

CURRICULUM VITAE

1.0 Personal Information

Name: Dr Margaret Mwhaki Ng'ang'a

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Languages: English, Kiswahili and Kikuyu

Gender: Female



2.0 Qualifications:

2.1 Academic

- 2008: PhD in Natural Products Chemistry , Kenyatta University with 6 months research visit to Paderborn University, Germany
- 1999: Master of Science (Chemistry), Kenyatta University
- 1995: Bachelor of Education (Science), First class honors, Kenyatta University

3.0 Fellowships:

Nominated for a three (3) months 2012 Seeding Labs/Novartis Fellowship Program in Boston, USA (May-August, 2012)

4.0 Employment History/Work Experience

- Senior Lecturer: March 2015- Present
- Lecturer: January 2009 to February 2015 , Kenyatta University
- Tutorial Fellow: 1999-September 2008, Kenyatta University
- AVU Chemistry course Facilitator: 2000-2002, Kenyatta University
- Graduate Assistant: 1997-2000, Kenyatta University
- Graduate teacher, March 1995-March 1996, Kanyama Secondary School

5.0 Postgraduate Supervision

	Students Name / Reg. No.	Title of Thesis	Institution
1.	David Otieno Ywaya I56/15428/2009 (MSc)	Efficacy of repellency of essential oils of selected plants growing in western kenya against Anopheles gambiae	KU
2.	Margret Wangeci I56/15192/2008 (MSc)	Characterization of blend in cattle anal odour responsible for repellency against brown ear tick (Rhipicephalus appendiculatus), the vector for east coast fever	KU
3.	Muthengi Alex Mugwiria I56/22813/2011	Structure-activity studies of p-menthane-3,8-diol stereoisomers and analogues	KU

4.	Bernard Makanga I56/ (MSc)	Repellency of tagetes minuta essential oil selected from different agro-ecological zones in Kenya against brown ear tick (<i>Rhipicephalus appendiculatus</i>)	KU
5..	William Julius Mwenda I56/10088/08 (Msc)	Selective monobenzoylation of 1,2-diols in water	KU
6.	Shylock O. Onduso I56/CE/15074/2008 (Msc)	Determination of levels of pyrrolizidine alkaloids in <i>symphytum asperum</i> growing in selected parts of kenya	KU
7.	Ndirangu Ephantus 156/12775/09(MSc)	Repellent and fumigant toxicity of nigella sativa seeds essential oil against mosquitoes and sandflies and identification of the active blend	KU
8	Wamakima Hannah Nyakio 156/22613/2011 (MSc)	Syntheses and antimalarial evaluation of quinoline-trioxane and quinoline-chemosensitizer hybrid drugs	KU
.	Nguru Joseph Joseph Muhiu 156/10089/2008(MSc)	Studies on cattle ear odour blend responsible for attraction of <i>Rhipicephalus appendiculatus</i> , vector of cattle disease, east coast fever	KU
9.	Cheruiyot K. Paul I56/22825/2011 (Msc)	Determination of levels of catechins and volatile constituents in selected tea clones cultivated in different altitudes of Bomet county	KU
10	Ombuna Naftal Momanyi I56/CE/11215/2007 (Msc)	Isolation and characterization of <i>Erythrina</i> species	KU
11	Ronald Nyakweba Otondi, I56/20057/2012 (MSc)	Repellancy studies on structural-electronic features of -octalactone analogues and blends against tsetse flies (<i>G. Pallidipes</i> and <i>G.morsitans</i>)	KU
12.	Mbugua Moses Macharia I56/22617/2011 (MSc)	Use of cactus biomass and its processed products in removal of colour, turbidity and selected metal ions from water	KU
13.	Tom Shikorire N50/CTY/PT/23014/2011 (MSc)	Analysis of emission profiles from burning charcoal produced from different tree species by different pyrolysis methods	KU
14.	Collin Odhiambo I56/CE/11160/2006 (Msc)	Semi-field efficacy of live potted repellent <i>Conyza newii</i> against <i>Anopheles gambiae</i> in kilifi county, coastal kenya	KU
15.	Benson Mureithi Wachira I56/21434/2010 (Msc)	Structure-repellence studies of -octalactone analogues and blends against <i>Glossina pallidipes</i>	KU
16.	James Mwangi Njogu 184/21452/2012 (PhD)	Fabrication of rapid diagnostic kit casing using degradable cellulosic material as an alternative to plastic	KU

17.	Charles Ngatia 156/10844/2008	Safety and phytochemical studies of <i>Plectranthus barbatus</i> extracts	KU
18.	Nyanga'u Okong'o Dismas I56/CE/22241/2010 (PhD)	Effect of water hyacinth in bioaccumulation of polycyclic aromatic hydrocarbons in the soils around shores of lake Victoria- Kenya	KU
19.	Ann Ngare (PhD) SC/PHD/C/06/12	Chemical analysis, Determination of bee attractant properties and Application of Selected <i>Ocimum</i> plants' species for improved apiculture	KU
20.	Joel Mutai I84/24811/2012 (PhD)	Screening of some plants of Rhamnaceae family for acaricidal Properties on and repellent against <i>Rhipicephalus appendiculatus</i> Neumann, 1901	KU
21.	Hellen Wambui Ngugi 156/CE/21036/2012 (Msc)	Remediation of turbid water containing Pb^{2+} and Cd^{2+} ions using zeolite derived from rice husk and water hyacinth ashes	KU
22.	Margaret Wambui Gicheru Njagi I56/CE/21186/2012 (Msc)	Evaluation of zeolite synthesized from rice husk and sugarcane as potential adsorbent for Cd^{2+} , Pd^{2+} , turbidity and color	KU
3	John Njuguna Kariuki I56/CE/22622/2011 (Msc)	Adsorption of Pb^{2+} and Cd^{2+} ions from wastewaters using <i>Mangifera indica</i>	KU
24.	Karwe Ngumo I56/26250/2011 (Msc)	Efficiencies and Capacities of Bagasse Derived Zeolites blended with phosphoric materials to Remove Selected Contaminants from Water	KU
25.	John Owuor Oyugi I56/Ce/21922/2012 (Msc)	Evaluation of the proximate, micronutrients and phytochemical analysis of selected medicinal plants in Mbita- homabay county	KU
26.	Titus Munyao Kasimu (Msc) I56/CE/21187/2012 (Removal of selected contaminants from water using coconut derived adsorbents	KU
27.	Muoki John Sila, 156/CE/22218/10 (Msc)	Speciation of essential macronutrients in soils from selected farms of Matungulu, Machakos County, Kenya.	KU
28.	Murakaru Peter Njoroge (Msc) I56/CE/22217/2010	Defluoridation of water using rice husk derived zeolite and bone char	KU
29.	Margaret Wangechi Kariuki (PhD) I84/27567/2013	Development and evaluation of controlled release formulations of cattle anal odour constituents, blends and analogues against <i>Rhipicephalus appendiculatus</i> , the vector for East Coast Fever	KU
30..	Dorothy Nyamai (Msc) I56/24138/2013	Assessment growth and phytochemical yield of a fifteen-year-old <i>Prunus africana</i> stand at Muguga, Kenya	KU

31	Yahaya H. Maingu I56/CE/26218/2011 (Msc)	Assessment of Natural Radioactivity Levels and Heavy Metals in River Mkurumudzi waters and the Top soils in the titanium mining areas in kwale county - Kenya, after the start of the mining activity	KU
46	Pauline Kamau I56/CE/23845/2012	Optimizing conditions of carbonation of water hyacinth for removal of lead and cadmium ions from contaminated water for domestic and industrial use	KU

6.0 Research and Publications

6.1 On Going Research Projects

1. Isolation and Characterization of compounds isolated from anticancer plants
2. Development of simple on-host behavioural manipulation tactics of controlling *R. appendiculatus*, the vector of the cattle disease East Coast Fever. Tick repellents chemical constituents against *Rhipicephalus appendiculatus*
3. Development of low-cost diagnostic devices from locally available materials that biodegrade and can be incinerated
4. Structural-activity studies of potential menthane-diol tick repellents
5. Adsorption studies using Agricultural wastes for removal of contaminants.

6.2: Publications

1. **Margaret Mwihaki Ng'ang'a**, Hidayat Hussain, Sumesh Chhabra Caroline Langat-Thoruwa, Karsten Krohn, Javid Hussain, Ahmed-Al- Harrasi, Ivan Robert (2012). Eucleanal: A new naphthalene derivative from *Euclea divinorum*. *Natural Products Communications* **7** (2): 193-194
2. **Margaret Mwihaki Ng'ang'a**, Hidayat Hussain, Sumesh Chhabra Caroline Langat-Thoruwa, Karsten Krohn, Javid Hussain, Ahmed-Al- Harrasi, Ivan Robert (2012). Eucleanal A and B: Two new naphthalene derivatives from *Euclea divinorum*. *Chinese Chemical Letters* **23**: 576-578
3. **Margaret Mwihaki Ng'ang'a**, Hidayat Hussain, Sumesh Chhabra Caroline Langat-Thoruwa, Mohammed Riaz, Karsten Krohn, (2011). Drypetdimer A: A new flavones dimer from *Drypetes gerrardi*. *Natural Products Communications* **6**: 1115-1116.
4. **Margaret Mwihaki Ng'ang'a**, Hidayat Hussain, Sumesh Chhabra Caroline Langat-Thoruwa, Beatrice Irungu, Ahmed Al-Harrasi Muhammed Riaz, Karsten Krohn (2012). Antiplasmodial activity of compounds from *Drypetes gerrardi*. *Chemistry of Natural Compounds*. **48**: No. 2 (Russian Original No. 2 March –April 2012)

5. **Margaret Mwihaki Ng'ang'a**, Hidayat Hussain, Sumesh Chhabra Caroline Langat-Thoruwa, Karsten Krohn (2009). Chemical constituents from the root bark of *Ozoroa insignis*. *Biochemical Systematics and Ecology* **37**: 116-119

6. **Margaret Mwihaki Ng'ang'a**, Sumesh Chhabra, Caroline Langat-Thoruwa, Hidayat Hussain Karsten Krohn (2008). Chemical constituents from the leaves of *Drypetes gerrardii*. *Biochemical Systematics and Ecology* **36**: 320 – 322.

7.0: Grants Awarded

Status	Year	Title of research	Donor	Amount (Ksh /\$)
Principal Investigator	October, 2012	Development of low-cost diagnostic devices from locally available materials that biodegrade and can be incinerated	Grand Challenges Canada (GCC) grant (Reference Grant number 0153-01)	CAN \$100,000
Principal Investigator	December, 2010	Development of simple on-host behavioural manipulation tactics of controlling <i>r. appendiculatus</i> , the vector of the cattle disease east coast fever.	ST & I Women Scientists Grant (NCST/5/003/w44)	1,433,500

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8.0 Conferences / Seminars / Workshops

1. Participated in the **Leadership training during the 2013 Regional Conference of the international Network of Women Engineers and Scientists (INWES)** held at the Kenya School of Monetary Studies from 19th – 21st November 2013, Nairobi Kenya. **Theme:**(Presented). **Title:** Ng'ang'a M. , Ywaya O. David, Michael A. Birkett, Ahmed Hassanali, John A. Pickett and Lwande Wilber. "Efficacy of Repellency of Essential Oils of selected Plants Growing in Kenya against *Anopheles gambiae*"

2. Participated in Patent Drafting and Dispute Resolution workshop organized by Regional Centre Capacity Development Kenyatta University, held between 5th -9th August 2013.

3.. Participated in Training of trainers (TOT) workshop on HIV mainstreaming and integration into curriculum held at Kenyatta University Business Services and student Centre (BSSC) on 21st – 24th May 2013 .

4. Participated in AAU-EASRN Training of trainers (TOT) workshop on HIV mainstreaming and integration into curriculum held at Kenyatta University Business Services and student Centre (BSSC) on 25^t – 26th September 2012. **Theme: Getting Zero**

5. Participated and completed 2012 Seedling Labs grant writing Curriculum in Boston State, USA between May –August 2012.

6. Participated and completed 2012 (May –August) visiting Fellow Program hosted by Novartis Institutes for Biomedical Research and Seeding Labs, LLC in Boston States, USA

7. Participated in the 14th NAPRECA Symposium and AAMPS Ethnoveterinary Medicine Symposium held in 8th -12th at International Centre for Insect Physiology & Ecology (ICIPE) Kasarani, Nairobi, Kenya. Theme: Natural Products from African Biodiversity. Presented Antiplasmodial compounds from the leave of *Drypetes gerrardi* **NG'ANG'A M. M**, Thoruwa-Langat C, Chhabra

8. Participated in African Women in Science and Engineering (AWSE) Conference held at Kenya School of Monetary Studies, Nairobi on 18th -20th August, 2010. **Theme** “A decade into the 20th Century: The contribution of African Women Scientists and. Engineers. **(Presented)**.

Title: “In vitro antiplasmodial and cytotoxicity activities of selected medicinal plants from Kenya.” (**NG'ANG'A M. M**, Thoruwa-Langat C, Chhabra).

9. 4th ANDI stakeholder meeting and donors conference 24-27 October 2011 held at Ethiopia. **Theme** “creating a sustainable platform for R \$ D innovation in Africa to address Africa own health Needs. **NGANGA M. M**, Thoruwa-Langat C, Chhabra S. Isolation and in vitro antiplasmodial activity of compounds from the leaves of *Drypetes gerrardi* **(Poster)**

10. Participated in the 2nd National Science, Technology and Innovation week at KICC, Nairobi, 13th -17th May, 2013

9.0 Recognition

- Appointed Board member for Kenyatta university Regional Centre Capacity Development
- Appointed as a peer reviewer of research proposals for the Science, Technology and Innovation grants by National Council for Science, and technology (NCST) held at Kenya Commercial Bank, leadership Centre from 6th -8th December 2011
- Reviewer Manuscript No: 1366274610-AJPAC-12.04.13-0500
- Member of Board of Directors of Gaicanjiru High School (2012-2015)
- Member of Board of Directors of Gaicanjiru Mixed Secondary School (2012- 2015)
- Member of Board of Directors of St Charles Lwanga Secondary School (June, 2004-June 2007)
- Mentor, Kenyatta University
- Mentor, Muranga County Project “Muranga Child Can”

11.2 Professional Affiliation

- Member Kenya Chemical Society (KCS),
- Member, Kenyatta University Alumni
- Member, Kenya DAAD Scholars Association (KDSA),
- Member, DAAD Alumni, University Staff Development Program (UNISTAFF)
- Member, Natural Products of Eastern & Central Africa (NAPRECA)
- Member, International Network of Women in Engineering and Science (INWES)
- Member, African Women in Science and Engineers (AWSE)

11.3 Internal Examiner for MSc theses

	Students Name / Reg. No.	Title of Thesis	Institution
1.	Mr. Joseph Ochieng Odundo I56/CE/14147/09 (Msc)	Quantification of artemesinin in cultivars and wildlings of <i>Artemisia annua</i> L. in western Kenyan soils	KU
2.	Ms. Onyambu Zipporah Moraa I56/Ce/14149/09 (Msc)	Levels of selected heavy metals in <i>aloe vera</i> cosmetics sold in Nairobi county, Kenya	KU
3.	Ombuna Dinah Nyaitondi I56/10365/2007 (Msc)	Antibacterial properties and GC-MS analysis of extracts and essentilas olis of selected plant products	KU
3.	Joel Mutai I56/Ce/11158/2006 (Msc)	Evaluation of selected botanicals and diatomaceous earth as maize protectant against Sitophilus	KU
4.	Skudi Joseph Bwire I56/13106/05Msc	Effectiveness of ph adjustment in lowering ions in alum treated grey water for mopping and laundry in Githurai, Kenya	KU
5.	Mr. Award Mohamed mbarak I56/10150/04 (Msc)	Phytochemical and biological screening of <i>Ochna holtzii gilg.</i> from Kenyan coastal region	KU
6.	Mr. Stanley Irungu I56/13105/05 (Msc)	Isolation and characterization of antimicrobial compounds from the plants, <i>Erythrina abyssinica</i> and <i>Chasmanthera dependens</i>	KU
7.	Mbithi Justus Muema	Phytochemical And Antimicrobial Investigation Of <i>Ochna Thomasiana</i> Engl. &Gilg	KU
8	Wasike Peter Wekesa I56/211203/2007	Analysis of selected heavy metals in water from river Kuywa and adjacent wells in Bungoma central sub county Kenya	KU
9.	Michuki Julius Mungai (I56/CE/22623/2011)	Optimizing conditions for preparing activated carbon from avocado seeds for best adsorption of lead ions from waste water	KU

REFEREES

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