

## CURRICULUM VITAE

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### EDUCATIONAL BACKGROUND AND QUALIFICATIONS OBTAINED

**1998-2001:** University of Vienna, Austria, **PhD**, Microbiology

**1984 -1989:** University of Nairobi, Kenya, **MSc.** (Botany), Discipline: Microbiology.

**1980-1984:** University of Nairobi, Kenya, **BSc.**Upper second class, honours (Botany & Zoology)

### EMPLOYMENT

**August 1992 to now:** Egerton University: Department of Biological Sciences

**January 1992 – July 1992:** ICIPE: Associate Scientific Officer (Biological control)

**February 1989 – December 1991:** Kenya Bureau of Standards: Laboratory Analyst (Microbiology)

### WORK EXPERIENCE

**Mar 2013 – to date:** Senior Lecturer, Department of Biological Sciences, Egerton University

**Sep 2013 – 2016:** External Examiner, Department of Medical Microbiology, Maseno University

**Jan 2012 - Dec 2015:** External Examiner, Department of Biological Sciences, Technical University of Kenya (TUK)

**JULY 2020 - TODATE:** External Examiner, Department of Biological Sciences, Technical University of Kenya (TUK)

**Feb 2010 – 2016:** Member and later Chairperson, Faculty of Science Post Graduate Committee

**Mar 2011 to date** Alternate member at Egerton University Tender Committee

**Feb 2010 - 2016** Chairman, Exhibits Sub-Committee of Egerton University Research week and International conference

### RESPONSIBILITES

Teaching of postgraduate and undergraduate courses, Setting, moderating and marking of examinations. Developing proposals for application of funding and conducting research, advising of students, supervision of undergraduate and postgraduate research projects, development of new curricula and revision of existing ones, reviewing of students proposals, participation in Universities committees and performing other duties assigned to me.

### POSITIONS HELD

1. Chairman of Faculty of Science Post graduate committee ( 2013-2016)

2. Developer and Coordinator of MOU between Egerton University Faculty of Science and Faculty of Life Sciences University of Vienna (2005).
3. Acting Chairman Department of Botany, Egerton University, (2003 to 2005).

## **GRADUATE STUDENTS SUPERVISION**

### **COMPLETED BUT NOT GRADUATED PHD**

1. Mr Casianes O. Olilo (ND12/0270/10): The Influence of Vegetation on the Erosion and Transport State of E coli in Runoff Flow from Agro Pastoral Land Use System. PhD Environmental Science, Egerton University, Ref ND12/02/0270/10 dated 9th July 2015 Egerton Thesis is complete awaiting submission.

### **COMPLETED AND GRADUATED MSC**

1. Omondi Lorine Auma (Reg No. SM19/13728/19). Effects of land use on faecal pollution in River Njoro, Kenya. MSC in Limnology and Wetland Management. Graduated June 2021.
2. Lukhabi, Dorothy Khasisi (SM19/11886/16) Characterization of Egerton University .wastewater stabilization ponds and assessment of substrate size efficiency in removal of faecal pollutants. Graduated June 2018.
3. Saeed Hassan Kariunga (SM18/14492/15). Assessment of Kangemi sewage treatment works efficiency and impact of its effluent loading on water quality of Chania River, Nyeri, Kenya. Graduated June 2018
4. Njue Reuben Mukundi (SM14/3634/13) Isolation and characterization of hexazinone and dichlorophenoacetic acid (2,4-D) biodegrading native bacteria from sugarcane soils in Nzoia sugar company farms. Graduated June 2018.
5. Tabitha Kavuli Itotia (SM14/3634/13). Distribution and Diversity of Antibiotic resistant bacteria from a river receiving industrial and agricultural wastes in Njoro, Kenya. Graduated, 2016
6. Kariuki CW (NM12/3091/11 MSc, Environmental Science) Isolation and characterization of soil bacteria, capable of degrading metribuzin herbicide, used in sugarcane farms, of Nzoia River Drainage Basin, Western Kenya. Graduated June 2016
7. Njoroge Hellen Wambui (SM15/2432/09) Testing *Streptomyces* soil isolates from Mau Forest Complex for potential antimicrobial activity against selected plant pathogens Njoroge Hellen Wambui (SM15/2432/09) Testing *Streptomyces* soil isolates from Mau Forest Complex for potential antimicrobial activity against selected plant pathogens, Graduated June 2016
8. Richard Kipsang Rop (NM 12/285/10. Impact of Anthropogenic Activities on Bacteriological Water Quality of Nyangores River, Mara Basin- Kenya. Graduated June 2016
9. Henry Oboo (Reg No. SM 15/2220/08): Management strategies against soil borne bacterial wilt pathogen, *Ralstonia solanacearum* Graduated June 2015
10. Eddison Opiyo Musikoyo ( Reg No. Sm18/2267/08) Distribution of microorganisms and isolation of physiological groups with industrial potential in Lake Nakuru (MSc Limnology 2009), Graduated June 2013
11. Oscar Omondi Donde (SM18/2524/09): Bacteriological water quality analysis and solar improvement of domestic water sources in Naivasha region, Kenya. Graduated June 2013

12. Keiko Kito. Assessment of Groundwater Contamination by Various Land Uses Using Bacterial Communities and Fauna as Indicators in Nyando Wetland, Kenya (UNESCO IHE the DELFT, April, 2012).
13. Macharia, Pauline MSc. **Microbial Quality of Drinking Water and its Effect on Health in Sub-saharan Africa: A Survey of Njoro Town, Kenya** (IHE the Delft, April, 2011).
14. Abigael Akoth Okoko (Reg No. SM 15/2220/08): Determinant of water quality and handling practices in Konyano Jieri Sublocation, Nyanza District (MSc. Environmental Science)
15. Kyule Domitila Ndinda, MSc. Dynamics and Abundance of Bacterio- and Virioplankton in Saline-Alkaline East-African Rift Valley Lakes, Kenya (IHE the Delft, April, 2009). Graduated, 2009

### **UNDERGRADUATE STUDENTS PROJECTS SUPERVISED**

1. Robert Kiprotich Cheptirge (Reg Number S11/15473/16). Antifungal activity of *Polygonum hydropiper* on mango anthracnose
2. Elizabeth A Ayuko (reg no. S11/11085/16) The antimicrobial activity of *Lantana camara* leaf extract on pathogenic bacteria and fungi
3. Cynthia Ojino (Reg No. S11/ 15613/16) Testing antimicrobial activities of disinfectants
4. Hellen A. Ochieng (Reg No. 15636/16). Effects of bean clean herbicides (Basagran) on growth of beans
5. Fridah A. Omondi (Reg.No.S11/15617/16) Assessment of biological control of musroom brown blotch disease using antagonistic bacteria
6. Joshua O.Juma (RegNo.S11/15526/16). Test for antibacterial activity of microbial growth on different plants species used as mouth wash (tooth paste) on bacteria in human saliva
7. Vitalis Ngetich Kiprotich ( Reg No.S11/15477/16. Efficiency of certain essential oils in preventing moulds in maize grains that cause aflatoxins poisoning
8. SINGA, B. O.( S11/11084/15 ). Antifungal effect of *Azadiracta indica* leaf extracts on *Phytophthora infestans*
9. Peninah Muthoni (Reg. No. S11/09497/15) Antimicrobial activity of Eucalyptus agglomerate (eucalyptus), *Salvia officinalis* (sage) and Rosmarinus officinalis (rosemary) against *Colletotrichum gloeosporioides*
10. Milliam Wanja Mwobobia (S11/09552/15). Aantifungal activity of identified solanaceae family plant extracts against plant pathogenic fungi
11. Waithera Valentine Njeri (Reg no; s14/09267/15) Determination of faecal pollution and antibiotic resistance at different sites in the mid-reaches of Njoro River
12. Faith Muthikwa Mutava (Reg No. S14/21928/13) Antibacterial Activity of Streptomyces isolated from sediments of River Njoro,
13. Nasra Kemilembe Ramadhan (S14/21028/13) Determination of Chlorine efficiency in treated Water at Egerton University 2018
14. Tindi Felix Odhiambo (S11/21034/12) Screening for Antimicrobial Activity of Sreptomyces from Pond Water and Stream Sediments in Botanic Garden. BSc student
15. Otieno Emmanuel Odhiambo.( S11/20885/12 Isolation of Pigmented Soil Bacteria For Control Of Plant Fungal Pathogens. BSc student.

16. Kalahi A. Brenda(S14/21198/12) Investigation of *Escherichia coli* Abundance in Greywater of Egerton University. BSc AQUA student
17. Dan Mungai (Reg no.) Investigating the Microbial Quality of Portable Water of Egerton University. BSc Aqua student
18. Mercy Muthoni Memia ( S11/20459/11) Biological control of aflatoxins using bacteria
19. Roselyn Achieng (S11/20451/11) Microbial quality of raw and pasteurized milk collected from farmers and Dairies in areas around Egerton town, Njoro. Kenya
20. Munara Samuel (S11/21562/11B) Effects of pesticides on soil microorganisms and total dehydrogenase activity
21. Ochieng Linnet Linnet atieno Atieno ( S11/21774/11B) Detection of bacteriophages in river and sewage water
22. Naomi Mumbi Chege (S14/21768/11B) screening for antimicrobial activity of Streptomyces isolated from River Njoro sediments
23. Maryam Tawfiq Jeneby (S14/20445/11 Microbial analysis of tapped waters of Kichennettes of Njoro campus, Egerton University
24. Robert Lawi Onyango (14/21848/11B) Assessment of the abundance of heterotrophic bacteria communities along the impacted sites of river River Njoro
25. Daniel Ogeto (S14/21868/11B). Enumeration of coliforms in selected boreholes around Njoro town
26. Agwata Silas Nyamoki (S14/21892/11B) Microbiological examination analysis of swimming pool water at Egerton University
27. Omondi Gerald Ochien'g (s11/20253/10) the biodiversity of medicinal and edible plants at egerton university botanic garden
28. Ronald Otieno (Reg No.S11/20111/10). Cytogenicity of *Aloe secundiflora* gel extracts on *Vicia faba* root tip meristematic cells
29. Wendo Samuel Onyango (Reg no. S11/20093/10); Effects of s-metolachlor herbicide application on soil microflora densities and growth of common bean (*Phaseolus vulgaris* L.)
30. Musembi, Peter Mwanzia S14/20239/09 Effectiveness of Egerton university constructed wetland in the removal of *Escherichia Coli*
31. Ananda Kendrick Nakaya ( Reg No. SP15/ 20391/07, BSc. Biochemistry) Effects of Enzyme activity of *Bacillus subtilis* from different environments on starch degradation.
32. Hannah Muiruri (Reg no. ) Microorganisms isolated from soil from mosquito breeding grounds. BSc, Science Zoology/ Biochemistry.
33. Aianayat Adams (Reg no. ) Isolation of antibiotic producing *Streptomyces*. 2009, BSc, Science Zoology/ Biochemistry.

34. Eddison Opiyo Musikoyo ( Reg No. S14 / 20232/04, BSc. Applied Aquatic Sciences)  
Bacteriological Quality Analysis of Various Types of Drinking water, January – June , 2008.
35. Phelix Adem Ngolo (Reg. No. S14/ 2012/01, BSc. Applied Aquatic Sciences) 4<sup>th</sup>, Water Quality Assessment Using coliforms as Indicators in River Njoro, Kenya
36. Andere E.Kabaka (Reg No. S11/2101/99, BSc. Science, Botany/ Zoology) The influence of depth profile on vertical distribution of soil microorganisms in Egerton Botanic Garden
37. Mbithi Emmanuel Isingi (RegNo. S12/2114/00).Determination of fungal levels in Maize flour sold in Njokerio Market of Njoro Location, Nakuru district. Biomedical Sciences and Technology
38. Ouma E.O. (Reg No.2089/99) Potability of Egerton Water. BSc. Science, botany/ Zoology

### **PROPOSALS EXAMINED**

- Over 100 postgraduate proposals

### **THESES EXAMINED**

- Over 50 theses (Internal and external)

### **RESEARCH INTERESTS**

Microbial biofilms, Water quality analysis, Sanitation and water pollution studies. Environmental biotechnology studies; Pesticide and material degradation, Microbial diversity studies, Plant- microbe interactions including diseases, symbiotic associations and bio-control of pests. Environmental mutagens and cytogenetic studies. Prospecting for antimicrobial compounds and other bioactive compounds, antibiotic resistance, food fermentations and analysis.

### **TRAINING COURSES, WORKSHOPS AND CONFERENCES**

#### **Attendance to conferences**

1. 22<sup>nd</sup> to 25<sup>th</sup> June 2021: Presented a paper entitled “ Sludge Management Technologies for Sustainable Development: An Overview” by A.W. Muia, A. Kimisto & O.O. Donde at the 3<sup>rd</sup> Machakos University, Annual International Conference, On Virtual Platform
2. 6<sup>th</sup> to 8<sup>th</sup> April 2016: attended and participated in the Humbolt “Kolleg”et Lake Resort 2016. Title of paper presentation was Antibiotic Resistance in a Second Order Stream passing through Agricultural Farm Land: Njoro River, Kenya at Sweet Lake Resort, Naivasha – Kenya.
3. 30<sup>th</sup> March to 1<sup>st</sup> April 2016: Attended and Participated in the 10<sup>th</sup> Egerton University International conference Organized by Research Division Division , Egerton University
4. 13<sup>th</sup> -15<sup>th</sup> April 2015 Attended and Participated in the 3<sup>rd</sup> Conference on Energy and Nuclear Power in Mombasa Kenya.

5. 25<sup>th</sup> to 27<sup>th</sup> March 2015: Attended and participated in the 9<sup>th</sup> Egerton University International Conference organized by Research Division at Education Building , Egerton University
6. 26<sup>th</sup> to 28<sup>th</sup> March 2014: Attended and Participated in the 8<sup>th</sup> Egerton University International Conference organized by the Division of Research at Education Building Egerton University.
7. 4<sup>th</sup> to 6<sup>th</sup> December 2013, Attended and participated in the International Soda lakes Conference organized by Kenya Wildlife Service at KWS training School in Naivasha.
8. 1<sup>st</sup> to 5<sup>th</sup> July 2013: Attended and made a presentation at 36<sup>th</sup> WEDC international conference at Education Building, Egerton University. Title of presentation: The use of solar pasteurization in eradication of microbial contaminants in surface water in Kenya Muia, A.W. Donde O.O., Shivoga W.A., Creed I.F and Trick C.G
9. 23<sup>rd</sup> to 25<sup>th</sup> September 2012. Attended the 7<sup>th</sup> Egerton University International conference and Research Week at ARC Hotel, Egerton University.
10. 17<sup>th</sup> to 20<sup>th</sup> July 2012: Attended Humboldt Kolleg meeting in Voi, Kenya. Presented a paper entitled **"Biofilms and Biodiversity: their potential applications in environmental biotechnology"**
11. 8<sup>th</sup> November 2011: Attended the Faculty of Science Training of Postgraduate Supervisors on Improved Research Management.
12. 21<sup>st</sup> to 23<sup>rd</sup> September 2011: attended the 6<sup>th</sup> Egerton University International Conference and Research Week at ARC Hotel, Egerton University
13. 22<sup>nd</sup> to 23<sup>rd</sup> September 2010: attended the 5<sup>th</sup> Egerton University International Conference and Research Week at ARC Hotel, Egerton University
14. 26<sup>th</sup>-28<sup>th</sup> April, 2011: Bioinformatics e-biokit Training organized by Glossina functional genomics network in collaboration with South African National Bioinformatics Institute (SANBI), Egerton University and Swedish Agricultural University at Egerton University.
15. 11<sup>th</sup> -12<sup>th</sup> June 2009: Kenya DAAD Scholars Association (KDSA) National Conference on Science and Technology for Development organised by Masinde Muliro University of Science and Technology (MMUST) at Bishop Nicholas Stam Pastoral Centre – Kakamega. Presented a paper entitled **"Bottled drinking water: A challenge to environmental sustainability and social economic development"**
16. 16<sup>th</sup> – 18<sup>th</sup> September 2008. 3<sup>rd</sup> Annual Research Week and International conference at Egerton University, ARC hotel. Presented a paper entitled **"Insitu Biofilm development on glass slides in sediments of a tropical stream: Njoro River Kenya.**
17. 12<sup>th</sup> – 14<sup>th</sup> August 2008: International Conference on Bioethics, Egerton University 2008 presented a paper entitled **"Plants as Sources of Traditional Medicine: Ethical Implications on Unregulated and Uncontrolled Use"**.
18. 18<sup>th</sup> - 19<sup>th</sup> October, 2007: DAAD conference, held at ARC, Egerton University from.
19. 22<sup>nd</sup> – 24<sup>th</sup> September, 2007, Annual Science Research Week and International Conference, ARC hotel August 2007.
20. 7<sup>th</sup> to 9<sup>th</sup> December 2004: Participated and presented a paper in a conference on Bioethics at Egerton University ARC Hotel. Title of presentation: **Short Term Tests for Environmental Mutagens and Carcinogens: Answer to Emerging Bioethical Issues.**

21. 16<sup>th</sup> - 19<sup>th</sup> March 2004: 2<sup>nd</sup> Regional Microbiology conference on Recent Advances in Microbial Research and their implications to Health, Agriculture and Environment held at the Kenya School of Monetary Studies, Nairobi, Kenya.
22. 20<sup>th</sup> - 22<sup>nd</sup> February 2004: National Women conference on HIV/AIDS at Kasarani Sports Centre, Nairobi.
23. 10<sup>th</sup> to 15<sup>th</sup> December 2003: Inaugural Meeting for East African Austrian Waters Association (EAWWA), Mukono, Uganda.
24. 19<sup>th</sup> - 22<sup>nd</sup> June, 2000: International meeting River Bottom V., Gasthaus "KircheWirt", Kirchenplatz 5, Lunz, Austria.
25. 15<sup>th</sup> - 16<sup>th</sup> April, 1999: First National Symposium of the Kenya Society of Microbiology at Methodist Guest House, Nairobi Kenya.
26. 27<sup>th</sup> November - 1<sup>st</sup> December 1995: Kenya DAAD Scholars conference at Lenana Mount Hotel. Theme: Strengthening the Relationship between the Universities and Industries.

## **TRAINING COURSES AND TRAINING WORKSHOPS**

1. August 2, 2021 – August 26, 2021 Pedal (Pedagogical Leadership in Africa) Online Training Egerton University, Moi University & ESSRAK
2. August 2020, Springer Nature, Seminar on Publishing 101, Earth Sciences, Geography and Environmental Sciences.
3. 22<sup>nd</sup> to 24<sup>th</sup> September 2014, attended and participated in CAPRO (Community Adaptation to Climate Change) Stakeholders wrap up meeting held in ARC Hotel, Egerton University.
4. 8<sup>th</sup> to 10<sup>th</sup> September 2014 attended and participated in Kenya Compro II team meeting sponsored by Bill Melinda Gates Foundation at Intercontinental Hotel Nairobi, Kenya
5. 3<sup>rd</sup> April 2014 Policy Formulation Workshop, CMRT, Multimedia Room, Egerton University
6. 6<sup>th</sup>-10<sup>th</sup> June, 2011: Workshop on E-Learning Capacity Building Course on Developing and Publishing of Digital Teaching and Learning Materials held at CMRT – Botanic Hall
7. 26<sup>th</sup>-28<sup>th</sup> April, 2011: Bioinformatics e-biokit Training Workshop organized by Glossina functional genomics network in collaboration with South African National Bioinformatics Institute (SANBI), Egerton University and Swedish Agricultural University at Faculty of Science Resource centre, Egerton University.
8. 1<sup>st</sup> - 15<sup>th</sup> of November, 2010: Advanced Training Course on Research and Development of Medicinal Plants for African Countries at UON School of Pharmacy. Training organized by Tiangin University of Traditional Chinese Medicine (TUTCM) and University of Nairobi.
9. 22<sup>nd</sup> - 23<sup>rd</sup> March, 2010: Intellectual Property Rights Workshop conducted by trainers from Kenya Industrial Property Institute (KIPI), Kenya Copy Right Board (KECOBO) and Kenya Plant Health Inspectorate Service (KEPHIS) at ARC Hotel, Egerton University.
10. 24<sup>th</sup> - 26<sup>th</sup> March, 2009: Attended a proposal writing workshop held in ARC, Egerton University.

11. 18th Feb 2009: University Academic Advising Training for faculty of science lecturers workshop and on at Egerton University, Fass Theatre.
12. Nov 19<sup>th</sup> - 30<sup>th</sup> Nov 2008: Distance learning Materials: Writers Workshop held at FASS theatre Egerton University.
13. 23<sup>rd</sup> - 25<sup>th</sup> June, 2008: Workshop on "ISO 9001:2000 Quality Management Training",. CMRT, Egerton University.
14. 28<sup>th</sup> - 30<sup>th</sup> May 2008: Pedagogical Skill Workshop, held at CMRT, Egerton University from. Workshop organized by the faculty of education.
15. 6<sup>th</sup> - 8<sup>th</sup> May, 2008: Distance learning Materials: Reviewers Workshop held at CMRT, Egerton University. Workshop organized by the Institute of Open learning and Distance Education, Egerton University.
16. 18<sup>th</sup> September - 5<sup>th</sup> October, 2007: International Postgraduate Limnology training workshop on limnology at Egerton University
17. 8<sup>th</sup> August, 2007: Training workshop on writing and publishing scholarly papers, ARC hotel, Egerton University.
18. 15<sup>th</sup> September - October 4, 2006: International Postgraduate Limnology workshop September 2006 at Egerton University.
19. 15<sup>th</sup> September - 4<sup>th</sup> October 2005: International Postgraduate Limnology workshop at Egerton University.
20. 27<sup>th</sup> September - 9<sup>th</sup> Oct. 2004: MSc. Limnology and Wetlands Ecosystems Tropical Limnology Module, Training Course, Dept of Zoology, Egerton University. Group leader, Water Quality Group.
21. 2<sup>nd</sup> - 6<sup>th</sup> August 2004: Protein Molecular Biology Training Course organised by Botany & Biochemistry Departments of University of Nairobi and Hertfordshire University, UK at University of Nairobi Kenya.
22. 15<sup>th</sup> October, 2003: Workshop on Access to Scientific Information. Organised by Egerton University, Tea Research Foundation and ICRAF on UTAFITI HALL Egerton University.
23. 21<sup>st</sup> - 28<sup>th</sup> September, 2003: Instructional Material Writers Workshop organised by CDE, Egerton University and UNISA at Travellers Beach Hotel Mombasa from.
24. 23<sup>rd</sup> May, 2003: CWS/ SENCER Model Workshop on civic Engagement Strategies for HIV/AIDS Education at Center for Women Studies.
25. 15<sup>th</sup> - 16<sup>th</sup> October, 2002: AWSE/SENCER training workshop on Civic Engagement Strategies for HIV/AIDS Education at ARC, Egerton University.
26. 4<sup>th</sup> - 9<sup>th</sup> May, 1998: A Training course in Aquatic Microbial Ecology at Illmitz Biological Station, Austria
27. 12<sup>th</sup> March - 15<sup>th</sup> November, 1996: International Postgraduate Training Course in Limnology in Mondsee, Austria.
28. 3<sup>rd</sup> - 23<sup>rd</sup> September, 1995: Tropical River Initiative Training Workshop on the Limnology of Njoro River.
29. 15<sup>th</sup> - 17<sup>th</sup> July 1994: Proposal writing workshop at the Agricultural Research centre (ARC), Egerton University.
30. 27<sup>th</sup> February 1989 - 5<sup>th</sup> April 1989: 3<sup>rd</sup> comprehensive training course in standardization, quality control and metrology for new employees at the Kenya Bureau of Standards.



## OTHER WORKSHOPS OF A GENERAL NATURE

1. 14<sup>th</sup> July, 2010: Appear proposal stakeholders workshop at ARC hotel Egerton niversity.
2. 24<sup>th</sup> July 2009: NAPRECA (K) 2009 Annual Seminar/ AGM Day Held on at ARC Hotel, Egerton University.
3. 18<sup>th</sup> June 2009: Participated in a workshop entitled Community based Plant Biodiversity Conservation Workshop organised by Botanic Garden management Committee and Division of Research and Extension Division at the Botanic Garden.
4. 21<sup>st</sup> March 2009: Kenya society of Microbiology Workshop : Networking as an avenue for improving Research and Training in Microbiology and Biotechnology in the Region, in Chiromo Campus, Faculty of Science Deans Board Room, University of Nairobi.
5. 28<sup>th</sup> November, 2008: Inauguration ceremony of the Centre for Herbal medicine and Research, Botanic Garden, Egerton University on
6. 9<sup>th</sup> - 15<sup>th</sup> July 2008: Represented Botanic Garden in the National Agricultural show, Rift valley Branch, Nakuru. Theme of the show, **Empowering communities in Agribusiness.**
7. 13<sup>th</sup> - 15<sup>th</sup> June 2008: EAWA Stakeholders meeting and demonstrations on pro-poor innovations and technologies for safe water supply and creating an opportunity for portential interaction and cooperation between water actors for sustainable management of water resources in EA region. Poster presentation titled, **A simple technology for study of biofilm in stream sediments**, at Kisumu hotel.
8. 27<sup>th</sup> October, 2007: EAWA meeting held at Kunste Hotel Nakuru.
9. 15<sup>th</sup> September, 2007: Seminar on Campaign against Drug and Substance Abuse, by NACADA, Fass theatre, Egerton University.
10. 2<sup>nd</sup> May, 2006: Fingerponds Project Wrap-up/Stakeholders Workshop at ARC Hotel Egerton University.
11. 24<sup>th</sup> March 2004: Induction workshop for lecturers teaching courses to SSP School Based Students at ARC hotel.
12. 14<sup>TH</sup> TO 15<sup>TH</sup> October, 2003: Workshop on Biodiversity and Conservation of Indigenous Knowledge in Egerton ARC HOTEL.
13. 29<sup>th</sup> October, 2003: Workshop on Genetically Modified Organisms (GMOS) held in FASS THEATRE, Egerton University

## JOURNAL PAPERS REVIEWED

1. June 2021, Reviewed for Bioremediation Journal ( Taylor&Francis), Rapid degradation of sulfonylurea herbicide Chlorimuron-ethyl by three novel Strains of fungi (BBRM-2021-093-TN)
2. December 2020: Reviewed 11 papers for the National Research Fund (NRF, Kenya)
3. 2019- Bioaugmentation of endosulfan contaminated soil using artificial bed treatment and assessment of toxicological effects of endosulfan and its degradation products in soil fertility" for Bioremediation Journal Taylor and Francis (2019) [BBRM-peerreview@journals.tandf.co.uk](mailto:BBRM-peerreview@journals.tandf.co.uk)

4. Jul, 2018 - Ref.: Ms. No. RWIN-2017-0125R1 (July 2018). A participatory methodology for future scenario analysis of sub-national water and sanitation access: a case study for Kisumu, Kenya. Water International <https://rwin.editorialmanager.com/>
5. JAN, 2018 - Effect of rhamnolipids on different biological systems: A perspective on assessing the biocompatible nature of the rhamnolipids for bioremediation." The manuscript Manuscript ID BBRM-2017-165-OA, <https://mc.manuscriptcentral.com/bbrm>. Taylor and Francis ( Jan 2018)
6. JUL, 2016 - Review for Bioremediation journal; Title of Manuscript, Monitoring The Biodegradation of Herbicide Ethalfuralin with certain Bacto-fungi Consortia". Manuscript ID BBRM-2016-110-OA for Bioremediation Journal. Taylor and Francis, [journal@central.uh.edu](mailto:journal@central.uh.edu)
7. Feb, 2015 - Heavy Metal pollution from Migori gold mining area, Kenya: Health implications for consumers of fish and water' (SQ2), Laikipia Journal of Sciences and Technology (LUJOST)
8. Feb, 2015 - Validity of Slide Test, 2-Mercaptoethanol Agglutination Test and ELISA Diagnosis of Human Brucellosis, Nyandarua County Kenya, LU/ST/004, Laikipia Journal of Sciences and Technology (LUJOST)
9. 2014 - Isolation, characterization of algae and production of biodiesel. International Journal of Biochemistry and Biotechnology
10. Jun 2011- Research Paper (Ref. MS 01/04), Submitted to Egerton Journal of Science and Technology. First report of race 485 of *Collectrotricum* sp in Kenya and its implication to in bean resistance breeding ISSN 1021-1128.
11. Jun, 2011 - Reviewed for International Journal for Biotechnology and Molecular Biology Research, IJBMBR-11-024 (17<sup>th</sup> - 27<sup>th</sup> June 2011).
12. Sep 2010 - Research Paper (Egerton Journal) Title: Microbial water quality along Njoro River, Kenya: A potential health risk (MNS/4/2010).
13. Apr, 2010 - Isolation and characterization of *Streptomyces* species with antifungal activity from selected national parks in Kenya (Africa Journal of Microbiological Research, AJMR-10-142), April 2010.
14. Reviewed for International Journal for Biotechnology and Molecular Biology Research, IJBMBR-11-024 (17<sup>th</sup> - 27<sup>th</sup> June 2011).
15. May 2008 - Review of Distance learning Modules (Fond 121- Principles of Human Nutrition , EUCDE/KC/IMD/REW/1), May 2008
16. 2004 - Reviewed for the Journal of Tropical Microbiology and Biotechnology, a paper entitled Relationship between L-glutaminase bacteria, Environmental parameters and Seasons in a marine biotope.

#### **KEY RESEARCH PROJECTS**

1. 2014 – 2016: AN INTEGRATIVE APPROACH TOWARDS SUSTAINABLE ENVIRONMENTAL POLLUTION MANAGEMENT - collaborator in a Alexander von Humboldt funded project, Antibiotic resistance in aquatic environment samples. **Collaborating scientist**
2. 2013 – 2015: NCST funded project: TITLE: ASSESSMENT OF RESIDUAL HERBICIDES IN SOILS OF WESTERN KENYA SUGAR BELT: THEIR REMOVAL BY NATIVE BACTERIA AND THEIR EFFECTS ON NON TARGET-ORGANISMS; **Principal Investigator**
3. 2009 – 2013 LAKE NAIVASHA SUSTAINABILITY, ECOHEALTH PROJECT. Between Egerton University and University of Western Ontario, Canada. Team leader Ecology group and Project Coordinator, Kenya Section - **Collaborating Scientist**
4. 2009 – 2010: A SEARCH FOR NEW BACTERIAL ANTIBIOTICS FROM THE GENUS STREPTOMYCES OCCURRING IN NATURAL ENVIRONMENTS- **Principal investigator**
5. 2008 – 2012: ARTHROSPIRA BIOMASS DYNAMICS PROJECT. A Collaborative Project between Vienna University (Austria) and Egerton University (Kenya), **Collaborating Scientist**

#### **PROFESSIONAL ORGANISATIONS AFFILIATED TO**

1. Member of Kenya Society for Microbiology.
2. Member and Treasurer of East African Water Association (EAAWA)
3. Member of American Society of Microbiology (Outreach Programme)

#### **RESEARCH AWARDS**

1. National Council for Science and Technology (Project No. NCST/ 5/003/C/32 (1986).
2. Austrian academic exchange service PhD scholarship in University of Vienna (1998-2001)
3. Austria,4.Commonwealth Research Fellowship at University of Sheffield, UK (Oct 2006 – March 2007)
4. Egerton University internal funding (DVC/ RE/ 023), Nov 2009.
5. National Council for Science and Technology and Innovations (NACOSTI) Women grant (
6. 2013 – 2015:

#### **PUBLICATIONS**

1. Musikoyo, Eddison Opiyo, **Muia, Anastasia Wairimu** and Oduor, Steve Omondi (2021).Chicken feathers degrading bacteria isolated from flamingo feathers in Lake Nakuru, Kenya. African Journal of Biological Sciences. 3(2), 87-94. doi: 10.33472/AFJBS.3.2.2021.87-94
2. Khasisi D. Lukhabi, **Muia A. Wairimu** and Kipkemboi K. Julius (2021). Assessment of performance of wastewater stabilization ponds using faecal indicator bacteria reduction efficiency in a tropical environment. African Journal of Biological Sciences. 3(2), 16-26. doi: 10.33472/AFJBS.3.2.2021.16-26.
3. Oscar O. Donde, Evans Atoni, **Anastasia W. Muia**, Paul T. Yillia  
The COVID-19 pandemic: why the focus on water, sanitation and hygiene (WASH) as a critical control measure remains a major challenge in low-income countries. Water Research,191. <https://doi.org/10.1016/j.watres.2020.116793>

4. **Muia Anastasia Wairimu 2020.** Course Module on Industrial Microbiology, Egerton University <https://elearning.egerton.ac.ke/course/view.php?id=992>
5. Rebecca Ngumburu Karanja, **Anastasia Wairimu Muia**, Catherine Kariuki, Anastasia Njoki Ngigi, Reuben Mukundi Njue and Joseph Maina Kariuki (2020) Effect of pesticide use on weeds, pollinators and microbial activity in Nzoia Sugar Basin of Western Kenya, International Journal of Biodiversity and Conservation, 12(4), 283-290, DOI: [10.5897/IJBC2019.1365](https://doi.org/10.5897/IJBC2019.1365),
6. **Muia AW** and Kariuki ST (2020) Indigenous Fruits of Egerton University Botanic Garden in: Nkanatha JK(ed.) Egerton University Botanic Garden: A model for conservation, Teaching, Research and Recreation, pp 48-55, Media Document and Supplies, Nairobi ISBN [978-9966-817-09-3](https://www.isbn-international.org/product/978-9966-817-09-3)
7. **Muia AW** and Kariuki ST (2020) Indigenous Vegetables of Egerton University Botanic Garden in: Nkanatha JK(ed.) Egerton University Botanic Garden: A model for conservation, Teaching, Research and Recreation, pp 56-62, Media Document and Supplies, Nairobi ISBN [978-9966-817-09-3](https://www.isbn-international.org/product/978-9966-817-09-3)
8. Pauline Macharia, Paul T. Yillia, **Wairimu Muia**, Norbert Kreuzinger (2019) Confounding risk factors obscure link between intermittent water supply and gastrointestinal illness in Njoro Town, Kenya. 20th International Symposium on Health-Related Water Microbiology (HRWM) in Vienna, Austria, <https://www.researchgate.net/publication/342492919>
9. Alfred Burian, Martin Gruber-Dorninger, Mark, Bulling, Franz Jirsa, **Anastasia W. Muia** Johannes Schweichart, Andrew Yasindi, Michael Schagerl (2019) How productivity gradients structure microbial food-webs: Insights from hypereutrophic African soda-lakes (**In Press**).
10. Donde Oscar Omondi, **Muia Anastasia Wairimu**, Makindi Stanley Maingi, Onyango Godfrey Otieno, Kibet Caroline Jepkorir, Ogalo Joseph Okoth and Xiao Bangding (2018). Integrating MFT-qPCR techniques in constructed wetland faecal bacterial purification monitoring; a case of a typical tropical hybrid constructed wetland. 78 (9) 2008-2017, doi: [10.2166/wst.2018.475](https://doi.org/10.2166/wst.2018.475). IWA Publishing.
11. Olilo C.O, **A.W Muia**, J.O Onyando, W.N. Moturi (2018)Effect of vegetative filter strips on the dynamics of E. coli biofilm building potential and expression of virulence factors at Mau, Energ. Ecol. Environ, Energy, Ecology and Environment 3,110- 125., <https://doi.org/10.1007/s40974-018-0081-3>,
12. Kariunga, S.H., Kitaka, N. and **Muia, W.**, (2018). Performance evaluation of Kangemi Sewage Plant in nutrients and organic matter removal, Nyeri Kenya. In: Shaw, R.J. (ed). Transformation towards sustainable and resilient WASH services: Proceedings of the 41st WEDC International Conference, Nakuru, Kenya, 9-13 July 2018, paper 2903, 7 pp. <https://268056d1af815b23ffff840385d5783072fa.pdf>
13. Itotia, T.K, **Muia A.W.**, Getenga Z and Kiruki S.K (2018). Antibiotic resistance in the sediments of a second order stream passing through agricultural farm land: Njoro river, Kenya. In: Shaw, R.J. (ed). Transformation towards sustainable and resilient WASH services: Proceedings of the 41st WEDC International Conference, Nakuru, Kenya, 9-13 July 2018, paper 2941, 5 pp.
14. Itotia T.K, **Muia A.W.**, Getenga Z. and Kiruki S.K (2018)Occurrence of Pathogenic Bacteria HarboringAntibiotic Resistant Genes in River Njoro in Nakuru County, Kenya, Journal of Environment Pollution and Human Health, 2018, Vol. 6, No. 1,31-37, DOI:[10.12691/jephh-6-1-5](https://doi.org/10.12691/jephh-6-1-5) , Website: <http://www.sciepub.com/journal/jephh>
15. Njue, R., Kiruki, S. , **Muia, A.** and Ngigi, A. (2018) Effect Of 2,4-D And Hexazinone On Soil Dehydrogenase Activity In Sugarcane Cultivated Soils in Nzoia Sugarcane Plantations, Journal of Environmental Sustainability and Advanced Research, 4:133-142

16. Njoroge, H. W., **Muia A. W.**, Boga H. I., Otaye D. O. (2018) Antimicrobial Activity of *Streptomyces Mau 1* (Acc. No. Kr780774) From A Wheat Farm Soil in the Mau Forest Complex, Kenya, *Journal of Environmental Sustainability and Advanced Research* (2018) 4:143-150
17. CW Kariuki, AW **Muia**, AN Ngigi, WN Moturi (2017): Isolation of Metribuzin Degrading Soil Bacteria and Assessment of Their Growth in Response to Selected Physical Chemical Conditions, *Journal of Biology, Agriculture and Healthcare*, 7(14) 2224-3205 <https://www.iiste.org/Journals/index.php/JBAH/article/view/37865>
18. Njoroge Hellen Wambui, **Muia A. W.**, Boga H.I., Otaye D.O. and J. O. Ouma (2017) Antimicrobial activity of bacteria isolated from the Mau Forest Complex in Kenya. *Egerton Journal of Science and Technology*, 16: 86-101 <https://eujournal.egerton.ac.ke/index.php/EJ/article/view/21>
19. Olilo C.O, **A.W Muia**, J.O Onyando, W.N. Moturi , P. Ombui, W. A. Shivoga (2016) Effect of vegetated filter strips on infiltration and survival rates of *Escherichia coli* in soil matrix at Mau, Njoro River Watershed, Kenya, *Energy, Ecology and Environment* 2, 125-142. DOI [10.1007/s40974-016-0049-0](https://doi.org/10.1007/s40974-016-0049-0)
20. Itotia T.K, **Muia A.W.**, Getenga Z and Kiruki S.K. (2016) Distribution and Diversity of Antibiotic Resistant Bacteria in Njoro River of Nakuru County. *Journal of Environmental Sustainability, Advancement Research, J. Env. Sust. Adv. Res.* (2016) 2: 35-46
21. Olilo C.O, J.O Onyando, W.N. Moturi **A.W Muia** , A F Roegner, Z Ogari P. Ombui, W. A. W Shivoga and (2016). Composition and design of vegetative filter strips instrumental in improving water quality by mass reduction of sediment, nutrients and *Escherichia coli* in overland flows in eastern escarpment of the Mau Forest, Njoro River Watershed, Kenya *Energ. Ecol. Environ.* Energy, Ecology and Environment, (2016), 1(6):386-402. DOI [10.1007/s40974-016-0032-9](https://doi.org/10.1007/s40974-016-0032-9). Springer.
22. Olilo C.O, **Muia AW**, Moturi WN, Onyando JO and Amber FR (2016) The current state of knowledge on the interaction of *Escherichia coli* within vegetative filter strips as a sustainable best management practice to reduce fecal pathogen loading into surface waters *Energy, Ecology and Environment*. *Energ. Ecol. Environ.* (2016) 1(4):248-266 DOI [10.1007/s40974-016-0026-7](https://doi.org/10.1007/s40974-016-0026-7), Springer.
23. Kariuki, C. W., **Muia, A. W.**, Moturi, W. N., Ngigi, A N., and Karanja, R.W. (2016) Relationships between Soil Physico-chemical Properties and Bacteria Counts in Nzoia Sugar Company Farms of Western Kenya, *Egerton J. Sci. & Technol.* Volume 15: 123-131 <http://archive.egerjst.egerton.ac.ke/index.php/egerjst/article/view/107>.
24. C. O. Olilo, J. O. Onyando, W. N. Moturi, **A. W. Muia**, P. Ombui, W. A. Shivoga & A. F. Roegner (2016) Effect of vegetated filter strips on transport and deposition rates of *Escherichia coli* in overland flow in the eastern escarpments of the Mau Forest, Njoro River Watershed, Kenya, *Energy, Ecology and Environment*, 1(3):157-182 DOI [10.1007/s40974-016-0006-y](https://doi.org/10.1007/s40974-016-0006-y), Springer
25. Rop K. Richard, Donde Oscar Omondi, **Muia A. Wairimu**, and Makindi S. Maingi (2016) Influence of rainfall intensity on faecal contamination in River Nyangores of Mara Basin, Kenya: An eco-health integrity perspective, *Asian Journal of Microbiology, Biotechnology and Environmental Science*, *Asian Journal of Microbiology, Biotechnology and Environmental Science*, 18(2) : 1-9
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27. Donde O. Omondi, **Muia A. Wairimu**, Wanga L. Aketch , Shivoga A. William, Charles G. and Irena F. Creed (2015) Faecal pollution and solar purification of community water sources within Lake Naivasha Basin, Kenya. *Journal of Water, Sanitation and Hygiene for Development*. 5(2) : 253-260, doi:[10.2166/washdev.2015.150](https://doi.org/10.2166/washdev.2015.150)

28. Pauline W. Macharia, Paul T. Yillia, **Wairimu A. Muia**, Denis Byamukama and Norbert Kreuzinger (2015) Microbial quality of domestic water: following the contamination chain in a rural township in Kenya. *Journal of Water, Sanitation and Hygiene for Development* 5(1) : 39-49, or [doi:10.2166/washdev.2014.070](https://doi.org/10.2166/washdev.2014.070)
29. Oboo H., **Muia AW** and Kinyua ZM (2014) Effects of selected essential oil plants on bacterial wilt disease development in potatoes. *Journal of Applied Biosciences* 78: 6666 – 6674 or <http://dx.doi.org/10.4314/jab.v78i1.2>
30. Oboo H., **Muia A. W.** and Kinyua Z. M (2014) Effect of Essential Oil Plant Extracts on in vitro Growth of *Ralstonia solanacearum* Egerton *Journal of Science & Technology* , 14: 141 -160 <https://www.researchgate.net/publication/285567637>
31. Rop K R, **Muia AW**, Makindi S and Donde O.O, (2014) Changes in the densities of faecal and organic matter contaminants from upstream to downstream along Nyangores River of Mara catchment, Kenya. *Journal of Environmental Science and Water Resources* , 3(1), pp. 15 - 25, January 2014
32. Oscar O. Donde, William O. Ojwang, Anastasia **W. Muia** and Lucy A. Wanga (2014) Bacterial abundance on the skin, gills and intestines of *Cyprinus carpio* in Lake Naivasha, Kenya: Implications for public health and fish quality. *Lakes and Reservoirs: Research and Management* 19:46–55. <https://onlinelibrary.wiley.com/doi/abs/10.1111/lre.12050>
33. Donde O. O., **Muia AW**, and Shivoga A. W (2013). Temporal Variation In Densities Of Microbiological Indicators Of Pollution In Water Sources Within Naivasha Lake Basin, Kenya. *International Journal of Scientific and Technology Research*, 2(10), 131 – 138. Published, October 2013 <https://www.researchgate.net/publication/263444593>
34. Donde O.O, **Muia AW**, Shivoga AA, Trick GC and Creed IF (2013). Faecal bacterial contamination of borehole water between points-of-access and points-of-use in Naivasha, Kenya; Public health implication, *Egerton Journal of Science and Technology*, 13: 165-184, Published. Published May 2013, <http://archive.egerjst.egerton.ac.ke/index.php/egerjst/article/view/70/46>
35. Okoko AA, **Muia, AW**, Moturi, WN and Oyake A (2012). Levels of *E.coli* contamination of River Awach and household water in Western Kenya, *Journal of Environmental Science and Water Resources* 1, 120 – 126. <http://archive.egerton.ac.ke/index.php/Research-by-Faculty/research-publications-list.html>
36. Macharia P, Yillia P, Byamukama D, **Muia W**, Kreuzinger N (2011) P2-443 A retrospective epidemiological study of endemic waterborne illness in a pastoral community in Kenya *J Epidemiol Community Health* August 2011 **Vol 65 Suppl 1**, [doi:10.1136/jech.2011.142976.73](https://doi.org/10.1136/jech.2011.142976.73)
37. **Muia A. Wairimu**, G. Bretschko and GJ Herndl (2011) Structure and function of microbial biofilms, with special emphasis on aquatic heterotrophic microbial communities, ***African Journal of Aquatic Sciences*, 36: 1-10.** <https://doi.org/10.2989/16085914.2011.562279>
38. **Wairimu A. Muia** (2009) Plant as sources of Traditional Medicine: Ethical implications on unregulated and uncontrolled Use in Proceedings of International Conference on Bioethics, at Egerton University, Kenya (12<sup>th</sup> 14<sup>th</sup> August 2008) publisher, Unesco Regional Centre for Documentation and Research on Bioethics, Egerton University, **pp 81 – 93. ISBN 9966052135.**
39. A W **Muia** and M L Muia (2009) Bottled Drinking Water: A challenge to Environmental Sustainability and Social Economic Development in Conference proceedings of Kenya DAAD Scholars Association on Technology for Development held on 11<sup>th</sup> – 12<sup>th</sup> June 2009 in Masinde Muliro University, Kakamega, pp 112 – 115.
40. N.P. Riess , W.A. Muia , S.F. Thornton, A.M. Osborn, J.W.N. Smith (2008) Investigating nitrogen attenuation in the hyporheic zone of a lowland river: a multi-disciplinary approach. *Geophysical Research Abstracts*, Vol. 10, EGU2008-A-07255, 2008 **S Ref-ID: 1607-7962/gra/EGU2008-A-07255 EGU General Assembly 2008**

41. A.W **Muia**, G Bretschko and GJ Herndl (2006) Microbial exopolymers in sediments of a Second Order Stream: Njoro River Kenya. **Journal of Tropical Microbiology and Biotechnology** 2(1): 37-45
42. **Muia A. Wairimu**, G. Bretschko and G.J. Herndl 2003. An investigation on Biofilm Development in a Second Order Tropical Stream, Njoro River Kenya: First results. **Internat. Rev. Hydrobiol.** 88 (3-4), 372 -384. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/iroh.200390032>
43. Woodruff, R.C., J.N. Thomson, Jr. H.N.B. Gopalan, **W.A. Ngure**, E.S. Norris and A.A. Szekely 1990. Genetics and molecular analyses of P DNA elements sampled from natural populations of *Drosophila melanogaster* in Kenya. Molecular Evolution, UCLA Symposium. **Molecular and Cellular Biology. New series**, M.T. Clegg and S.J O'Brien (eds). 122, 117 – 125.

#### CONFERENCE PAPERS, POSTERS AND ABSTRACTS

1. Alfred Burian, Peter Peduzzi , Martin GruberDorninger , Mark Bulling, Franz Jirsa , Anastasia Muia , Andrew Yasindi , Michael Schagerl , S24-O The end of the line: What hypereutrophic soda-lakes can tells about virus-bacteria-chlorophyll a relationships.
2. Njue, R. , Kiruki, S. , Muia, A. and Ngigi, A (2018).Effect of 2,4-D and Hexazinone on soil dehydrogenase activity in sugarcane cultivated soils in Nzoia sugarcane plantations Njue, R. , Kiruki, S. , Muia, A. and Ngigi, A (2018), Egerton University Research Week and International Conference
3. Kariuki, C. W., Ngigi A. N., Muia, A. W., Karanja, R.H., Moturi, W. N.1.( 2016): Relationship between selected Physico-Chemical properties and Bacteria counts in Nzoia Sugar Company farms, Kenya. In: The 10thEgerton University International Conference and Expo held held on 30<sup>th</sup> March to 1st April, 2016 in Faculty of Education Complex, Egerton University, Njoro Kenya, page 8.
4. Kariuki, C. W., Ngigi A. N., Muia, A. W., Karanja, R.H., Moturi, W. N.1. Poster presentation : Degradation of metribuzin by *Pseudomonas* and *Planococcus* sp bacteria in: The 8 th International Conference of the Kenya Chemical Society (KCS), Millennium Hall, College of Physical and Biological Sciences, Chiromo Campus, University of Nairobi. Dates: 5 th to 8 th May, 2015.
5. Njue R.M., Kiruki S., Muia A.W and Ngigi A.N.(2015). Biodegradation of Hexazinone and 2,4-D Herbicides from sugarcane soils in Nzoia Drainage Basin in Western Kenya. In: The ninth Egerton University International Conference held on 25<sup>th</sup> to 27<sup>th</sup> March 2015, Faculty of Education Complex, Egerton University, Njoro Kenya, pp47.
6. Itotia, T.K., **Muia, A.W.**, Kiruki, S. and Getenga, Z.M (2015) Distribution and Diversity of Antibiotic Resistant Bacteria in Selected Agro-Industrial Pollution in Njoro River, Nakuru, Kenya Proceedings of the Second International Research Conference 28th to 30th October, 2015, Chuka University361-371
7. A W Muia and M L Muia (2009) Bottled Drinking Water: A challenge to Environmental Sustainability and Social Economic Development in: Conference Proceedings of Kenya DAAD Scholars Association on Technology for Development held on 11<sup>th</sup> – 12<sup>th</sup> June 2009 in Masinde Muliro University of Science and Technology (MMUST), Kakamega, pp. 112 – 115.
8. AW Muia 2008 (**Abstract**) Plants as sources of Traditional medicine: Ethical implications on unregulated and uncontrolled use. International Conference on Bioethics. Section 6, Alternative/Complimentary/Traditional Medicine, Book of abstracts, pg 14.

9. Nicholas P. Riess, **Wairimu A. Muia**, Jonathan W.N. Smith, A. Mark Osborn, Steven F. (2007) Investigating the potential for nitrate Attenuation within the Hyporheic Zone of a UK Lowland river, 4<sup>th</sup> European Bioremediation Conference, ID 037.
10. **Muia A. Wairimu**, G. Bretschko and G.J. Herndl 2004. Microbial exopolymers in sediments of a Second Order Stream: Njoro River Kenya. **Proceedings of the second Regional Microbiology conference 16<sup>th</sup> - 19<sup>th</sup> March 2004 , pp 1 71-182.**
11. **Muia A. Wairimu**, G. Bretschko and G.J. Herndl 2004. Microbial exopolymers in sediments of a Second Order Stream: Njoro River Kenya. **Abstract** in 2<sup>nd</sup> Regional Microbiology conference page 36 -37, Session Vi – Microbial Ecology.
12. **Muia A. Wairimu**, G. Bretschko and G.J. Herndl 2003. Temporal dynamics of carbohydrates in Sediments of a second Order Stream: Njoro River Kenya. **Abstract** in EAWA book of Abstracts pg 57.
13. **Muia A. Wairimu** 2000. An investigation on Biofilm Development in a Second Order Tropical Stream, Njoro River Kenya: Book of **Abstract** River Bottom V. International meeting River Bottom V, June 19<sup>th</sup> – 22<sup>nd</sup>, 2000. Gasthaus “KircheWirt”, Kirchenplatz 5, Lunz, Austria.IV/3
14. Woodruff, R.C., J.N. Thomson, Jr. H.N.B Gopalan, **W.A. Ngure**, E.S. Norris and A.A. Szekely 1989 (**Abstract**). Mutation dynamics in the natural populations of *Drosophila melanogaster* and cluster of mutation dynamics in the evolutionary theory. Journal of Cellular Biochemistry 13C: 136.
15. **Wairimu A.N** and Gopalan H.N.B 1989. Genotoxicity Testing of Some Medicinal Plants in *Salmonella* / Mammalian Microsome Assay (**Abstract**). KEMRI/ KETRI Annual Medical Scientific Conference. **Ab.30/89, Session 3 Drugs/Medicinal Plants.**

#### PUBLICATIONS SUBMITTED

1. Njue, R., Kiruki, S. , **Muia, A.** and Ngigi, A. Biodegradation of 2,4-Dichlorophenoxyacetate by Soil Bacteria from Sugarcane Farms in Western Kenya ( Manuscript no. EMID:553583dc1211c96c) Environmental Science and Pollution Research, Springer Journals (July 2020)
2. Oboo H., Kinyua ZM and Muia AW. Comparative study on survival of *R. solanacearum* in soil-root environment of host and non host plants use for rotation in control of potato bacterial wilt

#### PUBLICATIONS IN PREPARATION

1. **Muia A. Wairimu**, G. Bretschko and G.J. Herndl A Study of Biofilm Development Using Buried Glass Slides in Sediments of a Second Order Tropical Stream: Njoro River Kenya.
2. **Muia A. Wairimu** and H.N.B Gopalan Short Term Tests for Environmental Mutagens and Carcinogens: Answer to Emerging Bioethical Issues.

#### UNPUBLISHED WORK

**Wairimu A.N. (1989).** A study of the potential genotoxic effects of some medicinal plants commonly used in Kenya using the *Salmonella* mammalian microsome assay and the *V. faba* test system. Msc. Thesis, Univ. of Nairobi, Kenya.



**Muia A.W. (2001).** Biofilm development in the Sediments of a Low Order Tropical Stream: Njoro River Kenya. PhD.Thesis, Univ. Vienna, Austria.

#### **COMMUNITY SERVICE AND OTHER SOCIAL RESPONSIBILITIES**

1. Member of Board of Governors, St Augustine Catholic Primary School (Jun 2009 to 2012 )
2. Secretary of Botany Department Staff Welfare (BOTAWEL) Committee (2001 up to 2007).
3. Treasurer Botany Department Staff Welfare (BOTAWEL) Committee (March 2003 up to 2006, acting capacity).
4. Member of Njoro Country Club (April 2011 to now)
5. Appointed Judge in the Rift Valley Students Congress on Science and Technology held in Nakuru High School 6<sup>th</sup> - 7<sup>th</sup> June 2003 in Nakuru High School.

#### **REFEREES**

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Signed: *A. Muia* Date 14<sup>th</sup> September, 2021.