

# ***CURRICULUM VITAE AS AT 5<sup>th</sup> February, 2018***

- Name:** Charles F.L. Mbakaya, *BSc (UoN), MSc (Bristol), PhD (KU)*
- Position:** Associate Professor & Ag. Dean, School of Science, Technology and Engineering, Rongo University, Migori County Kenya.
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- E-Mail:** [cmbakaya@hotmail.com](mailto:cmbakaya@hotmail.com); [cmbakaya@gmail.com](mailto:cmbakaya@gmail.com)
- Date of Birth:** 3<sup>rd</sup> March 1961
- Marital Status:** Married with seven children; 5 girls and 2 boys.
- Objective:** To be a leading Analytical/Nutraceutical Chemistry research scientist, scholar, inventor, mentor and policy maker whose works in nutrition, Environmental, Occupational, Public Health and HIV & AIDS research will touch and improve the lives of mankind in Kenya and beyond.
- Research Interests:** Role of micro-nutrients as effect modifiers of exposure outcomes to environmental contaminants. Diseases of interest include malaria, TB, HIV & AIDS, giotre and cancer. I am also keen on formulating and procuring intellectual property and commercializable rights for nutraceutical products for disease management, including HIV, AIDS, TB, pneumonia, asthma, arthritis and cancer in Kenya and beyond.

## ***Academic/Professional Qualifications/Continuing education***

- 1974 St Peter's Mumias Boys Primary School, CPE, 24 Pts.
- 1978 St Peter's Boys' High School, Mumias, KCSE, Division I, 14 Pts.
- 1980 Strathmore College, A-Levels, 3 Principals, I Subsidiary, 11 Pts.
- 1981/5 BSc Chemistry (Lower Division), University of Nairobi.
- 1989/90 Pursued an MSc in Advanced Analytical Chemistry at the University of Bristol (UK) on a British Council Scholarship through the Kenya Government.
- 1994/5 Pursued a Diploma, Advanced Training Programme in Occupational Health and Safety in Practice, Swedish National Institute for Working Life with Support from SIDA.
- 1991 Attended a data management workshop in Dar es Salaam conducted by work health and safety experts from the Finnish Institute of Occupational Health. My participation was in my capacity as the regional coordinator of the East Africa Pesticide Network.
- 1996 Attended the third Alexander Hollaender Training Course in Genetic Toxicology at the University of Cape Town Medical School conducted by experts from the U.S.A.

Environmental Protection Agency (E.P.A).

- 1997 Attended the WHO-ISEOH'97 pre-conference Course on "Using Epidemiology for Decision Making in Occupational and Environmental Health, Harare, Zimbabwe.
- 2003 Attended a Pesticides Safety Training Course organized by the University of Cape Town, and University of Michigan in conjunction with the Forgarty International Centre Program to develop capacity in Occupational and Environmental Health at the Tropical Pesticides Research Institute in Arusha, Tanzania. The course content focused on an overview of global pesticide issues, chronic and acute health effects of pesticides, regulation, toxicology, immunochemistry, industrial hygiene, epidemiology, surveillance, vulnerable groups, cancer, networking, biological monitoring, alternatives to pesticides, training, risk perceptions, information sources and communication.
- 2004/5 Registered for PhD at and Kenyatta University in Food/Analytical Chemistry with a bias to nutraceutical chemistry.
- 2005 Attended an African Workshop on Intellectual Property Rights organized by The Center for Management of Intellectual Property in Health Research and Development (MIHR) held in Dar Es Salaam between 17<sup>th</sup>- 21 May 2005.
- 2011 Graduated with PhD in Analytical/Food Chemistry from Kenyatta University, where title of thesis is **“The role of serum zinc, copper, retinol and  $\alpha$ -tocopherol in modulation of immunity in HIV & AIDS subjects in western Kenya”**. This thesis has contributed to new knowledge by showing that the body lowers serum zinc levels so as to produce HIV antibodies necessary in significantly reducing viral load. Consequently, this has led me to re-defining the scientifically contentious cause of AIDS not to be only by HIV but by multiple factors, primarily including zinc deficiency as a result of malnutrition and or evolutionary dynamics that shift human immunological responses from predominantly Th-1 to Th-2 to adapt to/tackle offending pathogens (e.g. viruses, fungi, parasites, semen in the rectum/vagina e.t.c) and chemicals (e.g. pesticides, dioxins, contraceptives, fumonisisn, aflatoxins e.t.c.). This hypothesis has in September 2012 been corroborated by findings reported in the New England Medical Journal by Browne *et al.* who reported AIDS without HIV infection in subjects in Taiwanese and Vietnamese subjects and attributed it to genetics and environmental factors, demonstrating that I am a cutting-edge researcher on AIDS not only locally, but internationally.
- 2012 Registered by the National Environmental Management Authority (NEMA) under the

Environmental Management and Coordination Act as an Environmental Impact Assessment/Audit Lead Expert on 10<sup>th</sup> August, 2012.

2013 Attended a 6 weeks course on **Strategic Leadership Development Programme** No. 66/2013 at the Kenya School of Government (KSG), Nairobi, Kenya between 2<sup>nd</sup> April to 10<sup>th</sup> May 2013.

2013 Attended the **Mentoring the Mentors in Global Health Research Workshop** held between 17<sup>th</sup>-18<sup>th</sup> June 2013 at the Sarova Whitesands Beach Resort & Spa, Mombasa, Kenya. It was sponsored and run by facilitators from University of California San Francisco, National Institute of Mental Health, Kenya Medical Research Institute and Makerere University. The workshop was held for selected East African mentors interested in nurturing early career investigators in biomedical and behavioral global health research.

**Date of Appointment:** 1990, as Research Officer, KEMRI, that is equivalent to position of Lecturer at Universities.

**Date of 1<sup>st</sup> Promotion:** 1999, Senior Research Officer, KEMRI; that is equivalent to position of senior Lecturer at Universities.

**Date of 2<sup>nd</sup> Promotion:** 2004, Principal Research Officer, KEMRI that is equivalent to Associate Professor at Universities.

**Date of 3<sup>rd</sup> Promotion:** 2014, Promoted to position of Chief Research Officer (PRO) KEMRI, this being the highest research position in the Institute and is equivalent to the position of full Professor at Universities.

**Date of Appointment:** Appointed Director, Centre for Public Health Research, Kenya Medical Research Institute on 1<sup>st</sup> September 2014 for 3 years, renewable.

**University Teaching:** 5<sup>th</sup> May 2017 – Todate Appointed **Associate Professor**, Analytical/Nutraceutical Chemistry, Rongo University on Probation.

17<sup>th</sup> January 2017 – Todate Confirmed as a Permanent and Pensionable staff of Rongo University upon successful completion of my probation period.

2<sup>nd</sup> October 2017, **Appointed Ag. Dean, School of Science, Technology & Engineering, Rongo University**

### ***Project Funding***

I have attracted a total of **Ksh273,000,000** in project funding as PI/Co-PI in the last 10 years. The projects funded largely cluster in the area of evaluation of micronutrient supplements for management of HIV and AIDS subjects in East Africa. Others are in the area of national nutrition surveillance in Kenya. Donors include international NGOs such as MI, the Government of Kenya and international drug companies from the US, Spain, China and Kenya. In September 2013, I joined the Director KEMRI to lobby Parliament for **KSh.66,000,00** to finance a study on the benefits or otherwise of miraa chewing and handling and the said funds are being awaited. In 2013/4, I have participated in writing two projects as co-investigator that are worth **Ksh. 10,000,000** and for which MOUs are already signed by French and American companies and will start shortly.

### *Papers Presented in Local and International Conferences*

1. **Mbakaya, C.F.L.** Lwaki, S. and Onyoyo, H.A (1996). Employer Perceptions of Occupational Health and Safety in Kenya Prior to Training with a Newly Developed Manual. *Proceedings of ICOH'96*, September, Stockholm, Sweden.
2. **Mbakaya, C.F.L.** and Wakori, E.T (1996). Dietary and Environmental Considerations of the AIDS Phenomenon: A Review Focussing on Dioxins and Micronutrient Zinc. *Proceedings of the 17th African Health Sciences Congress*, 5th-9th February, Nairobi, Kenya.
3. **Mbakaya, C.F.L** (1998). A Consensus Building Workshop on Worksite HIV/AIDS Policies in Kenya. *A Report to the FHI/USAID*, May, Nairobi, Kenya.
4. **Mbakaya, C.F.L** (1999). Dioxins as immunosuppressants in HIV/AIDS. *Proceedings of the UNEP International Conference on the elimination of Persistent Organic Pollutants (POPs)*, January 1999, Nairobi.
5. **Mbakaya, C.F.L.**, Orege P.A. and Kisingu W (2000-2). Nutritional Advances in the Management of HIV/AIDS Patients. *Paper presented at a series of round tables targeting academicians and other senior healthcare professionals* in Madrid, Harare, Bulawayo, Johannesburg, Gaborone, Accra, Kumasi, Addis Ababa, Nairobi, Kisumu, Mombasa, Blantyre, Maseru, Mbabane and Kampala between July 2000 and September, 2002.
6. **Mbakaya, CFL.** Nutritional Advances in the Management of HIV/AIDS in Sub-Saharan Africa: A Kenyan Experience with VIUSID. *One of the Four Keynote Addresses at the 40<sup>th</sup> Annual Medical Conference of the Ethiopian Medical Association*, African Union Hall Addis Ababa, September 2002.
7. **Mbakaya CFL,** Orege PA, Kisingu W (2003). Nutritional Management of HIV/AIDS patients in Kenya. *Proceedings of the 24<sup>th</sup> African Health Sciences Congress*, African Union Conference Centre, 28th Sept- 2<sup>nd</sup> Oct, Addis Ababa, Ethiopia.
8. **Mbakaya CF,** Orege PA, Kisingu WM (2004a). Management of HIV/AIDS patients using micro-nutrients with enhanced antioxidant properties in Kenya. *Proceedings of*

*the 15<sup>th</sup> International AIDS Conference, 11<sup>th</sup>-16<sup>th</sup> Jul, Bangkok, Thailand.*

9. **Mbakaya CFL**, Nyambaka H, Waudo J, Amukoye E; Orege P, Kisingu W, Koech D, Ndiege I, Mpoke S, Omondi B, Wazala P, Muniu E (2005). Repletion dynamics of serum zinc, retinol and immunity of HIV and subjects in western Kenya. *Proceeding of the 26<sup>th</sup> African Health Sciences Congress, 28<sup>th</sup> Nov-1<sup>st</sup> Dec, AIN Soukhna, Egypt.*
10. **Mbakaya CFL**; Nyambaka H; Waudo J; Amukoye E; Orege P; Kisingu W; Koech D; Ndiege I; Mpoke S; Omondi B; Wazala P; Muniu E (2006). Might susceptibility to HIV, malaria and TB be modifiable by host zinc status among subjects diagnosed with HIV and AIDS with VCT centers in western Kenya? *Proceeding of the 27<sup>th</sup> African Health Sciences Congress, 3<sup>rd</sup>-6<sup>th</sup> Dec, Durban, South Africa.*
11. **Mbakaya CFL (2006)**. Serum zinc, Retinol, Immunity and morbidity status of adult males and females diagnosed with HIV with VCT centers in Western Kenya. *Proceedings of the 27<sup>th</sup> African Health Sciences Congress, 3<sup>rd</sup>-6<sup>th</sup> December, Durban, South Africa.*
12. Gachanja SW, **Mbakaya CFL**, Keriko JM, Sakari WDO and Mwangi M (2006). Byssinosis among sisal and food processing workers in Thika District, Kenya. *Proceedings of the 27<sup>th</sup> African Health Sciences Congress, 3<sup>rd</sup>-6<sup>th</sup> December, Durban, South Africa.*
13. Wambugu W, **Mbakaya CFL**, Keriko JM, Kombe Y, Mwangi M (2006). Health effects of pesticides among formulators, re-packers and storemen in Nairobi, Kenya. *Proceedings of the 27<sup>th</sup> African Health Sciences Congress, 3<sup>rd</sup>-6<sup>th</sup> December, Durban-South Africa.*
14. Waruguru M, **Mbakaya CFL**, Keriko JM, Kombe Y, Mwangi M (2006). Exposure to mercury and other mine-related hazards in Migori gold belt, Kenya. *Proceedings of the 27<sup>th</sup> African Health Sciences Congress, 3<sup>rd</sup>-6<sup>th</sup> December, Durban, South Africa.*
15. **Mbakaya CFL**, Nyambaka H, Waudo J, Amukoye E, Orege P, Kisingu W, Koech D, Ndiege I, Mpoke S, Omondi B, Wazala P, Muniu E (2007). Might micro-nutrient zinc and retinol status modify susceptibility to HIV/AIDS, TB and malaria infection among adults diagnosed with HIV with VCT Centers in Western Kenya? *Proceeding of the 1<sup>st</sup> South African Medical Research Council (MRC) Research Day, 1<sup>st</sup> April, University of Stellenbosch, Cape Town, South Africa.*
16. **Mbakaya CFL**, Nyambaka H, Waudo J, Amukoye E, Orege P, Kisingu W, Koech D, Ndiege I, Mpoke S, Omondi B, Wazala P, Muniu E (2008a). Correlation between lower serum zinc and HIV-seropositivity, enhanced HIV antibody production and significant viral load clearance in adult females and males on mega dose multi-micronutrient supplements in Western Kenya suggests an evolutionary interplay and a way forward in management of HIV & AIDS. *Proceedings of the 1<sup>st</sup> National Conference and Exhibition for Dissemination of Research Results and Review of Innovations of the Ministry of Science and Technology, 28<sup>th</sup>-30<sup>th</sup> April, Nairobi, Kenya.*

17. **Mbakaya CFL**, Nyambaka H, Waudo J, Amukoye E, Orege P, Kisingu W, Koech D, Ndiege I, Mpoke S, Omondi B, Wazala P, Muniu E (2008b). Might correlation between lower serum zinc and HIV-seropositivity, enhanced HIV antibody production and significant viral load clearance in adult females and males on mega dose multi-micronutrient supplements in Western Kenya suggests an evolutionary interplay? *Proceedings of the 4<sup>th</sup> Public Health Association Conference*, 2-4<sup>th</sup> June, Cape Town, South Africa.
18. **Mbakaya CFL**, Nyambaka H, Waudo J, Amukoye E, Orege P, Kisingu W, Koech D, Ndiege I, Mpoke S, Omondi B, Wazala P, Muniu E (2008c). Correlation between lower serum zinc and HIV-seropositivity, enhanced HIV antibody production and significant viral load clearance in adult females and males on mega-dose multi-micro-nutrient supplements in Western Kenya. *Proceedings of the 28<sup>th</sup> African Health Sciences Congress*, 12<sup>th</sup>-19<sup>th</sup> July, University of Mauritius, Port-Louis, Mauritius.
19. **Mbakaya CFL** (2010). Elucidating the link between micro-nutrient zinc, malaria, HIV & AIDS and cancer, as guided by outcomes of selected micronutrient interventions in Kenya. *Proceedings of the 4<sup>th</sup> Africa Nutritional Epidemiology Conference*, 4<sup>th</sup>-8<sup>th</sup> October, Safari Park Hotel, Nairobi, Kenya.
20. **Mbakaya CFL**, Murithi G, Muturi NM and Nanzai DO (2010b). Elucidating the link between climate change, exposure to pathogens, nutrition and acquired immunity. *Proceedings of the 4<sup>th</sup> Africa Nutritional Epidemiology Conference*, 4<sup>th</sup>-8<sup>th</sup> October, Safari Park Hotel, Nairobi, Kenya.
21. **Mbakaya CFL**, Misati R, Kagasi E, Amolo J, Mukenya O (2010c). Might use of oral contraceptives lower serum zinc levels and immunity of women of reproductive age and predispose them to increased morbidity and mortality? *Proceedings of the 3<sup>rd</sup> Scientific Conference*, 14<sup>th</sup>-15<sup>th</sup> October, Kenyatta National Hospital (KNH), Nairobi, Kenya.
22. **Mbakaya CFL**, Njuguna N, Memusi D, Mwai J, Kagwaini F, Mugure G, Mwangi E (2010d). Micronutrients as effect modifiers of HIV transmission and progression in Sub-Saharan Africa. *Proceedings of the 3<sup>rd</sup> Scientific Conference*, 14<sup>th</sup>-15<sup>th</sup> October, Kenyatta National Hospital (KNH), Nairobi, Kenya.
23. **Mbakaya CFL**, Fanta T, Mayieka LM, Nyamu JN, Munguti P, Mutua E, Mburugu C, Kawira SO (2010). Micronutrients in tuberculosis prevention and care in Sub-Saharan Africa. *Proceedings of the 3<sup>rd</sup> Scientific Conference*, 14<sup>th</sup>-15<sup>th</sup> October, Kenyatta National Hospital (KNH), Nairobi, Kenya.
24. **Mbakaya CFL**, Cherutich R, Kathure I, Ngugi E, Mwit P, Mchaka J (2010). The untapped potential of micro-nutrient zinc as an effect modifier of cancer in vulnerable populations in Sub-Saharan Africa. *Proceedings of the 3<sup>rd</sup> Scientific Conference*, 14<sup>th</sup>-15<sup>th</sup> October, Kenyatta National Hospital (KNH), Nairobi, Kenya.
25. **Mbakaya CFL**, Misati R, Kagasi E, Amolo J, Mukenya O (2010). Might use of oral contraceptives lower serum zinc levels and immunity of women of reproductive age and predispose them to increased morbidity and mortality? *Proceedings of the 17<sup>th</sup> Society for Free Radical Biology and Medicine (SFRBM)*, 17<sup>th</sup>-21<sup>st</sup> Nov 2010, Orlando, Florida, USA.

26. **Mbakaya CFL**, Njuguna N, Memusi D, Mwai J, Kagwaini F, Mugure G, Mwangi E (2010d). Micronutrients as effect modifiers of HIV transmission and progression in Sub-Saharan Africa. *Proceedings of the 17<sup>th</sup> Society for Free Radical Biology and Medicine (SFRBM)*, 17<sup>th</sup>-21<sup>st</sup> Nov 2010, Orlando, Florida, USA.
27. **Mbakaya CFL** (2012). Environmental health as an underrated push factor for communicable and non-communicable diseases in Kenya and beyond. *Proceedings of the Environmental Public Health-Collaboration for Sustainable Development Conference*, 10<sup>th</sup>-11<sup>th</sup> May, Safari Park Hotel, Nairobi, Kenya.
28. **Mbakaya CFL** (2014). Elucidating the link between environment, nutrition, host immunity, AIDS and cancer as informed by selected studies in Kenya and beyond. **Keynote Address.** *Proceedings of the 4<sup>th</sup> Kemri Annual Scientific and Health (KASH) Conference*, 3<sup>rd</sup>-6<sup>th</sup> Feb, Kenya Medical Research Institute Training Centre, Nairobi, Kenya.
29. **Mbakaya CFL** (2014). Elucidating the link between environment, nutrition, host immunity, AIDS and cancer as informed by selected studies in Kenya and beyond. **Keynote Address.** *Proceedings of the Kenyatta University Conference*, 10<sup>th</sup> -16<sup>th</sup> March. North Coast Beach Resort, Mombasa, Kenya.
30. **Mbakaya CFL** (2014). Elucidating the link between environment, nutrition, host immunity, AIDS and cancer as informed by selected studies in Kenya and beyond. *Posted on website of the Food Technology-2014 Conference due held, 21<sup>st</sup> – 23<sup>rd</sup> July 2014, Las Vegas, USA and now posted on slide serve due to its invaluable contribution to science globally.*

#### *Papers Appearing in Referred Journals*

1. **Mbakaya, C.F.L.**, Ohayo-Mitoko, G.J.A., Ngowi, A.V.F., Mbabazi, R., Simwa, J.M., Maeda D.N. and Stephens, J. Pesticides in crop protection in East Africa: A survey on the use of organochlorine, organophosphate and pyrethroid pesticides. *African Newsletter on Occupational Health and Safety* 1996, 6:34-36.
2. **Mbakaya, C.F.L.** and Wakori, E.T. Management of HIV/AIDS: the Zinc-Dioxin Synergy. *Medical Review* 1997; 3 No.3: 2-5.
3. Partanen, T., **Mbakaya, C.**, Ohayo-Mitoko, G. Ngowi, A.V.F., and Mfitumukiza, D. East Africa Pesticide Network: Progress, Results and Impact. *African Newsletter on Occupational Health and Safety* 1999;9:4-5.
4. **Mbakaya CFL**. Utilizing Science to Promote Public Health. Member Spotlights, *The Science Advisory Board* 2004, Philadelphia-USA.
5. J. Ogwen Midiwo, L. Manguro Arot and **C. Lumumba Mbakaya**. Distribution of Benzoquinone Pigments in Kenyan Myrsinaceae. *Bull. Chem. Soc. Ethiop.*, 2(2) 83-85 (1988).

6. **Mbakaya, C.F.L.**, Ohayo-Mitoko, G.J.A., Ngowi, A.V.F., Mbabazi, R., Simwa, J.M., Maeda D.N., Stephens, J. and Hakuza, H. The Status of Pesticide Usage in East Africa. *African Journal of Health Sciences* 1994; 1:37-41.
7. Onyoyo, H.A., **Mbakaya, C.F.L.** and Tamusange, R. An Education and Training Experience in Kenya's Energy Sector. *Occupational Safety and Health & Development*. 1998; 1:50-54.
8. Timo J. Partanen, Christer Hogstedt, Rene Loewenson, Catharina Wessling, Vera F. Ngowi, **Charles F.L. Mbakaya**, Maria E. Arroyave, Elisabete Weiderpass, Aurora Aragon and Kari Kurppa. North-South and South-South Collaboration in Occupational Epidemiology. *Scandinavian Journal of Health and Environment* 1999; 25(3):296-300.
9. **Mbakaya, C.F.L.**, Onyoyo, H.A., Lwaki, S.A. and Omondi, O.J. A Survey on Management Perspectives of the State of Workplace Health and Safety Practices in Kenya. *Accident Analysis and Prevention* 1999; 31: 305-312.
10. **Mbakaya, CFL**, Jumba I, Orege PA, Nyambaka H, Waudu J, Bulimo W, Kisingu WM (2004). Micro-nutrient zinc deficiency as a possible co-factor in the transmission and progression of HIV/AIDS in Kenya. *Afr J Food, Agr Nutr Dev* 4: 1-13.
11. **Mbakaya CFL**. Might Micronutrient Zinc Sufficiency Explain HIV-1 Resistance in Monkeys. Commentary. *The Scientist*, 4<sup>th</sup> November 2006.
12. Obure A, **Mbakaya C**, Kariuki S, Karanja D, Julio PC, Quick RE, Teates K, Montgomery S, Secor W, Slusker L, Hamel M, Suchdev PS, Ruth L, Jefferds ME, Woodruff B. Baseline Data from the Nyando Integrated Child Health and Education Project, Kenya. October 2007, *CDC- MMWR* 2007; 56:1-4.
13. **Charles Mbakaya**, Rose Misati, Juma Mukenya (2010). Might use oral contraceptives lower serum zinc levels and immunity of women of reproductive age and predispose them to increased morbidity and mortality? *Free Radic Biol Med*; 49:S223.
14. **Charles Mbakaya**, Njambi Njuguna, Judy Mwaih (2010). Micronutrients as effect modifiers of HIV transmission and progression in SubSaharan Africa. *Free Radic Biol Med*; 49:S146.
31. **Mbakaya CFL**, Misati R, Kagasi E, Amolo J, Mukenya O (2010). Might use of oral contraceptives lower serum zinc levels and immunity of women of reproductive age and predispose them to increased morbidity and mortality? *Proceedings of the 17<sup>th</sup> Society for Free Radical Biology and Medicine (SFRBM)*, 17<sup>th</sup>-21<sup>st</sup> Nov 2010, Orlando, Florida, USA.
15. **Mbakaya CFL**, Nyambaka H, Waudu J, Ndiege IO (2011). Might the time be ripe to re-define the cause of AIDS in the light of emerging evidence? *Journal of Agriculture, JKUAT*.
16. Parminder S Suchdev, Laird J Ruth, Bradley A Woodruff, **Charles Mbakaya**, Usha Madava, Rafael Flores-Ayala, Maria Elna DJefferds and Robert Quick (2012). Selling



Sprinkles micronutrient powder reduces anemia, iron deficiency and vitamin A deficiency in young children in Western Kenya: a cluster-randomized controlled trial. *Am J Clin Nutr*; 95(5):1223-1230.

17. Lusi P, Nyamabaka HN, **Mbakaya CFL**, Maseta E, Bwete V and Murungi J (2013). Bioavailability studies of trace elements in a potential food formulation for use in the management of HIV and AIDS. *International Journal of Pure and Applied Chemistry (IJPAC)*; Volume 8: Online.
18. Kwamboka P, Ng'ang'a Z, **Mbakaya C** and Mwangi M (2013). Health problems and associated factors among street children in an urban slum, Nairobi, Kenya. *The African Child Information Hub*. Online.
19. Mutunga DM, Ng'ang'a Z, **Mbakaya C** and Muthami L (2013). Evaluation of risk factors associated with active trachoma among 1-9 year old children in Samburu District. *Prime Journal of Social sciences*; 2 (11):497-501.
20. Mutunga DM, Ng'ang'a Z, **Mbakaya C** and Muthami L (2013). The socio-demographic characteristics of parent/guardians and 1-9 year old children infected with active trachoma in Samburu District. *Prime Journal of Social Sciences*; 2 (11): 502-508.
21. Bosire LN, Makokha AO and **Mbakaya C** (2014). Attitudes and practices of red meat consumption and awareness of lifestyle diseases among residents of Laiser hill location, Kajiado North County. *Prime Journal of Social Science*; 3(3): 629-636.
22. Makori MW, **Mbakaya C** and Karanja S (2014). Factors associated with the risk of Hepatitis B virus infection due to occupational practices among healthcare workers at Busia District Hospital, Busia County. *Prime Journal of Social Science*; 3(4): 693-700.
23. Kisiangani I, **Mbakaya C**, Makokha A & Magu D (2014). Prevalence of malnutrition among preschool children (6-59 months) in western province, Kenya. *Journal of Public Health and Epidemiology*; 6(11): 398-406.
24. Priscillah G. Njogu, Ciira Kiyukia and **Charles Mbakaya** (2014). Assessment of domestic waste management in residential area of Gitothua, Ruiru Municipality, Kiambu County. *Prime Journal of Social Science*; 3(11): 906-911.
25. Priscillah G. Njogu, Ciira Kiyukia and **Charles Mbakaya** (2014). Factors associated with practicing recommended solid waste management in residential area of Gitothua, Ruiru Municipality, Kiambu County. *Prime Journal of Social Science*; 3(11): 912-918.
26. **Mbakaya CFL** (2014). Elucidating the link between environment, nutrition, host immunity, AIDS and cancer as informed by selected studies in Kenya and beyond. *Posted on website of the Food Technology-2014 Conference due held, 21<sup>st</sup> – 23<sup>rd</sup> July 2014, Las Vegas, USA and now posted on slide serve due to its invaluable contribution to science globally.*
27. Agasa SK, Joseph Gikunu, **Charles Mbakaya**, Anzelimo Makokha (2015). Factors influencing the occurrence of negative health effects associated with cleaning solvents. *Prime Journal of social Sciences*; 4(2): 967-971.

28. Kahindi Kazungu, **Charles Mbakaya** and Anzelimo Makokha. Factors contributing to iodine deficiency in Coast Province of Kenya (2015). *European Journal of Research in Medical Sciences*; 3(1): ISSN 2056-600X.
29. Charles K. Langat, Christine Bii, Evaristus Opondo and **Charles F. Mbakaya** (2015): occupational risk factors of low back pain among tea pickers and non-tea pickers in James Finlay (K) Ltd., Kericho County, Kenya. *Journal of Biology, Agriculture and Healthcare*; 5(20): 116- 123.
30. Rodgers O. Moindi, **Charles Mbakaya**, Veny Nyambati and Michael Habtu (2015). Qualitative study of factors Associated with home deliveries and practices in Kilifi County-Kenya. *International Journal of Health sciences and Research*; 5(12): 369-376.
31. **Mbakaya, CFL**, Nyambaka H, Waudo J, Nawiri M, Amukoye E, Orege PA, Kisingu WM, Koech D, Ndiege I, Mpoke S, Mwangi M, Wanzala P, Muniu E. ( 20016). Effects of mega dose micronutrient supplementation on serum zinc, retinol and immune status of adult males and females diagnosed with and without HIV, malaria and TB in Western Kenya – An unpublished perspective as at the year 2004. *EC Nutrition*; 4:967-979.

### ***Contributions in Books***

**Mbakaya CFL** and Moloo P. HIV/AIDS and Child Labour in Kenya In Child Workers in the Shadow of AIDS, UNICEF – ESARO, Nairobi, June 2001.

### ***Administrative responsibilities & related Assignments***

- 91/8 Served as the Regional Co-ordinator of the East Africa Pesticide Network. My duties entailed overseeing project implementation in Kenya, Uganda and Tanzania in liaison with the donors and the Heads of the implementing institutions. The project data has widely been published, and produced two PhD dissertations.
- 94/99 Consulted for UNFPA (Reproduction and Worksite Programmes), UNIDO (Cleaner Production in informal sector) and ILO/IPEC/Ministry of Labour/COTU (Child Labour issues).
- 1994 Was appointed Secretary of the Oncology Programme Committee that was charged with the task of directing, coordinating and advising on cancer research in Kenya.
- 94/6 Was, in succession, appointed Scientific Duty Officer to oversee the practical and technical aspects of the 15th, 16th and 17th African Health Sciences Congress held at KEMRI, Nairobi.
- 1996 Was appointed KEMRI Representative in the National Chemicals Management Activities Co-ordination Committee that was a Sub-Committee of the Inter-Ministerial Committee on the Environment. This Committee advises the Government on all matters pertaining to chemical management including use of DDT in malaria vector control in Kenya.

- 1997 Was appointed to Chair the Oral Session on Occupational Epidemiology in the Agricultural Sector at the 12th International Symposium of Epidemiology in Occupational Health (ISEOH'97) on the 17th Sep. 1997, Harare, Zimbabwe.
- 1999 Was appointed to Chair an Oral Session on Reproductive Health at the 20th African health Sciences Congress held at the Ghana Institute of Management and Public Administration (GIMPA), Accra, Ghana.
- 2000 Appointed to represent KEMRI in the MENR/National Steering Committee on the Implementation of the Stockholm Convention on Persistent Organic Pollutants.
- 2002-todate Appointed Chairman of the KEMRI Training Committee that is charged with the duties of overseeing all matters pertaining to training of KEMRI staff at Certificate, Diploma, Undergraduate and postgraduate levels as well as coordinate and facilitate local and international student exchange and attachments to the Institute.
- 2005/6 Appointed Acting Director of the Center for Public Health Research (CPHR) one of the ten Departments of the Kenya Medical Research Institute (KEMRI) when the substantive holder of the Office proceeded on annual leave between 5<sup>th</sup> December, 2005 – 6<sup>th</sup> January, 2006. This has been repeated severally ever since the first appointment.
- 2006 Appointed member of the KEMRI Committee on Intellectual Property Rights (IPR).  
2007/8 Appointed Acting Director Centre for Public Health Research (CPHR-KEMRI) between 17<sup>th</sup> Dec 2007 to 27<sup>th</sup> January 2008 when the substantive holder of the Office was away on official duties.
- 2008 Appointed Chair of the of the Micronutrient Session of the 28<sup>th</sup> African Health Sciences Congress held between 12<sup>th</sup>-19<sup>th</sup> July 2008 at the University of Mauritius, Mauritius.
- 2008 Appointed Acting Director Center for Public Health (CPRR-KEMRI) between 1<sup>st</sup>-30<sup>th</sup> August 2008 when the substantive holder was away on official duties.
- 2008 Contracted by WHO/Ministry of Public Health and Sanitation (MOPHS) to conduct a situation analysis on pesticide management in Kenya as lead consultant. The work involved assessment of the regulatory control, proper handling, supply, transport, storage, application, and disposal of pesticides and containers. Furthermore, this involved analysis of the survey data; results of which were used to develop a National Action Plan on sound management of pesticides in Kenya.
- 2009 Appointed Acting Director of the Centre for Public Health Research of KEMRI between 1<sup>st</sup> – 19<sup>th</sup> December 2008 when the substantive holder of the office was away on official duties.
- 2010 Appointed Head, Public Health and Health Systems Research Programme of the Kenya Medical Research Institute. This is one of the six programmatic areas around which the Institute conducts and fulfils its research agenda and mandates locally and internationally. Among other things, my duties entail provision of leadership and guidance of programme activities nationally and internationally, ensuring the Institute's leadership role, visibility and impact towards the improvement of health nationally and internationally. Also, I am expected to liaise with appropriate Ministry of Public Health and Sanitation, Universities

and Key stakeholders and explore and procure resources and all forms of support for the advancement of research in the programme. My current attention will largely be mainstreaming the nutrition agenda in maternal and child health among vulnerable segments of the Kenyan population; including persons with chronic ailments such as HIV& AIDS, cancer, TB and malaria.

2011 Was asked by the Director NACC to travel to Kigali in Rwanda between 18<sup>th</sup>-20<sup>th</sup> February 2010 to represent the research interests of Kenyan scientists in the finalization of the Great Lakes Initiative on AIDS (GLIA) research strategic plan. In Kigali, I was co-opted as a member of the GLIA Research Committee and charged with the task of ensuring domestication of that agenda in Kenya and the region.

2012 Was appointed Acting Director of the Centre for Public Health Research of the Kenya Medical Research Institute between 19<sup>th</sup> December 2010 to 22<sup>nd</sup> January 2011, when the substantive holder of the office was away on annual leave.

2013 Appointed on 1<sup>st</sup> October 2012 as Member and Chairman of the Kenya Medical Research Institute (KEMRI) Taskforce for Implementation of the Constitution Review and Repeal of Laws Governing the Health Sector in Kenya. The Taskforce is charged with duties of ensuring that the on-going review and repeal of health laws are aligned to the New Constitution while ensuring that this national exercise proceeds cognizant of KEMRI mandates and research interests.

2014 Appointed as Member to the KEMRI Technical Working Group for Vision 2030 Flagship Projects for Implementation for years 2012-2014.

2013 Appointed Acting Director, Centre for Public Health Research of the Kenya Medical Research Institute on 1<sup>st</sup> July 2013 until further notice.

2014 Appointed Director, Centre for Public Health Research of the Kenya Medical Research Institute with effect from 1<sup>st</sup> September 2014.

2015/6 Appointed Chairman of the KEMRI Bill Committee that was charged with drafting a Bill to anchor KEMRI in the Kenyan Law following repeal of the Act that established KEMRI in 1979. Through my leadership, a draft Bill was submitted to the Director KEMRI for handing over to the Board of Management in January 2016. The New Bill provides for new and elaborate structures and functions of KEMRI, having renamed it the **Medical Research Commission of Kenya (MRC-K)**. The Bill will be channeled to the Kenya Parliament for debate and eventual enactment.

### ***Recognitions***

2002 Was invited to give **One of the Four Keynote Addresses at the 40<sup>th</sup> Annual Medical Conference of the Ethiopian Medical Association**, African Union Hall Addis Ababa, Ethiopia, September 2002 on *“Nutritional Advances in the Management of HIV/AIDS in Sub-Saharan Africa: A Kenyan Experience with VIUSID”*.

2006 Was invited to give a lecture on Nutrition and HIV/AIDS management to peer educators from the European Union on 20<sup>th</sup> July 2006 at the Nairobi Club.

- 2006 Was nominated for the **Royal Society Pfizer Award 2006** among British and other Scientists from developing countries working in Africa and whose research work was recognized as having potential to solve the HIV/AIDS pandemic, thereby significantly impacting development efforts in Sub-Saharan Africa.
- 2009 Nominated by the Kenya Medical Research Institute (KEMRI) for consideration for the African Union Male Research Scientist Award for the year 2009. The nomination was in recognition of my research work that provides new insights linking, climate change, micronutrients, malaria, Tb, HIV& AIDS, cancer and evolution and thoughts on why, Sub-Saharan Africa, home to 20% of world population bears 70% of the global burden of HIV & AIDS.
- 2010 Was invited and served as Chief Guest at the Annual General Meeting (AGM) and Parents and Teachers Association (PTA) meeting on 6<sup>th</sup> October 2012 where I gave a motivational presentation as an old boy of St. Peter's Boys' High School, Mumias. During the function, I initiated the Dr. Charles Lumumba Mbakaya Student and Teacher of the Year Awards to motivate the School to up its performance in national examinations.
- 2015 Was asked to make a Seminar Presentation at the Kenya Medical Research Institute (KEMRI) 37<sup>th</sup> KASH Seminar titled **"Elucidating the Link between the Environment, Nutrition and AIDS as informed by selected studies in Kenya and beyond"**.
- 2013 I was identified by KEMRI, at the invitation of the Jomo Kenyatta University of Agriculture and Technology (JKUAT), to present at the JKUAT Career Week on 13<sup>th</sup> June 2013 to students and lecturers. My topic that was aimed at stimulating their interest in biomedical research was on **"Elucidating the Link between the Environment, Nutrition, AIDS and Cancer as informed by selected studies in Kenya and beyond"**.
- 2013 Nominated for the **2012 Charles Shepard Science Awards** in the USA for the best publication in the prevention and control category for the paper by "Parminder S Suchdev, Laird J Ruth, Bradley A Woodruff, **Charles Mbakaya**, Usha Madava, Rafael Flores-Ayala, Maria Elna DJefferds and Robert Quick (2012). Selling Sprinkles micronutrient powder reduces anemia, iron deficiency and vitamin A deficiency in young children in Western Kenya: a cluster-randomized controlled trial. *Am J Clin Nutr*; 95(5):1223-1230. This paper was selected for being the first study to show the effectiveness of micronutrient powders to prevent malnutrition in a developing country setting.

### ***Contributions to Institutional Infrastructure at CPHR***

- 2011 As Chairman of the Kenya National Micronutrient Survey (KNMS) Budget Committee, I successfully lobbied project donors to procure two capital state of the art analytical instruments for KEMRI. These were a High Performance Liquid Chromatograph (HPLC) and a Flame Atomic Absorption Spectrophotometer (FAAS) both valued at **Ksh. 20,000,000**. As Ag. Director, CPHR, I have further ensured that these instruments were installed and staff trained on their use.
- 2014 As Ag. Director of CPHR, I was been instrumental in lobbying the Director KEMRI to construct a canteen at the Centre to serve staff and an affluent Upper Hill neighborhood

that is rapidly growing. The canteen has since been designed by the KEMRI maintenance and Engineering Department, obtained the Director KEMRI's approvals and is due for tendering for a contractor to be identified and assigned the construction work. I have also negotiated with the Coca – Cola Company limited who have pledge support with equipping the facility once constructed. This facility has potential to generate huge sums of money for the Centre and the Institute and will additionally serve as an out-reach for nutritional messages to the public to ensure minimization of the role of diets in contributing to the escalating NCDs.

2014 As Ag. Director of CPHR, I successfully lobbied the Director KEMRI and his Deputies as well as donors to consider putting up a 7 story office and conference building at the CPHR. The project is now at an advanced design stage by Ministry of Public Works (MOPW) personnel, following a site visit to the CPHR in the month of March 2014.

### *Postgraduate Teaching & Supervision*

2005-Todate Appointed Unit Lecturer of Master of Public Health students in Environmental, Occupational and Industrial Health within the Kenya Medical Research Institute (KEMRI) and Jomo Kenyatta University of Agriculture and Technology (JKUAT) Institute of Tropical Medicine and Infectious Diseases (ITROMID) Training Programme.

### *Successfully Supervised MSc Students in Public Health*

- 1. Levels of serum zinc and vitamin A among pregnant and breastfeeding mothers and their possible impact on mother to child transmission of HIV/AIDS in Thika District, Kenya”- Julia Kerubo Otoy: JKUAT- Graduated (2007).**
- 2. Mercury poisoning among gold mine workers in Migori – Milka Waruguru: ITROMID/JKUAT – Graduated (2007);**
- 3. Pesticide poisoning among formulators in Nairobi – Wanja Wambugu: ITROMID/JKUAT - Graduated (2007);**
- 4. Immunotoxic effects of pesticides among flower farm workers in Kericho District – Bernard Koros: UON – Graduated (2007);**
- 5. Aetiology and antimicrobial susceptibility patterns of bloody diarrhoea at Tabitha medical clinic in Kibera, Kenya –Salome Okutoyi Gitari- ITROMID/JKUAT – Graduated (2009).**
- 6. Prevalence of asthma among textile workers in Nairobi industrial area – Musumba Jairus: ITROMID/JKUAT- Graduated (2009);**
- 7. Serum zinc and retinol as possible modifiers of exposure outcomes to malaria parasites in Kisii District – Irene Makori: ITROMID/JKUAT- Graduated (2010);**

8. **Nutritional status of persons living with HIV/AIDS attending Riruta health centre care clinic, Kenya** – Ruth Nyaboke Nyansiekera – ITROMID/JKUAT – Graduated (2010).
9. **Causes of absenteeism among children in schools with and without public health and sanitation education in Kibera, Kenya** – Eva Kamande: ITROMID/JKUAT –Graduated (2011).
10. **HIV/AIDS among women presenting with abortion at Thika district hospital, Kenya-** Rachel W Kariuki – ITROMID/JKUAT –Graduated (2012)
11. **Breast feeding practices among women with HIV/AIDS in Kangemi, Nairobi, Kenya** - Beatrice Achieng –ITROMID/JKUAT – Graduated (2012).
12. **Knowledge, attitude and practice on tuberculosis in selected health facilities in rural and urban areas of Machakos District, Kenya -2012** – Nancy Kimwele – ITROMID/JKUAT – Awarded (October 2012).

*On-going MSc in Public Health Supervision*

1. **Vitamin A and management of HIV/AIDS in infants in Nairobi-** Jackline Kimani: ITROMID/JKUAT;
2. **Serum zinc, retinol and  $\alpha$ -Tocopherol levels in HIV & AIDS infected and un-infected persons in Busia, Kenya-** Vivian Mmbone: ITROMID/JKUAT.
3. **Prevalence of malaria parasitaemia among HIV-seronegative and HIV-seropositive expectant adolescent women in western Kenya** – Daissy Wattimah: ITROMID/JKUAT ;
4. **Byssinosis among sisal workers in Thika** – Stellah Gachanja: ITROMID/JKUAT - Student is about to submit thesis;
5. **A survey of the occupational challenges among nurses in public and private healthcare facilities in Nairobi-**Dinah Dibondo: ITROMID/JKUAT;
6. **Profile and prevalence of helminthisis among rural and urban school children in Mwingi District, Kenya** – Hilda Kanini: ITROMID/JKUAT;
7. **Sick building syndrome in Central Business District, Nairobi** – Kinoti: ITROMID/JKUAT;
8. **Metal fume fever among welders in the informal (Jua kali) sector in Nairobi, Kenya** - Anastancia Mpungu : ITROMID/JKUAT;
9. **Respiratory illness among spray painters in the Jua Kali (informal) sector of Nairobi, Kenya** – Michael Mungoma: ITROMID/JKUAT;

- 10. Effects of restore plus granules (herbal beverage) on the full haemogram and serum zinc status of HIV/AIDS subjects in Nairobi, Kenya - Deborah Nagel – ITROMID/JKUAT;**
- 11. Phased nutrition supplementation of HIV/AIDS subjects in Nairobi, Kenya- Josua Orina – ITROMID/JKUAT;**
- 12. Health effects associated with occupational exposure to organic solvents among painters in construction industries in Nairobi, Kenya – Eddie M. Machache – ITROMID/JKUAT;**
- 13. Serum zinc and vitamin A status: A comparative study among asthmatic and non-asthmatic children in western Kenya – Jeremiah M Mchaka – ITROMID/JKUAT;**
- 14. Occupational Health Effects of drycleaning chemicals among drycleaners in Nairobi, Kenya – Sarah Agasa, ITROMID/JKUAT;**
- 15. Factors Associated with Ative Traechoma among children aged one to nine years in Samburu Central District – Dominic Muutunga Mutua - ITROMID/JKUAT;**
- 16. The prevalence of Asthma among barbers in Kibera, Nairobi County – Christine Muriithi - ITROMID/JKUAT;**
- 17. Knowledge, attitude and Practices on lifestyle diseases among low and high meqt consumers in laiser Hill Area, Kajiado NorthCounty: A cross-sectional survey – Lilian Bosire - ITROMID/JKUAT;**
- 18. Obesity in school going children from a middle class population in Embakasi, Nairobi County – Caroline Njoroge - ITROMID/JKUAT;**
- 19. A descriptive study of Occupational health hazards among e-waste workers in Nairobi County – Maryanne Oketch - ITROMID/JKUAT;**
- 20. Factors Associated with low back pain among workers in tea estates in Kericho County – Charles Langat - ITROMID/JKUAT;**
- 21. Occupational risk of infection by Hepatitis B virus among healthcare workers in western border towns of Kenya – Moseki Makori - ITROMID/JKUAT;**
- 22. Uptake of family planning services among the undergraduate University students in JKUAT – Phyllis W Njoroge - ITROMID/JKUAT;**
- 23. Assessing iron status among pre-school children (6 to 59 months) with and without malaria in Bungoma District (2011) – Isaac Kisang’ani - ITROMID/JKUAT;**
- 24. Randomized nutritional clinical trial among newly diagnosed paediatric**



**TB patients at Mbagathi District Hospital, Nairobi County – Ruth Sarange - ITROMID/JKUAT;**

- 25. A randomized controlled micronutrient intervention study in MDR adult TB patients in Nairobi County – Faith Masenege - ITROMID/JKUAT;**
- 26. A randomized controlled micronutrient intervention study in newly diagnosed TB patients in Nairobi County – Brenda Onyancha-ITROMID/JKUAT;**
- 27. A randomized controlled micronutrient intervention on HIV-TB co-infected patients- Christine Nyawira- ITROMID/JKUAT;**
- 28. Prevalence and factors associated with iodine deficiency among women and children in Mt. Elgon District – Lydia Gathoni Kamau - ITROMID/JKUAT;**
- 29. Drug abuse and associated high risk behavior amongst the prison population in Kenya – Patrick Okwarah - ITROMID/JKUAT;**
- 30. Prevalence and patterns of hepatic abnormalities in HIV-1 infected children on HAART in Kenya – Vincent Otieno Oliver - ITROMID/JKUAT;**
- 31. Establishment of association between antimalarial drug resistance and non-parasitological diagnosis in Kilifi County – Emily Wambui Njung'e - ITROMID/JKUAT;**
- 32. Knowledge, attitude and practices to contraception among female sex workers with primary partners in Nairobi County (2012) – Paul Sore Inyama - ITROMID/JKUAT;**
- 33. Mapping of youth friendly sexual and reproductive health services (SRH) in institutions of higher learning in Nairobi County – Peris Karanja - ITROMID/JKUAT;**

#### **On-going PhD Supervision**

- 1. An assessment of the impact of implementation of innovative referral strategies in intervention and control health facilities in selected Counties, Kenya. Isabella N. Maina – ITROMID/JKUAT;**
- 2. Comparison of ART management practices among PLWHA in Dagorretti and Lang'ata Districts in Nairobi, Kenya – Mulia Wilfred Kisingu – ITROMID/JKUAT;**
- 3. Determination of factors associated with affected clients' HIV management practices and health outcomes in Machakos County, Kenya 2012-2015 – Judy Musengya Muindi – ITROMID/JKUAT.**

4. **Factors associated with aflatoxin poisoning in Machakos County - S Mutisya – ITROMID/JKUAT.**

*Postgraduate Examination*

1. **MPH Thesis on “Common health problems and their determinants among flower farm workers in Timau, Imenti North District, Kenya by James Gitonga “ -UON, Department of Community Health – External (2010).**
2. **MPH thesis on “awareness and practices on biomedical waste management among healthcare personnel in Kenyatta National Hospital in Nairobi, Kenya by Mercy Wanjiku Njiru COHES, JKUAT – Internal (2014).**
3. **Phd Thesis on “Medical Waste Characterization, Quantification And Identification Of Associated Public Health Risks: A Study of Selected Hospitals In Kenya by Ananias Njagi Nkonge – COHES, JKUAT and charged as the examiner to oversee corrections – Internal (2014).**

*Intellectual Property Rights (IPR) Issues*

1. Filed a Patent Application to the Kenya Intellectual Property Institute (KIPI) on 12<sup>th</sup> November 2007 for the Invention of a “**Nutraceutical Composition for Stimulation of Cellular Immunity and Prevention of HIV Infection and Clinical Malaria (KE/P/07/006677)**”. This invention is available for commercialization.
2. I lecture (2006- to-date), set and mark examinations and motivate MSc and PhD students on moving from research to commercializable products in the KEMRI/ITROMID/JKUAT postgraduate training in Research Methodology Core Unit.

*Society/Journal Membership/Other Professional Bodies/Groups*

1988/9	Student Member of the Royal Society of Chemistry.
2006/8	Member Kenya Chemical Society.
2004/8	Member of the Science Advisory Board (SAB) where my profile has been featured on their website on the member spotlight section, prominently highlighting my research thoughts and activities worldwide.
2006	Selected as Member of the Editorial Advisory Board of the International Chemistry Central Journal to provide oversights for their Analytical/Environmental Chemistry Sections.
2006	Member of the Global Occupational Hygiene Group, by invitation.
2009	Member of the Future Science Group, by invitation.
2010	Member of the Medicinal Chemistry Group, by invitation.

- 2012 Member of the American Association for the Advancement of Science (AAAS) by invitation.
- 2013 Founding Chairman and Member of the Kenya Association of Research Scientists (KARS).
- 2014 Member of the American Chemical Society (ACS) by invitation.

### ***Short Security Training Program***

- 2006 Successfully completed the UN “Basic Security in the Field- Staff Safety, Health and Welfare program” on 19<sup>th</sup> July.

### ***Welfare Issues***

- 2001/8 Chairman of the Akiba Bellevue Residents’ Welfare Association comprising 102 three bedroomed maisonettes in Nairobi South C. As estate Chair, I assisted residents to find a permanent solution to their lighting, security and water shortage problems that had prior to my term of office been a serious problem to the residents.
- 2014 As Ag. Director CPHR, I have helped staff consider increasing their welfare safety net by forming a KEMRI CPHR welfare association. This was necessitated by the many challenges faced immediately during and after bereavement.

### ***Milestones as Ag. Director CPHR (1<sup>st</sup> July 2013- to 4<sup>th</sup> May 2016)***

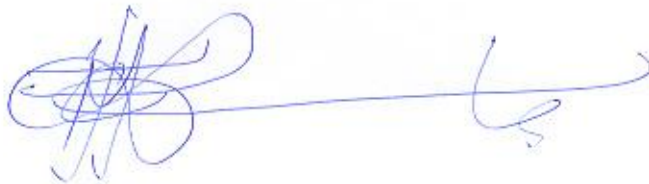
1. I have successfully presided over an unprecedented transition from one centre director to another, where the former is serving as a member of the scientific staff at the Centre. This arrangement has challenges which we have been overcoming on a case by case basis.
2. Currently, I’m overseeing a growing portfolio of publications, abstracts and proposals from the Centre.
3. I initiated a CPHR canteen construction project that has received approval from the Director KEMRI, this being an upcoming income generation activity of the Centre and the Institute; given our prime location in the Upper Hill suburb.
4. I have ably represented the Director KEMRI in delegated meetings where the interests of the Institute have been well articulated and considered. These include the Health Law review process by the Ministry of Health, among others.
5. I have solicited for purchase and presided over installation of capital laboratory equipment i.e. a Flame Atomic Absorption Spectrophotometer (FAAS) and a High

Performance Liquid Chromatograph (HPLC) that will go a long way in boosting research and income generation for the Centre and the Institute. The equipment is .

- 6.** I have ensured prudence in utilization of funds from KEMRI in running the Centre while undertaking basic maintenance. In particular, I have drastically reduced fuel costs at the Centre, among other areas.
- 7.** I have presided over repair of two vehicles, extending their life expectancy and service to the Centre and the Institute substantially.
- 8.** I have provided oversight to improved scientific outputs from the Centre, including timely review of SSC proposal as well as those of staff and students at CSC.
- 9.** I have lobbied for the construction of a seven floor office block to be retained at the CPHR, considering that the idea of this building was first mooted at the Centre. I continue to participate in planning meetings, ensuring that we provide solutions to emerging issues as they arise.
- 10.** Considering staff welfare, I have helped form a welfare association for CPHR staff to ensure that they have an additional facility to cushion them at times of great need as has been observed during such moments as in bereavement.
- 11.** I have helped bring good understanding between researchers and donors, especially on the KNMS project, among others and I have been laying foundation for new collaborations.
- 12.** During the period, I have given three keynote addresses at local and international conferences; suggesting an increasing trajectory of my scientific visibility.

***Referees Who May be Contacted***

1. Prof. Judith Waudo,  
Professor of Nutrition and Dietetics,  
Kenyatta University,  
P.O. Box 43844, Nairobi, Kenya.  
Tel: 810901/811622
  
2. Professor Zipporah Ng'anga  
D/VC –Academics, Eastern University of Science and Technology  
C/O JKUAT  
P.O.Box 62000-00200,  
Nairobi.  
Tel: 0722794883
  
3. Professor A.H. S. El-Busaidy  
Department of Chemistry  
UON,  
P.O.Box 30197,  
Nairobi.  
Tel: 43185

A handwritten signature in blue ink, consisting of a complex, scribbled initial on the left and a long, horizontal stroke extending to the right, ending in a small loop.

Signed by: **Dr. Charles FL Mbakaya**; Dated: 25<sup>th</sup> January 2017