

# Curriculum Vitae

**Dr. Martha Namayi Makobe**

**P.O BOX 62000 (00200) Nairobi, Kenya**

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## PERSONAL DETAILS:

Date of Birth February 1<sup>ST</sup> 1956, Kakamega District, Kenya  
Citizen Kenyan  
Gender Female  
Marital Status Married with 3 Children  
Profession Plant physiologist, Botany  
Qualifications Ph.D. (Plant Biochemistry and Physiology), MSc. Plant Biochemistry and Physiology, B. Ed. (Sci)  
Languages English, Kiswahili and Luhya (speaking, writing and reading)  
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Cell phone +254725532689

## EDUCATIONAL BACKGROUND

Institution	Period	Qualification
University of Nairobi	1996 – 2003	Ph.D. Plant Biochemistry and Physiology
University of Nairobi	1988-1990	MSc. Plant Biochemistry and Physiology
University of Nairobi	1980 – 1984	B. Ed. (Sci) Upper 2 <sup>nd</sup> Class Upper Division
KSTC	1977 – 1980	S1
Ng'iya Girls High School	1975-1976	E.A.A.C.E (1p 2s)
Butere Girls High School	1971-1974	E.A.C.E Div. 2
Mulwanda Primary School	1964-1970	C.P.E

## MY THESIS TITLES

Development of Salt Tolerant Cultivars in *Sorghum bicolor* (L) Moench by Tissue Culture Method, University of Nairobi (PhD 2004)

Studies on the Effect of Ammonium Sulphate and Sodium Nitrate on Crassulacean Acid Metabolism (CAM) in Kalanchoe Species, University of Nairobi (MSc 1992)

## **EMPLOYMENT AND PROFESSIONAL EXPERIENCE**

### **TEACHING/RESEARCH**

**December 2006 to date**

**Senior Lecturer, Botany Department, Jomo Kenyatta University of Agriculture and Technology**

Supervising PhD, MSc and Undergraduate students; Lecturing undergraduate and postgraduate students, Curriculum development, Conducting and coordinating research.

Responsibilities include: -

Lecturing (Photosynthesis, Plant Water Relations, Plant Ecophysiology and Physiology of plant growth) to M.Sc. and undergraduate students, Organizing practicals and field trips, Supervising M.Sc. and Undergraduate students in research activities, a resource person for the Department of Botany.

**July 1995- 2006**

**Lecturer in the Department of Botany at the Jomo Kenyatta University of Agriculture and Technology**

Responsibilities included: -

Lecturing (Photosynthesis, Plant Water Relations, Plant Ecophysiology and Physiology of plant growth) to M.Sc. and undergraduate students, Organizing practicals and field trips, Supervising M.Sc. and Undergraduate students in research activities, a resource person for the Department of Botany.

**June 1992 – June 1995**

**Assistant Lecturer, Botany Dept, Jomo Kenyatta University of Agriculture and Technology**

Responsibilities included, teaching undergraduate students in the area of plant biochemistry and physiology, and organizing practical sessions and field trips

### **ADMINISTRATIVE RESPONSIBILITIES**

**2000- to date** -Chairperson of Departmental Board of Postgraduate Studies committee

**2011 to date** -external examiner in the Department of Botany and Horticulture; Maseno University

**2000- to date**- Departmental Postgraduate Seminar coordinator

**1985 to date** - Assistant Chief Examiner (ACE) with Kenya National Examination Council (KNEC) in K.C.S.E Biology Theory paper (231/1)

**1995 – 2000**-Academic advisor 1<sup>st</sup> year- regular programme

**1995-1997**-Examination officer of the Botany Dept. Responsibilities is to oversee processing of exams in the department

**2000-2001-** Coordinator of undergraduate, postgraduate and departmental research projects.  
Responsible for organizing seminars and approving proposal  
**2000-2001-**Academic Advisor to M.Sc. students of the Botany Department

### STUDENTS SUPERVISION

YEARS	PROJECT TITLE	DEGREE
2010	Odhiambo Peter Onyango. (Ongoing) Ethnobotany, Tissue Culture, Seed Oil Extraction and Characterization of <i>Thevetia peruviana</i> (Yellow Oleander), Orange and Yellow Flowering Varieties in Kenya.	PhD
2011	Dominic Menge. (defended). Thesis entitled “Etiology, epidemiology and management strategies of leaf and nut blight of cashew trees ( <i>Anacardium occidentale</i> Linn) caused by <i>Cryptosporiopsis</i> spp”.	PhD
2010	Adelaide Tindivale Mutune. (Ongoing) “Heavy metal contamination of African indigenous vegetables in urban and peri-urban Nairobi and their potential as phytoextractors”.	PhD
2012	Kisua John Mbaluka (ongoing). Genetic Diversity of selected sweet sorghum and grain sorghum and their performance in ASALs.	MSc
2011	Peter Mochama Onkwara (Graduated). Isolation and characterization of Bacteria from the intestinal tracts and nests of soil-feeding and fungus-cultivating termites.	MSc
2011	Nyasetia Menge Shane Dominic (Graduated). In vitro and In vivo antifungal activity of crude extracts against bean rust and their effects on physiological activities of French beans.	MSc
2011	Wambua Judy Mwendu (Graduated). Field evaluation of seeds of somaclonal variants in search of salinity tolerant sorghum ( <i>Sorghum bicolor</i> (L) Moench) for growth in Arid and Semi-arid regions along with molecular characterization using SSR markers.	MSc
2008	Maluku Patrick Mutua Genetic Variation and agronomic performance of slenderleaf ( <i>Crotalaria</i> spp) accessions in Kenya. (Ongoing)	MSc
2011	Omondi Emmanuel Gordon Otunga. (Graduated) Evaluation of mutants and somaclonal variants of <i>Sorghum</i> ( <i>Sorghum bicolor</i> (L) Moench) for drought resistance using SSR markers and nutritional traits.	MSc
2006	Otieno Nicholas Amimo. (Graduated) Diversity and abundance of wild host plants (Poaceae, Cyperaceae, Typhaceae) of lepidopteran stem borers in Kakamega forest and Muhaka station.	MSc
2005	Odhiambo Peter Onyango. (Graduated) Ethnobotany, tissue culture, seed oil extraction and characterization of <i>Thevetia peruviana</i> (Yellow Oleander), Orange and Yellow Flowering varieties in Kenya.	MSc
2013	Antimicrobial, Cytotoxic and genotoxicity testing of <i>Urtica dioica</i> crude leaf	Bsc

	extracts. Brian Andika Kabunga	
2013	Phytochemical, insecticidal and antimicrobial effect of <i>Melissa officinalis</i> Odour Samson Siudin	Bsc
2013	Phytochemical analysis and antimicrobial assay of leaf extract from <i>Senna didymobotrya</i> on <i>Salmonella typhi</i> and <i>Candida albicans</i> . Ngila Joseph Musila	Bsc
2012	Phytochemical analysis and antimicrobial screening of white mulberry ( <i>Morus alba</i> ) leaf and stem extract. Grace Wangari Ndungu	Bsc
2012	Muli Joshua Kiilu. Phytochemical screening and antimicrobial assay of the crude extracts from leaves, roots of <i>Kleinia petraea</i>	Bsc
2011	Apondi Evans Ochieng .A pharmacognostic study of <i>Dombeya torrid</i> .	Bsc
2010	Sellah Misanya Mwanja Antimicrobial activity, toxicity test and phytochemistry of the crude extracts of leaves, stem and roots of <i>Laggera brevipes</i> .	Bsc
2010	Ngetich Victor. Phytochemical analysis and antimicrobial screening of the crude extracts of the leaves, stems and roots of <i>Oxalis latifolia</i> .	Bsc
2010	Muriuki C. Gitonga. Phytochemical screening and antimicrobial assay of the roots, leaves and bark crude extracts of <i>Podocarpus gracilior</i> .	Bsc
2009	Omollo Lydia Vivianne. Prevalence of anemic malaria in children below the age of 5 years and expectant mothers attending Kisumu District Hospital.	Bsc
2009	Kimanzi Fridah Kavutha. Phytochemical screening and antimicrobial assay of the roots, leaves and bark crude extracts of <i>Indigofera spicata</i> .	Bsc
2009	Sakah J. Kaunda. Antimicrobial assay and phytochemical screening of crude extracts from the leaves, roots and stems of the plant ( <i>Vernonia jugalis</i> ).	Bsc
2009	Job A. Maangi. Antimicrobial assay and phytochemical analysis of crude extracts from the leaves, roots and stems of <i>Sapium ellipticum</i> .	Bsc
2009	Wafula D. Wayiya. Phytochemical and antimicrobial screening of leaves, bark and roots of <i>Albizia gummifera</i> .	Bsc
2007	Ngunyi W. James. Phytochemical screening and antimicrobial assay of the root, leaves and bark crude extract of <i>Zanthoxylum usambarensis</i> ( <i>Faraga usambarensis</i> ).	Bsc
2007	Odoke A. Irene. Phytochemical screening and antimicrobial assay of the leaves and roots crude extracts of <i>Gomphocarpus fruticosus</i> .	Bsc
2006	Shem Peter Mutua Mutwiri. Comparison of antibiotic resistance patients in enteric pathogens due to heavy metal pollution in the wetlands of Lake Victoria.	Bsc
2006	Kaaria K. Purity. Determination of phenotypic differences between environmental and enteric <i>Klebsiellas</i> .	Bsc
2006	Rachuonyo W. Ochieng'. Determination of microbial load on selected fish samples collected from Gikomba market.	Bsc
2006	Miganda F. K'ernest (2006). Determination of microbial load of fish fillets from Nairobi city market.	Bsc
2009	Muriuki C. Gitonga (2009). Phytochemical analysis and antimicrobial screening of the crude extracts of the leaves, stems and roots of <i>Podocarpus falcatus</i> .	Bsc
2009	Eustine I soita (2009). Phytochemical, antimicrobial screening and	Bsc

	antioxidant activity of crude extracts of leaves stem and roots of <i>Tylosema fassoglensis</i> .	
2008	Moffat N. Onyango (2008). Phytochemical screening of <i>Coriandrum sativum</i> .	Bsc
	Elidah Ochieng (2008). Phytochemical screening and antimicrobial screening of <i>Melia azedarach</i> .	
2008	Edith C. Koskei (2008). Phytochemical and antimicrobial screening of extracts of roots, leaves and bark of <i>Schkuhria pinnata</i>	Bsc
2008	Monyenche Madriter Ocharo. Phytochemical screening of <i>Ipomoea cairira</i> .	Bsc
2008	Tache Elema Duba. Bacteriological investigation of water provided by Nairobi Water and Sewerage company.	Bsc
2008	Nyaboga Hector John. Phytochemical and antimicrobial screening of <i>Ocimum gratissimum</i> .	Bsc
2008	Bulle Ibrahim Daar. Phytochemical and antimicrobial screening of <i>Monadenium sp.</i>	Bsc
2008	Rotich David M. Microbial investigation of tap water provided by N.C.W.S.C in Kangemi, Uthuru and lower Kawangware.	Bsc
2008	Korir Weldon Kimutai. Isolation and characterization of microbial contaminants of operating rooms at the Moi Teaching Referral hospital.	Bsc
2007	Elema Yattani Sora. Phytochemical analysis and antimicrobial screening of the leaves, roots and stem bark of <i>Combretum molle</i> .	Bsc
2007	Joshua Muriuki Ndwiga. Phytochemical screening and antimicrobial assay of the flowers, leaves and stem bark crude extracts of <i>Jasminum mesnyi</i> .	Bsc
2007	Paul Ochieng Otieno. Phytochemical assay and antimicrobial screening of the crude extract of the leaves and roots of <i>Conyza bonariensis</i> .	Bsc
2007	Musili Winfred Kyambi. Phytochemical analysis and antimicrobial screening of <i>Solanum incanum</i> .	Bsc
2007	Mohamed M. Adan. Phytochemical and antimicrobial screening of <i>senna siamea</i> .	Bsc
2007	Musomba Dominic Mwanza. Phytochemical screening and antimicrobial assay of the root, leaves and bark crude extracts of <i>Adansonia digitata</i> (Baobab).	Bsc
2007	Wambua Stephen Musyoka. Antimicrobial screening of crude extract of stem root and leaves of <i>Cassia singueana</i> .	Bsc
2007	Njire Moses Mucugi. Antimicrobial assay and phytochemical screening of crude extracts from leaves, roots and stem of the plant <i>Dodonaea viscosa</i> .	Bsc
2007	Christine C. Mutai. Phytochemical screening and antimicrobial assays of leaves, stem and root crude extracts of <i>Rubia cordifolia</i>	Bsc
2007	Makumi M. Angella. Microbiological investigation of milk and milk products in Nairobi's Ngara, Pangani and Eastleigh area.	Bsc
2006	Kirwaye J. Carolyne. Isolation and identification of Bacteria from surface of houseflies	Bsc
2006	Okwara B. Yvonne. Evaluation of the quality assurance programs at the Botany Laboratory of Jomo Kenyatta University of Agriculture and Technology.	Bsc
2006	Ndungu Kenneth Kamau. Microbiological investigation of the locally	Bsc

	processed juices within Nairobi city and its surrounding.	
2006	Ambundo Lawrence Kombo. Antimicrobial effects of <i>Rhus vulgaris</i> (Meikle) on pathogenic microorganisms.	Bsc
2006	Muthoni Daniel George Gikuihi. Isolation, identification and characterization of <i>Bacillus thuringiensis</i> in JKUAT soils.	Bsc
2006	Nyanga Billy Oduor. Investigating the microbial load of the water in the dagoreti slaughter house environment.	Bsc
2006	Mary Opiyo. Investigation of the inhibiting properties of transformer oil on microorganisms causing dermatomycoses and bacterial skin diseases.	Bsc
2005	Liberator Nyambura Komo. Assessment of antibacterial activity of <i>Desmodium uncinatum</i> (silver leaf Spanish clover).	Bsc
2005	Wanjala C. Ludwin. Studying the phytochemicals in the plants <i>Launaca cornatum</i> and <i>Leonotis nepotofalia</i> and their antimicrobial effects.	Bsc
2005	Mary Wambui Murugami. Influence of facial beauty products on normal facial microflora among women.	Bsc
2005	King'ola Hildah Kanini. Microbiological analysis of water from cholera outbreak areas and phenotypic characterization of <i>Vibrio</i> isolates in Kenya.	Bsc
2005	Sospeter A. Kimani. Stool plating techniques a critical study.	Bsc
2005	Ogaye Fredrick Amwayi. Phytochemical and antimicrobial screening of <i>Rhus natalensis</i> .	Bsc
2005	Meeme Cecily Kananu. Screening of <i>Cucumis aculeatus</i> for antimicrobial activity against pathogenic Enterobacteriaceae.	Bsc
2005	Everlyn N. Ombati. Quantitative microbial analysis of normal enteric gut biota.	Bsc
2005	Kaburia Japheth Kirimi. Phytochemical and antimicrobial screening of <i>Achyranthes aspera</i> L.	Bsc
2005	Kiniu Mukiri. Antimicrobial and phytochemical screening of <i>Prunus africana</i> .	Bsc
2005	Zipporah W. Kagai. Microbial investigation of different brands of bottled water in the Kenyan market.	Bsc
2005	Mary Wambui Murugami. Influence of facial beauty products on normal facial microflora among women.	Bsc
2005	Maina Susan. Assessment of effectiveness of water treatment systems in Nairobi	Bsc
2004	Ngeno Davies. Evaluation of Water Purification Methods for Domestic use in Nairobi	Bsc
2004	Asena Evans Chadeka. Establishing the presence of phytochemicals in <i>Datura stramonium</i> and determining their antimicrobial activity.	Bsc
2004	Ngatia Solomon Wanyoike. Effectiveness of Selected Food Preservation Chemicals on Microbial Growth / Multiplication.	Bsc
2004	Micheal Gitau Kagotho. A study to determine presence of Antimicrobial active components in <i>Erucastrum arabicum</i> .	Bsc
2001	Kebira Nyamache Antony. A comparative study of the efficacy of generic and original Norfloxacin against pathogenic <i>Escherichia coli</i> .	Bsc

## THESIS EXAMINATION:

Langat Kipkoech Charles (2013). MSc entitled “ Determination of the drought tolerance in *Camellia sinensis* (L) O. Kuntze, using Catechin levels in various clones”.

Makori Evans Mauti (2013). Msc entitled “The potential of sweet sorghum (*Sorghum bicolor* (L) Moench as a bioresource for syrup and ethanol production in Kenya.

Shem Kuya Ph. D. (2012). Msc Thesis entitled “ Allometric equations for estimating biomass carbon in agricultural landscapes”.

Peter Mochama Onkwara (2011). Isolation and characterization of Bacteria from the intestinal tracts and nests of soil-feeding and fungus-cultivating termites.

Nyasetia Menge S. Nyasetia MSc (2011). “Antifungal Activity of Selected Crude Plant Extracts on Bean Rust (*Uromyces appendiculatus* (Pers.: Pers.) Unger) and Their Effects on Physiological Activities of French Beans.”

Lucy Njoki Gitonga Ph.D. (2010). Thesis entitled “Genetic characterization of *Macademia* germplasm, its multiplication and conservation in Kenya.”

Susan Muthoni Maina MSc (2010). Thesis entitled “Evaluation of regeneration response in tissue culture of groundnut (*Arachis hypogae* L) varieties adapted to Eastern and Southern Africa.

Suzy Muchika (2009) Msc thesis entitled. “Antischistosomal effects of *Solanum incanum* and *Carica* *Papaya* crude extracts on the parasite *Schistoma mansoni* *in vivo* and *in vitro*.

Kuya Shem MSc. (2008). Thesis entitled “Comparative Performance and Water Use of *Eucalyptus grandis*, *Eucalyptus hybrids*, *Grevillea robusta* and *Cordia africana*”.

Catherine Wangari Muthuri Ph.D. (2004) Thesis entitled “Impact of Agroforestry on Crop performance and Water Resources in Semi arid control Kenya.

Elijah K. Lelmen MSc. (2004). Thesis entitled “Effect of *Bacillus Thuringiensis* Endotoxin on Arbuscular mycorrhizal Fungi in *Sorghum bicolor* (L) Moench.

Kanya J. Ireri MSc. (2004). Thesis entitled “Quantification and identification of the wild hosts in the proximity of maize fields in Trans-Nzoia district, Kenya.

Simon Oduor Ochanda MSc. (2010). Thesis entitled “Technological Approaches for Enhancing Utilization of Sorghums and Millets in Kenya”.

David Kamanda Ngungi MSc. (2004). Thesis entitled “Characterization and Identification of Bacteria from Intestinal Tract of Termite, Capable of Degrading Monoaromatic Compounds.

Vitalis Wafula Wekesa MSc. (2004) Evaluation of Entomopathogenic Fungi “*Beauveria bassiana* and *Metarhizium anisopliae* for the control of Tobacco Spider Mite, *Tetranychus eransi* Baker and P.

## EXAMINER

Martha Makobe is external examiner in the Department of Botany and Horticulture; Maseno University from 2011 to date.

Martha Makobe has been Senior Examiner with Kenya National Examination Council (KNEC) in K.C.S.E Biology Theory paper (231/1) from 1985 to date and has risen to the position of Assistant Chief Examiner (ACE).

## RESEARCH PROJECTS UNDERTAKEN/ONGOING

Year	Title	Purpose
2011-to date	Integrated management of major insect pests and diseases of cashew in east and western Africa. Collaborative project funded by BMZ, Germany and coordinated by ICIPE, Nairobi, Kenya	The approach aims at reducing or eliminating the Powdery mildew/cashew blight inoculum during the wet, during which time mildew is surviving on young shoots in the inner canopy of the trees, from where it infects the new sprouts formed in the tree periphery at the beginning of the season
2008- to date Principal investigator: Martha Makobe. Collaborators: National Council of Science and Technology	Field evaluation of seeds of somaclonal variants in search of salinity tolerant sorghum ( <i>Sorghum bicolor</i> (L) Moench) for growth in arid and semi-arid regions along with molecular characterization using SSR markers.	To identify salinity tolerant sorghum ( <i>Sorghum bicolor</i> (L) Moench) for growth in arid and semi-arid regions
2008	Evaluation and documentation of indigenous plants used in processing and preservation of livestock products among pastoral communities in Kenya.	plants used in processing and preservation of livestock products identified



## SEMINARS AND CONFERENCES

DATE	SHORT COURSE/CONFERENCES
21 <sup>st</sup> -24 <sup>th</sup> January 2013,	The First International Conference on Pesticidal Plants ICIPE, Nairobi, Kenya.
13 <sup>th</sup> -14 <sup>th</sup> August 2012	Attended executive work on Agricultural Biotechnology In Kenya. at AICAD, JKUAT.
February 2003.	Seminar on Development of salinity tolerant Sorghum bicolor cultivars by tissue culture method. Faculty of Science University of Nairobi.
March – April 1998	Attended a two month course in Advanced Plant Biotechnology at ARC – Roodelplaat, Pretoria, South Africa and awarded a certificate.
December 1999.	Attended a one month international course on Desert Irrigation Schemes at Ben – Gurion University and awarded a certificate.
November 1990	Seminar on studies on the effect of ammonium sulphate and sodium nitrate on crassulacean Acid Metabolism (CAM) in Kalanchoe species, Faculty of Science University of Nairobi.
17 <sup>th</sup> – 19 <sup>th</sup> November 2010	Nutritional Evaluation of mutants and somaclonal variants of sorghum in Kenya. Proceedings of JKUAT scientific conference. PP 577
2011	Development of salt and drought tolerant sorghum for ASALs in Kenya.

## PUBLICATIONS

1. Onyango,C.A, Gakuya L. W, Mathooko F. M, Maina J.M, Nyaberi M. O, **Makobe M** and Mwaura (2014). Preservative effect of various indigenous plants on fermented milk from Maasi community of Kajiado County. Journal of Applied biosciences 73:5935-5941.
2. Onyango,C.A, Gakuya L. W, Mathooko F. M, Maina J.M, Nyaberi M. O, **Makobe M** and Mwaura (2014). Phytochemical studies on herbal plants commonly used for processing and preserving meat and milk. Journal of Applied biosciences 73:5942-5948.
3. Menge D., **M. Makobe**, V. Agboton, S. Shomari, A.V. Tiedemann (2013). Host range and control of *Cryptosporiopsis spp*, a cashew blight pathogen. *Scientific Journal of Microbiology* 2(6) 104-115.
4. Mutune, A, N. **Makobe, M. A.** and Abukutsa-Onyango, M.O.O. (2013). Impact analysis of lead, copper and zinc content in selected African indigenous and exotic vegetables from Nairobi markets, Kenya. African Journal of Environmental Science and Technology vol 7(6), pp. 540-545.
5. Menge D., **M. Makobe**, S. Shomari and A.V. Tiedemann (2013). Development and Validation of a Diagrammatic Scale for Estimation of Cashew Blight for Epidemiological Studies. *International Journal of Advanced Research* (2013), Volume 1, Issue 4, 26-38
6. Menge D., **Makobe M.N.**, Shomari S. and Tiedemann V. (2013). Effect of environmental conditons on the growth of *Cryptosporiopsis spp*. Causing leaf and nut blight on cashew

(*Anacardium occidentale* Linn.). *Journal of Yeast and Fungal research* Vol. 4(2),pp 12-20.

Omondi E.G.O, **Makobe M.N**, Matasyoh L.G, and Onyango C. A (2013). Evaluation of nutritional properties of tissue cultured sorghum (*Sorghum bicolor* (L) Moench. *Journal of Agriculture Science and Technology* Vol. 15 (1), pp 56.

7. Omondi E.G.O, **Makobe M.N**, Matasyoh L.G, and Onyango C. A.( 2013) Genetic variability of tissue cultured *Sorghum bicolor* (L) Moench as revealed by morphological traits and simple sequence repeats (SSR) markers. *African Journal of Biotechnology* Vol. 12(1), pp 1-7.
8. Nyabari, M.O, Onyango,C.A Mathooko, F.M., Maina, J.M., **Makobe M. N.** and Mwaura F. (2010). Bioactive fractions in the stem char coal of **Ozoroa insignis** used by the pastoral communities in West Pokot to preserve milk. *Journal of applied biosciences* 26:1653-1658.
9. Nyabari, M.O, Onyango,C.A Mathooko, F.M., Maina, J.M., **Makobe M, N.** and Mwaura F. (2010). Evaluation of phytochemical , antioxidant and antibacterial activity of edible fruit extracts of *Ziziphus abyssinica* A. Rich. *Journal of animal and plant sciences* Vol.6,2:623-629.
10. Wambua J.M, **Makobe M.N.**, Njue E.M.and Nyende A.B (2010). Hydroponic screening of Sorghum (*Sorghum Bicolor* L. Moench) Cultivars for salinity tolerance. *JAGST* Vol. 12(2)2010.
11. **Makobe, M. N.**, Kahangi, E. M., Misra, A. K. and Imbuga, M. O. (2008) The use of biotechnology in the search of hardy *Sorghum bicolor* (L) Moench cultivars. *Journal of Agriculture, Science and Technology*. 10 (1): 3-25.
12. **Makobe, M. N.**, Misra, A. N., Imbuga, M. O. and Kahangi, E. M. (2007) Field Evaluation of Tissue cultured-regenerated sorghum (*Sorghum bicolor* (L.) Moench for development of salinity tolerance. *East African Journal of Botany* 1(1):18-32.
13. Otieno, N. A., **Makobe, M. N.**, Bruno, P.L., Ong'amo, G. O., Dupas, S., Calatayud, P., John Ochora and Silvan, J. (2006) Diversity and abundance of wild host plants of lepidopteran stem borers in two different agroecological zones of Kenya. *Ann. Soc. Entomol. Fr.* (n.s.) 42: (3-4):371-380.
14. **Makobe, M. N.**, Macharia, J. N. and Misra, A. K. (1998) The effect of Ammonium sulphate or Sodium Nitrate on Crassulacean Acid Metabolism (CAM) in *Kalanchoe* species 1: Titratable Acidity, Water potential, Malate content and Nitrate content. *Discovery and innovation* pg 208-216.
15. **Makobe, M. N.**, Macharia, J. N. and Misra, A. K. (1998) The effect of Ammonium Sulphate or Sodium Nitrate on Crassulacean Acid Metabolism (CAM) in *Kalanchoe* species 2. Phosphoenol pyruvate carboxylase activity, soluble protein content and CO<sub>2</sub> exchange. *Discovery and innovation* pg 217-224.

## COMMUNITY SERVICE / INVOLVEMENT

Community outreach in Nzoila (Kibwezi), Kathonzweni (Makindu) and Mogotio (Nakuru) on sorghum farming in ASALs and gender roles in sorghum production and utilization

Motivation speaking engagements: church groups youth and Sunday school

Invited Speaker in delivering student preparation speeches for KSCE examination in secondary schools (Starehe Boys Centre).

## **REFEREES**

**1. Professor Godfrey W. Netondo**

Associate Professor in the Department of Botany; Maseno University

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Maseno.

Cell: 0722538943

**2. Prof. Paul O. Okemo**

Professor of Medical Microbiology

Dean of Graduate School

Kenyatta University

P.O. Box 43844 Nairobi, Kenya

Cell: 0722942 072

**3. Dr. Peter N. Mwangi**

Chairman of Botany Department

Jomo Kenyatta University of Agriculture and Technology

P.O. Box 62000 Nairobi, Kenya

Cell: 0723412269