handle/123456789/9047		
3	Chengo, Katana I56/CE/14217/2009	Speciation of selected heavy metals in open-air automobile mechanic workshop soils in Ngara, Nairobi county Kenya http://ir-library.ku.ac.ke/handle/123456789/11145	Harun Mbuvi * Jane Murungi	July 2014
4	Ireri, Sailus Mugendi I56/CE/11196/2007	Determination of the Levels of Selected Heavy Metals in Soil and in Khat (Catha EdulisForsk) Grown in Kenya http://ir-library.ku.ac.ke/handle/123456789/11067	Jane Murungi* Harun Mbuvi	July 2014
5	Mbugua, Wachira Gerald I56/CE/22769/2010	Zeolitic materials from rice husks and water hyacinth for removal of lead, cadmium, methylene blue and suspended particles from wastewater http://ir-library.ku.ac.ke/handle/123456789/12087	Harun Mbuvi * Jackson Wachira	Dec 2014
6	Omanga, Kenyanya I56/CE/22766/2010	Studies on potassium requirements for maize in Nyamira County, Kenya. http://ir-library.ku.ac.ke/handle/123456789/13303	Harun Mbuvi * Jackson Wachira	July 2015
7	Githinji, Irene Mueni I56/CE/22603/2012	Synthesis of Alumino-phosphates from Bones for use in Water Remediation http://ir-library.ku.ac.ke/handle/123456789/11803	Harun Mbuvi * Margaret Ng'ang'a	July 2015
8	Mbugua, Moses M. I56/22617/2011	Effectiveness of cactus biomass and its combusted products in removal of colour, turbidity and selected metal ions from contaminated water http://ir-library.ku.ac.ke/handle/123456789/11803	Harun Mbuvi * Margaret Ng'ang'a	July 2015

		library.ku.ac.ke/handle/123456789/13411		
9	Maingi Mukora Francis I56/CE/11157/2006	Aluminophosphates derived from tea leaves and pumpkin seeds ashes for removal of selected heavy metals from contaminated water	Harun Mbuvi * Margaret Ng'ang'a	Dec 2015
10	Hellen Wambui Ngugi I56/CE/21036/2012	Remediation of Turbid Water Containing Pb ²⁺ and Cd ²⁺ Ions Using Zeolite Derived from Rice Husk and Water Hyacinth Ashes	Harun Mbuvi * Margaret Ng'ang'a	Dec 2015
11	Margaret Wambui Gicheru Njagi I56/CE/21186/2012	Removal of Turbidity, Cd ²⁺ and Pb ²⁺ Ions Using Zeolites Derived from Rice Husk and Sugarcane Bagasse	Harun Mbuvi * Margaret Ng'ang'a	Dec 2015

DOC: Date of completion/graduation

9. On-going Ph.D and Msc Research Supervision

SN	Name & Reg No.	Thesis Title	Supervisors * principal supervisor	Level
1	Mariah Onditi I84/21921/2012	use of active biopolymers of cactus mucilage to fabricate a water nanofiltration device capable of removing bacteria and heavy metals in contaminated water	Harun Mbuvi * Caroline Ngila Evans Changamu	Ph.D
2	Kamisi Ann Katumbi I56/CE/20527/2012	Aluminophosphate Derived From Ashes of Brewed Tea Leaves Waste and Potato Peels for Water Remediation	Harun Mbuvi * Margaret Ng'ang'a	MSc
3	Danson Karwe Ngumo I56/26250/2011	Correlating phosphorus Levels in Sugar Bagasse-Derived Zeolites with Their Efficiencies and Capacities to adsorb Lead and Cadmium from Water	Harun Mbuvi * Margaret Ng'ang'a	MSc
4	Rutto Kibiwot Fedrick	Modification of Clay by Phytic Acid for the Removal of Lead from Aqueous	Harun Mbuvi * Jackson Wachira	MSc

	I56/CE/14145/2009	Solution		
5	Njue Martin Kivuti I56/CE/20531/2012	Using Cilantro Leaves and Stems to Remove Lead, Cadmium, Turbidity and Colour from Wastewater	Harun Mbuvi * Margaret Ng'ang'a	MSc
6	Muiruri Jannet Njeri I56/CE/26242/2011	Removal of Turbidity, Colour, Lead and Cadmium Ions from Contaminated Water Using Luffa Cylindrica Fiber and Its Pyro-Products	Harun Mbuvi * Margaret Ng'ang'a	MSc
7	Janet Kirigo Thiong'o I56/CE/23803/2012	Optimizing Conditions for Carbonizing and Activating Chicken Feathers for Adsorption of Lead and Cadmium Ions from Waste Water use in Water Remediation	Harun Mbuvi * Margaret Ng'ang'a	MSc
8	Chepngeno Sharon I56/CE/26248/2011	Conditions for Activation of Charcoal Derived From Bagasse for Optimum Adsorption of Pb and Cd Ions	Harun Mbuvi * Evans Changamu	MSc
9	Kariuki John Njuguna I56/CE/22622/2011	Removal Of Turbidity, Lead And Cadmium Ions From Wastewaters Using Products Derived From <i>Mangifera Indica</i> Kernel	Harun Mbuvi * Margaret Ng'ang'a	MSc
10	John Owuor Oyugi I56/CE/21922/2012	Comparative Evaluation of the Proximate, Micronutrients and Phytochemical Analysis of Medicinal Plants; Kuogo (<i>Lannea Schweinfurthii</i>), Sangla (<i>Rhus Natalensis</i>) and Ochol (<i>Euclea Divinorum</i>) Leaves and Rootbarks In Mbita- Homabay County	Margaret Ng'ang'a * Harun Mbuvi	MSc
11		Use of Ash and Charcoal from		

	Daniel Muvengei Mwangangi I56/CE/21443/2010	Maize Cobs for Removal of Selected Inorganic Ions, Colour and Turbidity from Waste Water	Harun Mbuvi* Margaret Ng'ang'a	MSc
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10. Conferences/ Seminars/ Workshops

May 2015: International Kenya Chemical Society to be held at the University of Nairobi from 5th – 8th May, 2015

August 2014: Kenya Chemical Society Workshop held at Jomo Kenyatta University on 30th August, 2014.

July, 2014: Royal Society Workshop held at the University of Nairobi, Chiromo Campus from 8th – 9th July, 2014.

June 2013: Postgraduate Seminar by MSc & PhD Graduands, Making Informed Choices for Kenya to Realize Double Digit Economic Growth held at the BSSC on 19th and 21st September, 2013

November 2012: Postgraduate Seminar by MSc & PhD Graduands, Applying Research to Regional Challenges of Leadership and Citizenship held at BSSC on 28th November, 2012.

October 2012: Harun Mbatha Mbuvi: *Speciation Of Cadmium And Lead In Garage Soils From Ngara-Nairobi And Their Levels In Nearby Vegetables And Water*. The 7th International Kenya Chemical Society Conference, Maseno University, Kenya; 10/2012

August 2011: Attended the Kenya Chemical Society Workshop to be held on 27th August at Chiromo Campus, University of Nairobi

September 2008: Harun Mbatha Mbuvi, Keith Woo: *New Catalytic Reactions of Iron(III) Porphyrins*. International Conference on Porphyrins and Phthalocyanines (ICPP-5); 07/2008

August 2008: Harun Mbatha Mbuvi: *The Reaction of Molybdenum halocarbonyls, [Mo(CO)4X2]2 (MoX=Cl,Br) with Cyclic Amine*. The Kenya Chemical Society, Seminar, University of Nairobi, Kenya; 08/1998

11. RESEARCH GRANTS/FUNDING

1	2012	Speciation studies of selected heavy	National Council	Research	195,000
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		metals in soils and sediments collected from athi river region, Machakos county, Kenya Position:- Principle investigator	of science and technology (NCST)	grant	
2	2013	Effectiveness of Cactus Biomass and its Processed Products in Removing Colour, Turbidity and Selected Metal Ions from Contaminated Water Position:- Principle investigator	National Council of science and technology (NCST)	Research grant	198,000
3	2013	use of active biopolymers of cactus mucilage to fabricate a water nanofiltration device capable of removing bacteria and heavy metals in contaminated water Position:- Principle investigator	for Women in Science from Developing World (OWSD); (Fund reservation number 3240274097))	Research grant	

12. JOURNAL REVIEW AND THESIS EXAMINATION

1)	2015	Waweru, Beatrice Wanjiku	Removal Efficiency and Sorption Mechanism of Selected Heavy Metal Ions by Onion Skins (<i>Allium cepa</i>) in Raw and Modified Forms	MSc	KU	Chemistry
2)	2015	Kariuki Stephen Warui	Beneficiation of Titanium Ore Oxides Using In-Situ Biomass	MSc	KU	Chemistry
3)	2015	Enos Wamalwa Wambu	Removal of Fluoride from Water by Adsorption Using Natural Geomaterials from Kenya – A Comparative Study	Ph.D	KU	Chemistry

4)	2015	Kenya chemical society manuscript - review	Thermodynamics of Micellization of Amphiphilic Non-Ionic Tri-Block Copolymer and Anionic Surfactant Sodium Dodecyl Sulphate in Aqueous Solutions				Chemistry
5)	2014	Wachira David Maina	Iron Removal from Clays by Acid-Treatment and Possible Reversal of the Clay's Plasticity	MSc	KU		Chemistry
6)	2014	Geoffrey Osoro Mosiori	Thermo-Chemical Characteristics of Potential Gasifier Fuels in Selected Regions of the Lake Victoria Basin	MSc	KU		Chemistry
7)	2014	Mutembei Peterson Kugeria	Iron Enrichment In Laterite from Differed Localities of Tunyai Division in Tharaka Nithi County	MSc	KU		Chemistry
8)	2013	Ngorwe Evans Nyaenya	Determination of selected trace elements and beta-carotene in some solar dried indigenous vegetables as potential food supplement in Kiambu, Kenya	MSc	KU		Chemistry

13. COMMUNITY OUTREACH

- I was part of a team that mobilized for book drive in Iowa USA that led to shipment of books to Kenyatta University library in late 2006
- I have animated Open Educational Resources, OER as teaching aids in form of video clips and posted them on public You Tube public access channel. The can be found in the following links
- I served as the Chairman of Sunday School ministry and Sunday school teacher at Kenyatta University Chapel August 2012 to May 2015

14. MEMBERSHIP IN PROFESSIONAL BODIES

- Kenya Chemical Society (KCS)
- Kenyatta University Alumni
- Current World Environment