

CURRICULUM VITAE

PERSONAL INFORMATION

NAME: AMUGUNE NELSON ONZERE (DR.)

Date of Birth: 5 June, 1963.

ADDRESS: University of Nairobi, School of Biological Sciences, P.O. Box 30197,
Nairobi, Kenya.

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EDUCATION BAKGROUND

<u>YEAR</u>	<u>SCHOOL/UNIVERSITY</u>	<u>QUALIFICATION</u>
1995 - 2001	University of Nairobi	Doctor of Philosophy degree in Botany (Genetics)
1990 -1992	University of Nairobi.	Master of Science in Genetics (Botany)
1983 -1986	Kenyatta University.	Bachelor of Education (Science) Hons., Upper 2 nd Class Division.
1980 -1981	Kakamega High School	Kenya Advanced Certificate of Education
1976 -1979	Kakamega High School.	East African Certificate of Education Division 1.
1973 - 1975	Mudete Primary School	Certificate of Primary Education
1969 – 1972	Wangulu Primary School	

PROFESSIONAL CAREER BACKGROUND

2012 July - To date: Senior Lecturer, School of Biological Sciences, University of Nairobi

2002 - 2012 June: Lecturer, School of Biological Sciences, University of Nairobi.

1999 - 2001: Assistant Lecturer, Department of Botany, University of Nairobi.

1995 - 1998: Tutorial Fellow, University of Nairobi, Department of Botany.

1993 - 1994: Graduate Assistant, University of Nairobi, Department of Botany.

1986 - 1989: Bungoma High School, Biology and Chemistry teacher.

1982 - 1983: Wangulu Secondary School, Biology and Chemistry teacher.

CURRENT POSITION

Senior Lecturer (Genetics, Molecular Biology and Biotechnology) University of Nairobi, School of Biological Sciences, Chiromo and Kenya Science campus.

DUTIES AND RESPONSIBILITIES

2013 September – To date: Genetics and Biotechnology Thematic Head, School of Biological Sciences, University of Nairobi

2007- To date: Examinations Coordinator, Open and Distance Learning Programme (ODL), College of Biological and Physical Sciences, University of Nairobi.

2002-2006: Coordinator, Module II programmes, Department of Botany, UoN

1998 -2001: Module II committee member, Department of Botany, UoN

RESEARCH INTERESTS

Genetic transformation and tissue culture of common bean, *Phaseolus vulgaris* L. and other grain legumes (cow pea, *Vigna unguiculata*)

Molecular characterization and tissue culture of cereals (rice, wheat).

Tissue culture of tropical fruits and ornamental plants- passion fruit and African violet

Micropopagation and conservation of endangered plants (*Melia volkensii*, *Moringa oleifera*) .

Environmental risk assessment of genetically modified crops (cotton, maize).

SKILLS

1. Biotechnology - Tissue culture, Genetic transformation
2. Molecular biology- DNA and RNA analyses by Southern and Northern blots; Polymerase Chain Reaction (PCR); Gene/Protein Expression Assays: ELISA. Histochemical, Spectrophotometric and Fluorometric assays for marker genes e.g. GUS (*β -Glucuronidase* gene), GFP (Green fluorescent protein).

PUBLICATIONS

1. Osen, G., **Amugune, N.O.**, Nyaboga, E.N. (2017). Genetic Stability of Cassava Plants Regenerated Through Organogenesis Using Microsatellite Markers. *Journal of Plant Sciences*. 2017; 5(1): 19-28. <http://www.sciencepublishinggroup.com/j/jps>.
2. Okeyo-Ikawa, R., **Amugune, N.O.**, Njoroge, N.C., Asami, P. and Holton, T. (2016). In planta seed transformation of Kenyan cowpeas (*Vigna unguiculata*) with P5CS gene via *Agrobacterium tumefaciens*. *Journal of Agricultural Biotechnology and Sustainable Development*, Vol 8 (5) pp 32-45.
3. Mulanda, E.S., Awori, R.M., Chuhila, Y., Adero, M.O., **Amugune, N.O.**, Akunda, E. and Kinyamario, J.I. (2016). A DNA-barcode for *Melia volkensii* Gürke (Meliaceae) and its phylogenetic relationship with some economically important relatives. *African Journal of Plant Science*. Vol. 10(3), pp. 58-67, March 2016. DOI: 10.5897/AJPS2015.1385 . Article Number: 200264357888 ISSN 1996-0824
4. Awori, R.M., Ng'ang'a, P. N., Nyongesa, L.N., **Amugune, N.O.** (2016). Mursamacin: a novel class of antibiotics from soil-dwelling roundworms of Central Kenya that inhibits methicillin-resistant *Staphylococcus aureus* . *F1000Research* 2016, 5:2431 Last updated: 03 OCT 2016
5. Asande, L.K., Indieka, A.S., Adero, M.O, Kiboi, S. and **Amugune, N.O.** (2016). *In Vitro* Regeneration of Pigeon Pea Using Leaf Explants. *African Crop Science Journal*, Vol. 24, No. 2, Pp. 191 - 201 Issn 1021-9730/2016
6. Mulanda, E.S. Adero, M.O., Wepukhulu, D.K., **Amugune, N.O.**, Akunda, E. and Kinyamario, J.I. (2014). Thidiazuron-induced somatic embryogenesis and shoot regeneration in cotyledon explants of *Melia volkensii* gürke. *Propagation of Ornamental Plants*: Vol. 14 (1): 40-46.
7. Karuri, H.W., Amata, R., **Amugune, N.O.** and Waturu, (2014). Interaction of *Fusarium oxysporum* f. sp. *vasinfectum* and the Fungal Feeding Nematode *Aphelenchus avenae* on Bt Cotton. *Journal of Plant Pathology* (2014), 96 (1), 183-188.
8. Ringera, T. Jane, Kinyamario, J.I. **Amugune, N.O.**, Kanya, J.I. (2014). Ratooning ability and its effect on grain yield of upland Nerica rice varieties in Central Kenya. *International Journal of Agronomy and Agricultural Research (IJAAR)*. Vol. 4, No. 4, p. 44-55, 2014. ISSN: 2223-7054 (Print) 2225-3610 (Online) <http://www.innspub.net>.
9. Karuri, H. W., Amata, R., **Amugune, N.O.** . and Waturu, C. (2013). Reproduction of root knot nematode (*Meloidogyne incognita*) on Bt cotton expressing Cry1Ac and Cry2Ab2 protein. *Journal of Applied Biosciences* 69: 5487-5495.

10. Karuri, H. W., Amata, R., **Amugune, N.O.** and Waturu, C. (2013).Effect of Bt cotton expressing Cry1Ac and Cry2Ab2 protein on soil nematode community in Mwea, Kenya. *Journal of Animal and Plant Sciences*. Vol. 19: 864-2879.
11. Karuri, H. W., Amata, R., **Amugune, N.** and Waturu, C. (2013). Effect of transgenic cotton expressing Cry1Ac and Cry2Ab2 protein on infectivity of the entomopathogenic nematodes, *Steinernema karii* and *Heterorhabditis bacteriophora*. *African Journal of Research* Vol. 8 (31): 4280 – 4284.
12. Karuri, H. W., Amata, R., **Amugune, N.** and Waturu, C. (2013). Nematode diversity in soil from a field trial with decomposing Bt cotton expressing Cry1Ac and Cry2Ab2 protein. *Spanish Journal of Agricultural Research* 2013 11(4): 968-979. Available online at www.inia.es/sjar ISSN: 1695-971-X
13. Mulanda E. S., Adero M. O., **Amugune N. O.**, Akunda E., and Kinyamario J.I. (2013). Incidence and control of seed-borne infections and associated with post-germination mortality in seedling of *Melia volkensii* Gurke. *Jornal of Experimental Biology and Agricultural Sciences*. Vol 1 (4): 229-234.
14. Mulanda E. S., Adero M. O., **Amugune N. O.**, Akunda E., and Kinyamario J.I. (2012). High- Frequency Regeneration of the Drought-Tolerant Tree *Melia volkensii* Gurke using low-cost agrochemical Thidiazuron: *Biotechnology Research International*. Volume 2012, Article ID 818472, 5 pages doi:10.1155/2012/818472
15. **Amugune, N.O.**, Anyango, B. and Mukiyama, T.K. (2011). *Agrobacterium*-mediated transformation of common bean. *African Crop Science Journal*, Vol. 19, No. 3:137 – 147. ISSN 1021-9730/2011.
16. Siameto, E. N., Okoth, S., **Amugune, N. O.**, and Chege, N. C (2011). Molecular characterization and identification of biocontrol isolates of *Trichoderma harzianum* from Embu district, Kenya. *Tropical and Subtropical Agroecosystems*, 13: 81 – 90.
17. Siameto E. N., Okoth, S. **Amugune N. O**, and Chege, N. C. (2010). Antagonism of *Trichoderma harzianum* isolates on soil borne plant pathogenic fungi from Embu District, Kenya. *Journal of Yeast and Fungal Research* Vol. 1(3), pp. 47-54, May. Available online <http://www.academicjournals.org/JYFR>. ISSN 2141-2413 © 2010 Academic Journals.
18. Karuri, H. W., Amata, R., **Amugune, N.** and Waturu, C. (2010). Occurrence and distribution of soil nematodes in cotton (*Gossypium hirsutum* L.) production areas of Kenya. *African Journal of Agricultural Research* Vol. 5(14), pp. 1889-1896, 18 July, 2010. Available online at <http://www.academicjournals.org/AJAR>. ISSN 1991-637X ©2010 Academic Journals.

19. Karanja, J., **Amugune, N. O.**, Ininda, J., Kimatu, J.N. and Danson, J.W. (2009). Microsatellite analysis of the correlation between molecular and morphological traits in assorted maize inbred lines. *African Crop Science Journal*, Vol. 17, No. 3, pp. 133 – 144
20. Kanya, J.I., Kinyamario, J.I., **Amugune, N.O.** and Hauser, T.P. (2009). Dispersal distance of rice (*Oryza Sativa* L.) pollen at the Tana River delta in the coast province, Kenya. *African Journal of Biotechnology* Vol. 8 (10), pp. 2265-2270, 18 May, 2009. Available online at <http://www.academicjournals.org/AJB> . ISSN 1684–5315 © 2009 Academic Journals.
21. **Amugune, N. O.**, Gopalan, H. N. B. and Bytebier, B. (1994). *In vitro* culture of the passion fruit. Proceedings of the African Regional Symposium on Biotechnology for Rapid Development, 17-21 February, 1992, Nairobi, Kenya. African Biosciences Network, pp.134-139.
22. **Amugune, N. O.**, Gopalan, H. N. B. and Bytebier, B. (1993). Leaf disc regeneration of passion fruit. *African Crop Science Journal*, Vol. 1, No. 2, pp. 99-104.

BOOK CHAPTERS

1. Hoa, T. T. C., Depicker, A; Ghoshi, K., **Amugune, N.**, Phap, P.D., Hai, T. N. and Andow, D.A. (2008) Transgene Expression and Locus Structure. In: Environmental Risk Assessment of Genetically Modified Organisms Vol. 4. Challenges and Opportunitis with Bt Cotton in Vietnam (eds. D.A. Andow, A. Hilbeck, and Nguyen Van Tuat). CAB International, Wallingford, UK.
2. Grossi-de-sa, M.F., Lucena, W., Souza, M.L., Nepomuceno, A. L., Osir, E., **Amugune, N.**, Tran Thi Cuc Hoa, Truong Nam Hai, Somers, D.A. and Romano, E. (2006). Transgene Expression and Locus Structure of Bt Cotton. In: Environmental Risk Assessment of Genetically Modified Organisms Vol. 2. Methodologies for Assessing Bt Cotton in Brazil (eds. A. Hilbeck, D.A. Andows and E.M.G. Fontes). CAB International, Wallingford, UK.
3. Somers, D.A., Andow D. A., **Amugune, N.**, Aragao, F.J.L., Ghoshi , K., Gudu S., Magiri, E., Moar, W.J., Njihia, S. and Osir, E. (2004). Transgene Locus Structure and Expression of Bt Maize. In: Environmental Risk Assessment of Genetically Modified Organisms; Vol.1. A Case Study of Bt Maize in Kenya. (eds. A. Hilbeck and and D. A. Andow). CAB International, Wallingford, UK.

FUNDED RESEARCH PROJECTS

1. 2006- 2011: Risk Assessment of Genetically Modified Crops. Biosafe Train Project (East Africa) (Coordinator – Prof J.I.Kinyamario; Role: Assistant Coordinator- N. O. Amugune).

2. 2010 -2015. Determination of Antimicrobial and Insecticidal agents produced by *Xenorhabdus griffinae* strain XN45 (NACOSTI). Awori, R.M., Nganga P.N., Nyongesa, L.N., **Amugune, N.O.**-Lead Genetics supervisor.

PATENTS

1. Antimicrobial agents produced by *Xenorhabdus griffinae* strain XN45 - Kenyan application serial number KE/P/2015/2258; US patent application serial number US 15/351456; European patent office number 15731397.4-1410. Awori, R.M., Nganga, P.N., Nyongesa, L.N., R. Gitau, Wanjau, W., **Amugune, N.O.**, Masiga, D., and Waturu, C. (Role: Co- inventor)

POSTGRADUATE SUPERVISION AND EXAMINATION

PH.D SUPERVISION (COMPLETED)

1. **Kirui G. K.** Metabolic changes in cultivated potato (*Solanum tuberosum* L) varieties as evidenced by quantitative assessment of glycoalkaloids, phenolic acids and protease inhibitors. Ph.D. project. University of Nairobi, Kenya. Supervisors: Prof. Dossaji, **Dr. N. Amugune**. Status: Submitted thesis, February 2017.
2. **Akeyo Rachel Akinyi**: The genetic improvement of cow pea (*Vigna Unguiculata*) for enhancement of drought tolerance through tissue culture and transformation by *Agrobacterium*. **Dr. N. Amugune** Dr. Norman Njoroge. Status: Started 2012/2013, completed 2016.
3. **Mulanda Eliud Sagwa**: In vitro mass propagation of the native drought-tolerant tree *Melia volkensii*, gurke (mukau) and evaluation of growth competitiveness of *in vitro* raised saplings in the drought-prone Yatta region of Kitui county, Kenya. Supervisors: **Dr. N. Amugune** , Prof. Kinyamario, Prof. E. Akunda. Status: Started 2011/2012, completed 2016.
4. **Kariuki Samel Muiruri**: Use of biotechnological tools to overcome the challenges of long breeding cycle and streak virus integrants in bananas by development of haploid inducers and knockout of bananastreak virus (BSV). Supervisors: **Dr. N. Amugune**, Prof Edward Nguu, Dr. Leena Tripathy. Status: Started 2012/2013, completed 2015.
5. **Murugi Bancy**: A study of the effects of cyanophages on the growth patterns of cyanobacteria in Lake Magadi, Kenya. Status: Supervisors: Dr. Maina Wagacha, Prof. J. Kabar, **Dr. N. Amugune**. Started 2010/2011, completed 2014.
6. **Tiei Jane Ringera**: Ecological risk assessment for invasiveness, response to weeds and ratooning ability of New rice for africa (Nerica) and *Oryza sativa* rice varieties in central Kenya. Supervisors: Prof. J.I. Kinyamario, **Dr. N. Amugune**. Status: Started 2009/2010, Completed December 2013.

7. **Wangari Hannah Karuri:** Assessment of the impact of genetically modified cotton on soil fungi, bacteria, nematodes and earthworms and persistence of Bt Toxins in Soil. Status: Supervisors: **Dr. N. Amugune**, Dr. R. Amata, Dr. Waturu. Completed July 2012.
8. **Kanya, J. I.** Gene flow between cultivated rice (*Oryza sativa*) and the wild rice (*Oryza longistaminata*) and its potential ecological consequences in Kenya. Supervisors: Prof. J.I. Kinyamario, **Dr. N. Amugune**, Prof. Thure Hauser. Status: Completed 2010.

PH.D SUPERVISION (ONGOING)

1. **Anunda N Henry.** Morpho-agronomic Characterization and Genetic Diversity of Common Bean, *Phaseolus vulgaris* (L.) Landraces from South Western Kenya for Pythium root rot Resistance. Supervisors: **Dr. N. Amugune**, Dr. Evans Nyaboga
2. **Ouko Abigael Otieno:** Comparison of soil and maize kernel *Aspergillus flavus* and *Aspergillus parasiticus* populations in different agro-ecological zones in Kenya." Supervisors: Prof. S. Okoth, **Dr. N. Amugune**

MSc. SUPERVISION (COMPLETED)

1. **Njenga Peter:** Efficacy of Xpt A1 toxin from the bacterium *Xenorhabdus nematophila* against maize storage pests, *Sitophilus zeamais* and *Prostephanus truncates*. Supervisors: **Dr. N. Amugune**, Dr. G. Ong'amo. Completed 2015
2. **Nyongesa Lorine Nanjala:** Efficacy of *Xptb1* and *Xptc1* toxins from *Xenorhabdus nematophila* on the field cereal pests *Chilo partellus* and *Busseola fusca*. Supervisors: **Dr. N. Amugune**, Dr. D. Masiga. Completed 2016.
3. **Ochieng Mark Adero:** *In vitro* regeneration of two Kenyan bread wheat (*Triticum aestivum* L.) cultivars. Supervisors: **Dr. N. Amugune**, Dr. N. Njoroge. Completed 2015.
4. **Chuhila Yerima:** Assessment of the current genetic composition of Nile tilapia fish *Oreochromis niloticus*, (Linnaeus 1758) in lake Baringo, Kenya. Supervisors: **Dr. N. Amugune**, Dr. Nyonje Completed 2015.
5. **Gituiku Rahab Wangari** (2014). Tissue Culture of two NERICA Rice Cultivars. Supervisors: **Dr. N. Amugune**, Prof. E. Akunda.
6. **Asande Kwamboka Lydia:** Tissue culture of two pigeon pea, *Cajanus cajana* varieties grown in Kenya C completed 2015. Dr. N. Amugune, Dr. S. Kiboi, Dr. A.S. Indieka.

7. **Mugambi Cyrus.** Genetic diversity of Aloe species in Kenya and their efficacy on soil borne pathogenic micro-organisms. Supervisors: Dr. Maina Wagacha, **Dr. N. Amugune** Completed 2015.
8. **Omondi Gelian:** A comparative study of antibiotic resistance patterns of enteric pathogens in Mbagathi and Siaya district hospitals. Supervisors: **Dr. N. Amugune**, Dr. Miriam Jumba. **Status:** Started 2010/ 2011, completed October, 2013.
9. **Kimunye Janet:** Effect of Roundup (Glyphosate) on diversity and abundance of cotton weeds in Mwea, Kenya. Supervisors: Prof. J.I. Kinyamario, Dr. N. Amugune. **Status:** Started 2009/2010, Completed 2011
10. **Mogote Jasper Gichaba .** Determination of root thiophene herbicidal and pesticidal property in relation to genetic variation in *Tagetes minuta* from Kakamega and Machakos. Supervisors: Prof. E. Akunda, **Dr. N. Amugune.** Status: Started 2008/2009, completed 2011.
11. **Siameto, N. E.:** “Molecular characterization and determination of biocontrol activity of *Trichoderma harzanium* (Green mould) isolates from Embu District, Kenya.” M.Sc. project. University of Nairobi, Kenya. Supervisors: **Dr. N. Amugune**, Prof. S. Okoth. **Status:** Completed 2008
12. **Karanja J. K.** “Genetic fingerprinting and characterization of selected inbred maize lines in Kenya using Simple Sequence Repeats (SSR)” M.Sc. project. University of Nairobi, Kenya. Supervisors: **Dr. N. Amugune**, Dr. J. Ininda. **Status:** Completed 2008.
13. **Wepukulu Daniel:** Tissue culture of Bambara groundnut (*Vigna subterranean* L.) Status: Supervisors: **Dr. N. Amugune**, Dr. N. Njoroge. Completed, writing thesis.

MSc. SUPERVISION (ONGOING)

1. **Omwomo Kevin:** Tissue Culture of *Moringa oleifera* and Determination of Antifungal Effects of its Callus Extracts. Started 2016/2017. Supervisors: **Dr. N. Amugune**, Prof. S. Okoth
2. **Ng’ang’a Rispah Nyambura:** The Expression of Banana Centromere-Specific Histone H3 (CENH3) Variants in *Arabidopsis thaliana* . Started 2016/2017: Supervisors: **Dr. N. Amugune**, Dr. S. Kariuki
3. **Kivila, Jacqueline Ndunge:** Genetic Characterization of the Indigenous Maasai Goats (*Capra Hircus*) in Narok and Kajiado Counties of Kenya using the Mitochondrial D-Loop and Cytochrome C Oxidase I Genes. Started 2016/2017. Supervisors: **Dr. N. Amugune**, Dr. J. Githaiga, Dr.

4. **Orua A. Joan:** *In Vitro* Regeneration and Conservation of *Prunus africana* under Slow Growth Conditions . Started 2016/2017. Supervisors: **Dr. N. Amugune**, Dr. E. Nyaboga
5. **Jayalo Joseph Walter:** Effect of the Environment on Microbial Skin Community in Amphibians. Ongoing. Started 2016/2017. Dr. Wagacha Maina, **Dr. N. Amugune**.

INTERNAL EXAMINER

Akeyo Rachel Akinyi (2016): The genetic improvement of cow pea (*Vigna Unguiculata*) for enhancement of drought tolerance through tissue culture and transformation by *Agrobacterium*. Ph,D Thesis, University of Nairobi, Kenya.

Mulanda Eliud Sagwa (2016): In vitro mass propagation of the native drought-tolerant tree *Melia volkensisii*, gurke (mukau) and evaluation of growth competitiveness of *in vitro* raised saplings in the drought-prone Yatta region of Kitui county, Kenya. Ph,D Thesis, University of Nairobi, Kenya.

Kariuki Samel Muiruri (2015). Use of biotechnological tools to overcome the challenges of long breeding cycle and streak virus integrants in bananas by development of haploid inducers and knockout of bananastreak virus (BSV). Ph,D Thesis, University of Nairobi, Kenya.

Mbugua Beatrice Wambui (2016). Effect of Intercropping and Legume Diversification on Intensity of Fungal and Bacterial Diseases of Common Bean. M.sc. Thesis. University of Nairobi, Kenya

Kamau Catherine Wambui (2016). Genetic Diversity and Phylogenetic Analysis of *Adansonia Spp* in the Kenya/Tanzania Transect. M.sc. Thesis. University of Nairobi, Kenya.

Nyongesa Lorine Nanjala (2016).: Efficacy of *Xptb1* and *Xptc1* toxins from *Xenorhabdus nematophila* on the field cereal pests *Chilo partellus* and *Busseola fusca*. M.sc. Thesis. University of Nairobi, Kenya.

Ng'anga Njenga Peter (2015): Efficacy of Xpt A1 toxin from the bacterium *Xenorhabdus nematophila* against maize storage pests, *Sitophiluszeamais* and *Prostephanus truncates*. M.sc. Thesis. University of Nairobi, Kenya.

Chuhila Yerima (2015): Assessment of the current genetic composition of Nile tilapia fish *Oreochromis niloticus*, (Linnaeus 1758) in lake Baringo, Kenya. M.sc. Thesis. University of Nairobi, Kenya

Ochieng Mark Adero (2014): *In vitro* regeneration of two Kenyan bread wheat (*Triticum aestivum* L.) cultivars. M.sc. Thesis. University of Nairobi, Kenya.

Asande Kwamboka Lydia (2014): Tissue culture of two pigeon pea, *Cajanus cajana* varieties grown in Kenya. M.sc. Thesis. University of Nairobi, Kenya.

Gituiku Rahab Wangari (2014). Tissue Culture of two NERICA Rice Cultivars. M.sc. Thesis. University of Nairobi, Kenya.

Omondi A. Gellian (2013): A comparative study of antibiotic resistance patterns of enteric pathogens in urban (Mbagathi) and rural (Siaya) district hospitals. M.sc. Thesis. University of Nairobi, Kenya.

Omondi Victor Kagot (2013): Investigation of determinants of *Striga* suppression and evaluation of fungal isolates as possible biocontrol agents against the weed” M.sc. Thesis. University of Nairobi, Kenya.

Akello Sundy Atieno (2013): Determination of Native *Bacillus thuringiensis* Delta-endotoxins Potency Against *Protephanus Truncatus* and Fumonisin Producing *Fusarium Verticillioides* Isolated From Maize Grains. Msc.Thesis. University of Nairobi, Kenya

Wakisa Kipandula (2012): Antioxidant Activities In Extracts From Indigenous Vegetables From Kenya and Malawi Msc. Thesis. University of Nairobi, Kenya

Karuri Hannah Wangari (2012): Assessment of the Impact of Genetically Modified Cotton on Soil Fungi, Bacteria, Nematodes and Earthworms and Persistence of Bt Toxins in Soil> Ph.D.Thesis. University of Nairobi, Kenya.

Jasper Gichaba Mogote (2012): The herbicidal potential of *Tagetes minuta* and *Tagetes patula* extracts and their residues on the germination and growth of some crop plants. M.Sc.Thesis. University of Nairobi, Kenya

Olga Mukasia Mashedi (2011): Characterization and antifungal drug profile of dermatophytes from clinical sources in Nairobi, Kenya. M.Sc.Thesis. University of Nairobi, Kenya.

Bernard Kipkirui Rotich (2011): Lipids from *Chlamydomonas Spp* grown autotrophically and their potential use in biodiesel production. M.Sc.Thesis. University of Nairobi, Kenya

Kariuki Samwel Muiruri (2011): A Molecular Species Authentication Tool and the Respective Variability in Dioscin Content: A Case of Yams (*Dioscorea* species). M.Sc.Thesis. University of Nairobi, Kenya

Njeru Serah Mwingi (2010): Interactive effect on Morphology, Phenology and Growth of wild rice (*Oryza longistaminata*) ecotypes and cultivated rice (*Oryza sativa*) cultivars from the coastal region of Kenya. M.Sc.Thesis. University of Nairobi, Kenya.

Makoude Perez A. (2008) Determination of nature of seed dormancy in *Sesamum latifolium* and developing appropriate germination protocol. M.Sc.Thesis. University of Nairobi.

Magembe Eric Maina (2008): Genetic diversity analysis among cow pea (*Vigna unguiculata* (L) walp) accessions from sub-saharan Africa using simple sequence repeats (SSR'S). Msc. Thesis Department of Biochemistry, University of Nairobi.

Karanja James K. (2008): Genetic fingerprinting and characterization of selected inbred maize lines in Kenya using Simple Sequence Repeats (SSR)" M.Sc.Thesis. University of Nairobi, Kenya.

Makobe Martha N. (2003): Development of Salt Tolerant Cultivars in *Sorghum bicolor* by Tissue Culture Methods. Ph. D Thesis. University of Nairobi, Kenya.

Otieno Bery Achieng (2004): Study of the factors influencing aphids as vectors of viral diseases of *Brassica oleraceae* in Kenya". M.Sc. Thesis. University of Nairobi, Kenya.

EXTERNAL EXAMINER

Kisua John Mbaluka (2017). Genetic Diversity of Selected Sweet and Grain Sorghum Populations Grown in Arid and Semi-Arid Lands in Kenya. MSc. Thesis. Jomo Kenyatta University College of Agriculture and Technology, Nairobi, Kenya.

Tola Bayisa Guma (2015). Proximate Composition and Establishment of an Efficient In Vitro Micropropagation Protocol for Anchote (*Coccinia Abyssinica* Lam) from Eastern Wollaga, Ethiopia. Pan African University C/O Jomo Kenyatta University College of Agriculture and Technology, Nairobi, Kenya.

Oshingi Shilla (2008). An assessment of the hybridization potential of wild cotton as a prelude to the introduction of transgenic cotton. M.Sc thesis in Biotechnology. University of Dar es Salaam. Tanzania.

Matheka Jonathan Mutie (2007). *In vitro* selection for water stress and salinity tolerance in Kenyan maize (*Zea mays* L). M.Sc. Thesis. Jomo Kenyatta University College of Agriculture and Technology, Nairobi, Kenya.

SHORT TERM COURSES ATTENDED

25 Aug- 6 Sep., 1996: International Training Course in Plant Biotechnology, ARC Roodeplaat Vegetable and Ornamental Plant Institute, Pretoria, Republic of South Africa

Feb.- May 1995: Training course in Molecular Biology, University of Sussex, Falmer, Brighton, U.K

13-24 April, 1992: Training course in Cell and Tissue Culture and Biotechnology, International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria.

PROFESSIONAL DUTIES AND MEMBERSHIP TO ORGANIZATIONS

2013 - To date: Technical Expert, National Biosafety Authority, Kenya

2006- 2011: BiosafeTrain Project(East Africa) Assistant Coordinator

2003- 2004: FAO Biotechnology National Correspondent for Kenya.

July-August 2003. Member of the National Biosafety Committee (NBC), National Council for Science and Technology (NCST), Nairobi, Kenya.

CONFERENCES/ WORKSHOPS/ SYMPOSIA ATTENDED

6 October 2015: Training Workshop on Ph.D. Supervision, College of Biological and Physical Sciences.

13 February 2013: Examination Workshop, School of Biological Sciences, University of Nairobi.

23- 27 April 2012: UNES Proposal Writing Workshop, University of Nairobi.

23 March 2012: Training on How to Update and Upload Course Materials and Publications. University of Nairobi.

15 October 2010: Training on Corruption Awareness. University of Nairobi.

15-17 February 2010: Third International Meeting of Academic Institutions and other Organizations involved in Biosafety Education and Training. Tsukuba University, Japan

19-23 October 2009: Introduction to GMO Biosafety Risk Assessment. Faculty of Agricultural Sciences, Makerere University, Kabanyolo Campus, Kampala, Uganda

27th- 29th June 2008. Ntiba, M.J., Amugune N.O. and. Kinyamario J.I. Emerging Trends in Biotechnology and their Impacts on Policy. Evidence based advice to policy workshop proceedings. Kenya National Academy of Sciences.

5th – 10th November 2007. Introduction to GMO Biosafety Risk Assessment. Training course for : National Environmental Management Authority, Kenya (NEMA) Field Inspectors. Nairobi, Kenya.

1st -7th July 2007: Data Analysis for Biosafety Risk Assessment. University of Dar es Salaam, Tanzania.

5th - 9th December 2006. Biosafe Train Workshop, Zanzibar.

24th-30th September 2006: BioSafe Train training course on “Basic Concepts and Practices in Risk Assessment of GMOs.” Nairobi, Kenya.

24th – 29th April 2006. BioSafe Train/ GMO - ERA Planning Workshop, Entebbe, Uganda.

29 Nov- 3rd December, 2004: FAO Training on Regulations for Safe Release of GM Plants and Animals. KEPHIS, Nairobi, Kenya.

30th June , 2004- Consultative Meeting of GMO Guidelines Project on Impact Assessment, Risk Analysis and Biosafety Capacity Building, ICIPE, Nairobi, Kenya.

June 1-4 2004: ASARECA Biotechnology and Biosafety Program Proposal Writing Workshop on Bioprospecting and Utilization of *Bacillus thuringiensis* toxin gene for management of pre and post harvest cereal pests. Nairobi, Kenya

26th April, 2004- Symposium on Intellectual property Rights. Kenya Industrial Property Institute (KIPI), Nairobi.

1st- 4th April 2004: 3rd Workshop of IOBC GMO Guidelines Project. Vietnam Case study: Bt cotton in Vietnam. Ho Chi Minh City, Vietnam.

4th- 6th August 2003: Science Communication Workshop on Biotechnology Development and Biosafety Policy. Nairobi, Kenya

25-29 November 2002: 1st Workshop of IOBC (International Organization for Biological Control) for GMO Guidelines Project. Kenya Case Study: Bt Maize in Kenya. ICIPE, Nairobi.

14-18 June 2003: 2nd Workshop of IOBC for GMO Guidelines Project. Brazil Case Study: Bt Cotton in Brazil. Brasilia, Brazil. .

25-29 November 2002: 1st Workshop of IOBC (International Organization for Biological Control) for GMO Guidelines Project. Kenya Case Study: Bt Maize in Kenya. ICIPE, Nairobi

3-6 September, 2003: Seminar on Intellectual Property Rights for Public Universities, Moi University, Eldoret.

17-21 February, 1992: African Regional Symposium on Biotechnology for Development, Nairobi, Kenya. Presented a paper entitled: *In vitro* culture of passion fruit, *Passiflora edulis* Sims.