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1. EDUCATION

- 2010 Dr.rer.nat. (magna cum laude) – Chemistry, Geochemistry & Environmental health protection engineering, Technical University of Munich, Germany.
- 2005 Doctoral course work – Inorganic Chemistry, Maseno University, Kenya
- 2004 M.Sc (Analytical Chemistry) – Maseno University, Kenya.
- 1996 B.Sc (Hons) – Chemistry (major) and Mathematics, Moi University, Kenya.
- 1990 KCSE – Dagoretti High School, Nairobi, Kenya
- 1986 KCPE – Muguga Green Primary School, Nairobi, Kenya

2. WORK EXPERIENCE

Dates	Position
Sep 2020 – to date	Associate Professor of Chemistry, School of Pure and Applied Sciences (SPAS), Bomet University College (A constituent college of Moi University): Involved in: <ol style="list-style-type: none">Teaching of chemistry courses at undergraduate and postgraduate level.Research – My interests are:<ol style="list-style-type: none">Remediation of soil contaminated with organic and inorganic pollutantsImmobilization of antibiotics residues in surface and waste water by use of biochar and synthesized carbon (biochar) - metal nanocompositesProduction of biodiesel using oil from jatropha seeds and microalgaeSustainable biogas production by focusing on the Energy-Nutrients – GHG emissions nexus.Training, Supervision and Research mentorship of graduate studentsInduction and mentorship of new staff.Administrative responsibilities as Dean of Faculty
May 2011 – to Aug 2020	Senior Lecturer, Department of Chemistry, School of Physical and Biological Sciences (SPBS), Maseno University. Involved in:

	<ol style="list-style-type: none"> 6. Teaching of inorganic chemistry, inorganic analytical chemistry and quantum chemistry courses at undergraduate and postgraduate level. 7. Research on synthesis of novel inorganic materials for catalysis and other applications, inorganic environmental systems, modeling the fate and processes of chemicals in ecosystems, and manipulating ecological conditions to engineer natural attenuation in situ chemical processes. 8. Supervision and research mentorship of undergraduate and graduate students, as well as inducting new staff.
Nov 2017 – to date	<p>Adjunct Senior Lecturer, Department of Chemistry and Biochemistry, African Centre of Excellence (ACE II), School of Physical and Biological Sciences, Moi University. Involved in:</p> <ol style="list-style-type: none"> 1. Teaching of inorganic chemistry, analytical chemistry, research methods and graduate seminars at postgraduate level. 2. Research on inorganic chemistry, soil chemistry, carbonization of biomass, renewable energy and environmental analytical chemistry. 3. Supervision and research mentorship of undergraduate and graduate students.
June 2012 – June 2013	<p>Postdoctoral research fellow (TWAS-CAS), Department of Soil Chemistry and Environmental Pollution, Institute of Soil Science, Chinese Academy of Sciences, Nanjing China. Researched on the effect of nanozerovalent iron (NZVI) and biochar amendment on the degradation of POPs in soil. Also studied the effect of these amendments on soil properties and processes.</p>
July 2010 – April 2011	<p>Lecturer, Chemistry Department, SPBS, Maseno University. Involved in teaching inorganic chemistry and quantum chemistry courses.</p>
Aug 2004 – Jul 2010	<p>Tutorial Fellow, Chemistry Department, SPBS, Maseno University. Involved in teaching inorganic chemistry courses and doctoral research.</p>
April 2006 – Aug 2010	<p>Doctoral Research Student at Helmholtzzentrum Muenchen – National Research Center for Environmental Health, Muenchen, Germany. I was domiciled at the Department of Environmental Xenobiotics: Fate and soil process, Institute of Soil Ecology. Researched fate processes – degradation, mineralization, volatilization, sorption, transport – of organic xenobiotics in soil under different ecological conditions. I also worked at the Institute of Ground Water Ecology as well as the Institute of Ecological Chemistry.</p>
Sep 2001 – Aug 2003	<p>Graduate research student at the Department of Chemistry – Pesticide Residues Laboratory, University of Nairobi</p>
Mar 2001 – Aug 2004	<p>Graduate Assistant, Chemistry Department, SPBS, Maseno University. Assisted in running and marking of inorganic chemistry practicals.</p>
1999 - 2000	<p>Chemistry Teacher (BOM), St Paul's Amasago Secondary school.</p>

3. PUBLICATIONS

I have published over 40 papers in international peer reviewed journals and made over 20 presentations in international conferences

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ResearchGate - <https://www.researchgate.net/profile/Fredrick-Kengara-2>

(a) Selected publications in international peer reviewed journals

	Paper
1	Otieno S., Kowenje C., Kengara F. , and Mokaya R. (2021). Effect of kaolin pre-treatment method and NaOH levels on the structure and properties of kaolin-derived faujasite zeolites, <i>Material Advances</i> , 2, 5997. DOI: 10.1039/d1ma00449b
2	Omare, M.O., Kibet, J.K., Cherutoi, J.K. and Kengara, F.O. (2021) Current Trends in the Use of Cannabis sativa: Beyond Recreational and Medicinal Applications. <i>Open Access Library Journal</i> , 8: e7132. https://doi.org/10.4236/oalib.1107132
3	Naiyl R. A., Kengara F.O. , Kiriamiti K.H. and Ragab Y.A. (2021). Synthesis and Characterization of Caprolactambased Ionic Liquids as Green Solvents, <i>Asian Journal of Applied Chemistry Research</i> 8(4): 74-87. DOI: 10.9734/AJACR/2021/v8i430201
4	Omare, M.O, Kibet, J.K, Cherutoi, J.K, and Kengara, F.O (2021). Phenolic reaction products from the thermal degradation of Catha edulis, <i>Journal of Nature, Science & Technology</i> , 3, 17-24. https://doi.org/10.36937/janset.2021.003.004
5	Otieno S.O., Kowenje C.O. Kengara F.O. , and Mokaya R.(2021). Effect of kaolin pre-treatment method and NaOH levels on the structure and properties of kaolin-derived faujasite zeolites, <i>Materials Advances</i> , DOI: 10.1039/D1MA00449B
6	Otieno S.O., Kengara F.O. , Kemmegne-Mbougouen J.C., Langmi H.W. Kowenje C.O. and Mokaya R. (2019). The effects of metakaolinization and fused-metakaolinization on zeolites synthesized from quartz rich natural clays. <i>Microporous and Mesoporous Materials</i> , 290. doi.org/10.1016/j.micromeso.2019.109668
7	Kengara F.O. , Doerfler U., Welzl G., Munch J.C. and Schroll R. (2019). Evidence of non-DDD pathway in the anaerobic degradation of DDT in Tropical Soil, <i>Environmental Science and Pollution Research</i> , 26:8779–8788, doi: 10.1007/s11356-019-04331-x
8	Xin J., Kengara F.O. , Yue X., Wang F., Schroll R., Munch J.C., Gu C., Jiang X. (2019). Shorter interval and multiple flooding-drying cycling enhanced the mineralization of ¹⁴ C-DDT in a paddy soil, <i>Sci Total Environ</i> , 676: 420-428, doi.org/10.1016/j.scitotenv.2019.04.284
9	Andati W., Baraza D.L., Mageto M., Kengara F.O. (2018). Energy Evaluation and Qualitative Analysis of Biogas Produced from Co-Digesting Kitchen Waste and Cow Dung. <i>Physical Science International Journal</i> , 16(4): 1-13. DOI: 10.9734/PSIJ/2017/38559
10	Brahushi F., Kengara F.O. , Song Y., Jiang X., Munch J.C. and Wang F. (2017). Fate Processes of Chlorobenzenes in Soil and Potential Remediation Strategies:A Review. <i>Pedosphere</i> 27(3): 407–420. doi:10.1016/S1002-0160(17)60338-2
11	Ye M., Sun M., Wan J., Zhao Y., Xie S., Tian D., Hu F., Li H., Zong L., Kengara F.O. , Jiang X. (2016). Feasibility of an enhanced washing process to extract PBDEs/heavy metals/antibiotics from antibiotic resistance gene-affected soil with aqueous DNA followed by microbial augmentation. <i>Journal of Soils and Sediments</i> 16 (3): 954-965. DOI 10.1007/s11368-015-1291-3
12	Nyairo W.N., Owuor P.O. and Kengara F.O. (2015). Effect of anthropogenic activities on the water quality of Amala and Nyangores tributaries of River Mara in Kenya, <i>Environmental Monitoring and Assessment</i> 187 (691), 690-691. DOI 10.1007/s10661-015-4913-8
13	Ye M., Sun M., Wan J., Fang G., Li H., Hu F., Jiang X., Kengara F.O. (2015). Enhanced soil washing process for the remediation of PBDEs/Pb/Cd-contaminated electronic waste site with carboxymethyl chitosan in a sunflower oil-water solvent system and microbial augmentation. <i>EnvironSciPollut Res Int</i> , 22(4): 2687 – 2698. DOI 10.1007/s11356-014-3518-z
14	Ye M., Sun M., Kengara F.O. , Wang J., Ni N., Wang Li., Song Y., Yang X., Li H., Hu F., Jiang X. (2014). Evaluation of soil washing process with carboxymethyl-β-cyclodextrin and carboxymethyl chitosan for recovery of PAHs/heavy metals/fluorine from metallurgic plant site. <i>J Environ Sci</i> 26(8):1661-72. http://dx.doi.org/10.1016/j.jes.2014.06.006

15	Ye M., Sun M., Hu F., Kengara F.O. , Jiang X., Luo Y., Yang X. (2014). Remediation of organochlorine pesticides (OCPs) contaminated site by successive methyl- β -cyclodextrin (MCD) and sunflower oil enhanced soil washing – <i>Portulacaoleracea</i> L. cultivation. <i>Chemosphere</i> ,105, 119 – 125. http://dx.doi.org/10.1016/j.chemosphere.2013.12.058
16	Kengara F.O. , Doerfler U., Welzl G., Ruth B., Munch J.C. and Schroll R. (2013). Enhanced degradation of ^{14}C -HCB in two tropical clay soils using multiple anaerobic-aerobic cycles, <i>Environmental Pollution</i> , 173: 168 - 175. http://dx.doi.org/10.1016/j.envpol.2012.09.027
17	Song Y., Wang F., Kengara F.O. , Yang X., Gu C. and Jiang X. (2013). Immobilization of Chlorobenzenes in Soil Using Wheat Straw Biochar, <i>Journal of Agricultural and Food Chemistry</i> , 61 (18): 4210-4217 (ACS). dx.doi.org/10.1021/jf400412p
18	Song Y., Wang F., Yongrong B., Kengara F.O. , Mingyung J., Zubin X. and Jiang X. (2012). Bioavailability assessment of hexachlorobenzene in soil as affected by wheat straw biochar, <i>J Hazard Mater</i> ,217–218 (30): 391–397. doi:10.1016/j.jhazmat.2012.03.055
19	Kengara F.O. , Schramm K-W., Doerfler U., Munch J.C., Henkelman B., Welzl G., Silke B., Hense B., and Schroll R. (2010). Degradation capacity of a 1,2,4-trichlorobenzene mineralizing microbial community for traces of organochlorine pesticides, <i>Sci Total Environ</i> , 408: 3359–3366. (Elsevier)

3. PUBLICATIONS

a. Publications in peer reviewed journals

	Paper
1	Otieno S., Kowenje C., Kengara F. , and Mokaya R. (2021). Effect of kaolin pre-treatment method and NaOH levels on the structure and properties of kaolin-derived faujasite zeolites, <i>Material Advances</i> , 2, 5997. DOI: 10.1039/d1ma00449b
2	Omare, M.O., Kibet, J.K., Cherutoi, J.K. and Kengara, F.O. (2021) Current Trends in the Use of Cannabis sativa: Beyond Recreational and Medicinal Applications. <i>Open Access Library Journal</i> , 8: e7132. https://doi.org/10.4236/oalib.1107132
3	Naiyl R. A., Kengara F.O. , Kiriamiti K.H. and Ragab Y.A. (2021). Synthesis and Characterization of Caprolactambased Ionic Liquids as Green Solvents, <i>Asian Journal of Applied Chemistry Research</i> 8(4): 74-87. DOI: 10.9734/AJACR/2021/v8i430201
4	Omare, M.O, Kibet, J.K, Cherutoi, J.K, and Kengara, F.O (2021). Phenolic reaction products from the thermal degradation of <i>Catha edulis</i> , <i>Journal of Nature, Science & Technology</i> , 3, 17-24. https://doi.org/10.36937/janset.2021.003.004
5	Kengara F.O. , Doerfler U., Welzl G., Munch J.C. and Schroll R. (2019). Evidence of non-DDD pathway in the anaerobic degradation of DDT in Tropical Soil, <i>Environmental Science and Pollution Research</i> , 26:8779–8788, doi: 10.1007/s11356-019-04331-x
6	Xin J., Kengara F.O. , Yue X., Wang F., Schroll R., Munch J.C., Gu C., Jiang X. (2019). Shorter interval and multiple flooding-drying cycling enhanced the mineralization of ^{14}C -DDT in a paddy soil, <i>Sci Total Environ</i> , 676: 420-428, doi.org/10.1016/j.scitotenv.2019.04.284
7	Nyaundi J.K., Getabu A.M., Kengara F. , Onchieku J., Njiru M., Kinaro Z.O., Babu J.M., Sitoki L.M., Nyamweya C., Osoro E.M. (2019). Assessment of organochlorine pesticides (OCPs) contamination in relation to physico-chemical parameters in the Upper River Kuja Catchment, Kenya (East Africa). <i>International Journal of Fisheries and Aquatic Studies</i> 7(1): 172-179. E-ISSN: 2347-5129, P-ISSN: 2394-0506
8	Shikuku V., Kowenje C., Kengara F.O. (2018). Errors in parameters estimation using linearized adsorption isotherms: Sulfadimethoxine adsorption onto kaolinite clay. <i>Chemical Science International Journal</i> , 23(4): 1-6. DOI: 10.9734/CSJI/2018/44087

9	Wafula M .S.M., Owuor P.O., Kengara F.O. , Ofula A.V.O., Matano S.A. (2018). Influence of land use practices on water physicochemical parameters and nutrients loading along the Mara River of East Africa. <i>African Journal of Environmental Science and Technology</i> , 12(7):235 – 243. DOI: 10.5897/AJEST2015.2021
10	Owuor J.J., Owuor P. O., Kengara F.O. , Ofula V. O., Matano A.S. (2018). Influence of anthropogenic activities and seasons on heavy metals in spring water along Amala and Nyangores tributaries of the Mara River Basin, <i>African Journal of Environmental Science and Technology</i> , 12(7): 222-234. DOI: 10.5897/AJEST2015.2020
11	Andati W., Baraza D.L., Mageto M., Kengara F.O. (2018). Energy Evaluation and Qualitative Analysis of Biogas Produced from Co-Digesting Kitchen Waste and Cow Dung. <i>Physical Science International Journal</i> , 16(4): 1-13. DOI: 10.9734/PSIJ/2017/38559
12	Wang Y., Liu L., Fang G., Wang L., Kengara F.O. , Zhu C. (2018). The mechanism of 2-chlorobiphenyl oxidative degradation by nanoscale zero-valent iron in the presence of dissolved oxygen. <i>Environmental Science and Pollution Research</i> , 25 (3): 2265-2272. doi.org/10.1007/s11356-017-0614-x
13	Brahushi F., Kengara F.O. , Song Y., Jiang X., Munch J.C. and Wang F. (2017). Fate Processes of Chlorobenzenes in Soil and Potential Remediation Strategies:A Review. <i>Pedosphere</i> 27(3): 407–420. doi:10.1016/S1002-0160(17)60338-2
14	Jin X., Kengara F.O. , Wang F., Gu C., Yang X., Doerfler U., Schroll R., Munch J.C., Jiang X. (2017). Natural attenuation of ¹⁴ C-HCB and ¹⁴ C-DDT in Kenya paddy and sugarcane field soil, <i>Acta Pedologica Sinica</i> , 54(1) 2017-01. DOI: 10.11766/trxb201603300126
15	Ye M., Sun M., Wan J., Zhao Y., Xie S., Tian D., Hu F., Li H., Zong L., Kengara F.O. , Jiang X. (2016). Feasibility of an enhanced washing process to extract PBDEs/heavy metals/antibiotics from antibiotic resistance gene-affected soil with aqueous DNA followed by microbial augmentation. <i>Journal of Soils and Sediments</i> 16 (3): 954-965. DOI 10.1007/s11368-015-1291-3
16	Sun M.,Ye M., Shen F., Xu J., Ye C., Yu L., Hu F., Li H., Jiang X., Kengara F.O. (2016). Function of Nitrate Ion and Tea Saponin Application Rates in Anerobic PAH Dissipation in Paddy Soil. <i>CLEAN - Soil Air Water</i> , DOI: 10.1002/clen.201400545
17	Nyairo W.N., Owuor P.O. and Kengara F.O. (2015). Effect of anthropogenic activities on the water quality of Amala and Nyangores tributaries of River Mara in Kenya, <i>Environmental Monitoring and Assessment</i> 187 (691), 690-691. DOI 10.1007/s10661-015-4913-8
18	Song Y., Wang F., Kengara F.O. , Bian Y., Yang X., Gu C., Ye M., Jiang X. (2015). Does powder and granular activated carbon perform equally in immobilizing chlorobenzenes in soil? <i>Environ Sci: Processes Impacts</i> , 2015 (17): 74 (RSC). DOI: 10.1039/c4em00486h
19	Jin X., Wang F., Gu C., Yang X., Kengara F.O. , Bian Y., Song Y., Jiang X. (2015). The interactive biotic and abiotic processes of DDT transformation under dissimilatory iron-reducing conditions. <i>Chemosphere</i> 138 (2015): 18 – 24. http://dx.doi.org/10.1016/j.chemosphere.2015.05.020
20	Ye M., Sun M., Wan J., Fang G., Li H., Hu F., Jiang X., Kengara F.O. (2015). Enhanced soil washing process for the remediation of PBDEs/Pb/Cd-contaminated electronic waste site with carboxymethyl chitosan in a sunflower oil-water solvent system and microbial augmentation. <i>EnvironSciPollut Res Int</i> , 22(4): 2687 – 2698. DOI 10.1007/s11356-014-3518-z
21	Sun M., Ye M., Wu J., Feng Y., Xu J., Ye C., Yu L., Hu F., Li H., Jiang X. Yang L., Kengara F.O. (2015). Positive relationship detected between soil bioaccessible organic pollutants and antibiotic resistance genes at dairy farms in Nanjing, Eastern China. <i>Environmental Pollution</i> , 206: 421 – 428. http://dx.doi.org/10.1016/j.envpol.2015.07.022
22	Sun M.,Ye M., Wu J., Feng Y., Wan J., Tian D., Shen F., Liu K., Hu F., Li H., Jiang X., Kengara F.O. (2015). Impact of bioaccessiblepyrene on the abundance of antibiotic resistant genes during <i>Sphingobium sp.</i> and <i>Sphorolipiden</i> enhanced bioremediation in soil. <i>J Hazard Mater</i> 300: 121 – 128. http://dx.doi.org/10.1016/j.jhazmat.2015.06.065
23	Ye M., Sun M., Kengara F.O. , Wang J., Ni N., Wang Li., Song Y., Yang X., Li H., Hu F., Jiang X. (2014). Evaluation of soil washing process with carboxymethyl-β-cyclodextrin and carboxymethyl

	chitosan for recovery of PAHs/heavy metals/fluorine from metallurgic plant site. <i>J Environ Sci</i> 26(8):1661-72. http://dx.doi.org/10.1016/j.jes.2014.06.006
24	Sun M., Ye M., Kengara F.O., Teng Y., Hu F., Li H., Jiang X. (2014). Response surface methodology to understand the anaerobic biodegradation of organochlorine pesticides (OCPs) in contaminated soil—significance of nitrate concentration and bioaccessibility. <i>Journal of Soils and Sediments</i> ,14(9): 1537 – 1548. DOI 10.1007/s11368-014-0912-6
25	Ye M., Sun M., Hu F., Kengara F.O. , Jiang X., Luo Y., Yang X. (2014). Remediation of organochlorine pesticides (OCPs) contaminated site by successive methyl- β -cyclodextrin (MCD) and sunflower oil enhanced soil washing – <i>Portulacaoleracea</i> L. cultivation. <i>Chemosphere</i> ,105, 119 – 125. http://dx.doi.org/10.1016/j.chemosphere.2013.12.058
26	Ye M., Sun M., Zongtang Liu, Ni N., Chen Y., Gu C., Kengara F.O. , Li H., Jiang X. (2014). Evaluation of enhanced soil washing process and phytoremediation with maize oil, carboxymethyl- β -cyclodextrin, and vetiver grass for the recovery of organochlorine pesticides and heavy metals from a pesticide factory site. <i>Journal of Environmental Management</i> , 141, 161–168. http://dx.doi.org/10.1016/j.jenvman.2014.03.025
27	Ye M., Sun M., Wan J., Fang G., Li H., Hu F., Jiang X., Kengara F.O. (2014). Evaluation of enhanced soil washing process with tea saponin in a peanut oil–water solvent system for the extraction of PBDEs/PCBs/PAHs and heavy metals from an electronic waste site followed by vetiver grass phytoremediation. <i>Journal of Chemical Technology and Biotechnology</i> , DOI: 10.1002/jctb.4512
28	Sun M., Ye M., Hu F., Li H., Teng Y., Luo Y., Jiang X., Kengara F.O. (2014). Tenax extraction for exploring rate-limiting factors in methyl- β -cyclodextrin enhanced anaerobic biodegradation of PAHs under denitrifying conditions in a red paddy soil. <i>J Hazard Mater</i> ,doi: 10.1016/j.jhazmat.2013.10.032
29	Ye M., Sun M., Ni., Chen Y., Liu Z., Gu C., Bian Y., Hu F., Li H., Kengara F.O. , Jiang X. (2014). Role of cosubstrate and bioaccessibility played in the enhanced anaerobic biodegradation of organochlorine pesticides (OCPs) in a paddy soil by nitrate and methyl- β -cyclodextrin amendments. <i>EnvironSciPollut Res</i> , Doi: 10.1007/s11356-014-2703-4.
30	Kengara F.O. , Doerfler U., Welzl G., Ruth B., Munch J.C. and Schroll R. (2013). Enhanced degradation of ¹⁴ C-HCB in two tropical clay soils using multiple anaerobic-aerobic cycles, <i>Environmental Pollution</i> , 173: 168 - 175. http://dx.doi.org/10.1016/j.envpol.2012.09.027
31	Song Y., Wang F., Kengara F.O. , Yang X., Gu C. and Jiang X. (2013). Immobilization of Chlorobenzenes in Soil Using Wheat Straw Biochar, <i>Journal of Agricultural and Food Chemistry</i> , 61 (18): 4210-4217 (ACS). dx.doi.org/10.1021/jf400412p
32	Wang C., Wang F., Hong Q., Zhang Y., Kengara F.O. , Li Z., Jiang X. (2013). Isolation and characterization of a toxic metal-resisting Phenanthrene-degrader <i>Sphingobium</i> sp. in a two-liquid-phase partitioning bioreactor (TPPB), <i>Environ Earth Sci</i> , 70(4). DOI10.1007/s12665-013-2264-8
33	Jia M., Wang F., Bian Y., Jin X., Song Y., Kengara F.O. , Xu R. and Jiang X. (2013). Effects of pH and metal ions on oxytetracycline sorption to maize-straw-derived biochar. <i>Bioresource Technology</i> , 136: 87-93. http://dx.doi.org/10.1016/j.biortech.2013.02.098
34	Zhang Y., Wang F., Yongrong B., Kengara F.O. , Gu C., Zhao Q. and Jiang X. (2012). Enhanced desorption of humin-bound phenanthrene by attached phenanthrene-degrading bacteria, <i>Bioresource Technology</i> , 123, 92–97. http://dx.doi.org/10.1016/j.biortech.2012.07.093
35	Song Y., Wang F., Yongrong B., Kengara F.O. , Mingyung J., Zubin X. and Jiang X. (2012). Bioavailability assessment of hexachlorobenzene in soil as affected by wheat straw biochar, <i>J Hazard Mater</i> ,217–218 (30): 391–397. doi:10.1016/j.jhazmat.2012.03.055
36	Song Y., Wang F., Yang X-L., Liu C., Kengara F.O. , Jin X. and Jiang X. (2011). Chemical extraction to assess the bioavailability of chlorobenzenes in soil with different aging periods, <i>J Soils Sediments</i> , 11 (8): 1345-1354. DOI 10.1007/s11368-011-0414-8

37	Song Y., Wang F., Kengara F.O. , Bian Y-R., Yang X-L, Liu C-Y, Jiang X. (2011). Improved biodegradation of 1,2,4-trichlorobenzene by adapted microorganisms in agricultural soil and in soil suspension cultures, <i>Pedosphere</i> , 21(4): 423–431. ISSN 1002-0160/CN 32-1315/P
38	Zhang Y., Wang F., Yang X., Gu C., Kengara F.O. , Hong Q., Lv Z. and Jiang X. (2011). Extracellular polymeric substances enhanced mass transfer of polycyclic aromatic hydrocarbons in the two-liquid-phase system for biodegradation, <i>Applied Microbio and Biotechnol</i> , 90 (3): 1063-1071. DOI 10.1007/s00253-011-3134-5
39	Zhang Y., Wang F., Wang C., Hong Q., Kengara F.O. , Wang T., Song Y. and Jiang X. (2011). Enhanced microbial degradation of humin-bound phenanthrene in a two-liquid-phase system, <i>J Hazard Mater</i> , 186 : 1830–1836. doi:10.1016/j.jhazmat.2010.12.082
40	Wang C-Y., Wang F., Wang T., Yang X-L., Kengara F.O. , Li Z-B. and Jiang X. (2011). Effects of autoclaving and mercuric chloride sterilization on PAHs dissipation in a two-liquid-phase soil slurry, <i>Pedosphere</i> , 21 (1): 56-64. ISSN 1002-0160/CN 32-1315/P
41	Kengara F.O. , Schramm K-W., Doerfler U., Munch J.C., Henkelman B., Welzl G., Silke B., Hense B., and Schroll R. (2010). Degradation capacity of a 1,2,4-trichlorobenzene mineralizing microbial community for traces of organochlorine pesticides, <i>Sci Total Environ</i> , 408: 3359–3366. (Elsevier)
42	Kengara F.O. (2010). Remediation potential of Persistent Organic Pollutants: Effect of steering ecological conditions on DDT and HCB degradation in tropical clay soils, <i>VDM Publishing House Ltd.</i> , Saarbrücken, Germany. ISBN: 978-3-639-29896-3, 224 pages. (Book)
43	Getenga Z.M. and Kengara F.O. (2004). Mineralization of glyphosate in compost-amended soil under controlled conditions, <i>Bull Environ Contam Toxicol</i> , 72 (2): 266-275 (Springer).
44	Getenga Z.M., Kengara F.O. , and Wandiga S.O. (2004). Determination of organochlorine pesticide residues in soil and water from River Nyando drainage system within Lake Victoria Basin in Kenya, <i>Bull Environ Contam Toxicol</i> , 72 (2): 335-343 (Springer).

b. Papers presented at conferences, seminars and workshops

	PAPER
1	Sorption as a predictor of nutrient/pollutant availability. Kengara F.O. A paper presented at the conference on ‘Exploring biophysics diversity for sustainable industrial and economic development’ held at Masinde Muliro University of Science and Technology, Kakamega from 3 rd - 4 th July 2019.
2	Enhancement of DDT degradation in tropical soils using anaerobic-aerobic cycles. Kengara F.O., Doerfler U., Welzel G., Munch J.C., Schroll R. A paper presented at the 2 nd ESAECC-TCCA conference held at Reef Hotel Mombasa from 3 rd – 7 th September 2018.
3	Potassium sorption in three soils used for sugarcane farming in Kenya. Kengara F.O. and Odhiambo A. 5 th Alexander Von Humboldt Conference held at Sportman’s Arm Hotel, Nanyuki – Kenya on 19 th – 21 st June 2018.
4	Anaerobic Oxidative and Reductive Degradation of DDT in two Tropical Soils. Kengara F.O., Doerfler U., Schroll R., Welzel G., Munch J.C. 7 th Seanac (Southern and Eastern Africa network of Analytical Chemists) conference held at Reef Hotel Mombasa from 28 th Nov – 1 st Dec 2017.
5	A case study on chemical safety and security training and outreach in Kenya. Gitu L. and Kengara F.O. The 10 th Symposium of The African Network for Chemical Analysis of Pesticides and other Pollutants (ANCAP) held at Reef Hotel Mombasa from 2 nd - 4 th Dec 2017
6	Sustainable soil remediation: The case of water-logging and compost amendment for DDT contaminated soil. Kengara F.O., Doerfler U., Schroll R., Fuss R., Munch J. The 10 th Symposium of The African Network for Chemical Analysis of Pesticides and Other Pollutants (ANCAP) held at Reef Hotel Mombasa from 2 nd - 4 th Dec 2017

7	Effect of biochar amendment on the fate of chlorobenzenes in soil. Kengara F.O., Song Y., Wang F., Bian Y., Jia M., Xie Z., Jiang X. 4 th Alexander Von Humboldt Conference held at Kisumu Hotel, Kenya from 4 th -7 th Dec 2017
8	The effect of anaerobic conditions on labile iron pools in a tropical clay soil. Kengara F.O. and Gitahi S. The 9 th international conference of the Kenya Chemical Society held at the United States International University- Africa in Nairobi, Kenya from 9 th – 12 th May 2017 . Theme: The role of chemistry in inventing a sustainable future.
9	Mineralization kinetics of ¹⁴ C-HCB in two tropical clay soils under aerobic conditions. Kengara F.O., Doerfler U., Schroll R., Munch J.C. East and Southern Africa Environmental/Analytical Chemistry Conference and The 11 th Theoretical Chemistry Conference in Africa (ESA ECC-TCCA) held at Reef Hotel Mombasa from 15 th – 17 th June 2016 . Theme: Chemistry for development, safety, security and industrialization in Africa.
10	Degradation of DDT in two tropical clay soils under anaerobic conditions. Kengara F.O., Doerfler U., Schroll R., Welzel G., Munch J.C. The 9 th symposium of the African Network for the Chemical Analysis of Pesticides (ANCAP) held from 21 st – 24 th Nov 2016 at the University of Nairobi.
11	Steering ecological conditions enhances HCB degradation in tropical soils. Kengara F.O., Doerfler U., Schroll R., Welzel G., Munch J.C., Ruth B. The 8 th International Kenya Chemical Society Conference held at Millenium Hall, College of Biological and Physical Sciences, Chiromo Campus, University of Nairobi from 5 th – 8 th May 2015 . Theme: Applied Chemistry and Technology in Industry.
12	Nutrient load and heavy metals in the water along rivers Amala and Nyangores, tributaries of Mara river in Kenya: Assessment of the effect of recent increases in anthropogenic activities. Nyairo W.N., Owuor P.O. and Kengara F.O. CREATE-3 International Conference held at Kisumu Hotel, Kenya in Feb 2015
13	Influence of anthropogenic activities on seasonal variations of nutrients in spring water along Amala and Nyangores tributaries of the Mara river basin. Owuor J.J., Kengara F.O. and Owuor P.O. CREATE-3 International Conference held at Kisumu Hotel, Kenya in Feb 2015
14	Effects of pH and metal ions on the sorption of oxytetracycline to biochar. Jia M., Wang F., Yongrong B., Jin X., Song Y., Kengara F.O., Jiang X. 4 th International Biochar Conference held in Beijing, China in Sep 2013 .
15	Is the Human Settlement in Mau Causing Mara River Water Contamination? Changes in the Nitrogen and Phosphorous Loads along the Mara River. Owuor P.O., Kengara F.O. and Ofula A. Kenya Chemical Society seminar held at Maseno University City Campus on 3 rd Aug 2013 .
16	Effect of organic matter transformation on the anaerobic degradation of DDT in two tropical clay soils, Kengara F.O. Humboldt Alumni Association conference held at Meridian hotel Nairobi, Kenya from 24 th -26 th Nov 2010 . Theme: Synergy and Networking to Enhance Research and Development.
17	Pesticide-soil interactions: Key considerations in understanding fate processes, Kengara F.O., The African Network for the Chemical Analysis of Pesticides (ANCAP) third symposium held at the Department of Chemistry, Makerere University, Uganda from 23 rd – 24 th July, 2005 .
18	Mineralization of atrazine and glyphosate from a nitrogen deficient soil, Kengara F.O., Getenga Z.M. and Wandiga S.O., Nitrogen, Phosphorus and Sulphur (NPS) workshop held at Hotel Africana, Kampala, Uganda on 21 st January, 2005 . Theme: Detection, Analysis and Quantification of NPS derivatives in the environment.
19	Photolysis of atrazine and glyphosate under dry conditions, Kengara O.F., Getenga Z.M. and Wandiga S.O., Inaugural Conference of the African Network for the Chemical Analysis of Pesticides (ANCAP) held at the Arusha International Conference Centre in Arusha, Tanzania from 8 th – 11 th Aug 2004 . Theme: Analysis of pesticides for a Better Environment, Public Health and Competitive African Agricultural and Aquatic Exports.
20	Is DDT really a problem? Kengara O.F., Regional workshop on persistent organic pollutants (POPs) with special emphasis on DDT held at Hotel Africana, Kampala, Uganda from 26 th April 2004 to 27 th April 2004 . Theme: Is DDT the only viable solution to malaria in Africa?

21	Persistent organochlorine residues in a Lake Victoria Catchment area, Kengara O.F., Getenga Z.M. and Wandiga S.O., The African Network for the Chemical Analysis of Pesticides (ANCAP) second symposium held at the Department of Chemistry, University of Nairobi on 19 th Sep 2003 .
22	Glyphosate! A ticking time bomb or the quintessential panacea? Kengara O.F., Getenga Z.M. and Wandiga S.O., The African Network for the Chemical Analysis of Pesticides (ANCAP) 2 nd symposium held at the Department of Chemistry, University of Nairobi on 19 th Sep 2003 .
23	Organochlorine pesticide residues in Nyando Basin of Lake Victoria, Kengara O.F., Getenga Z.M. and Wandiga S.O., The Kenya Chemical Society 9 th Annual General Meeting and Seminar held at ARC Hotel, Egerton University on 13 th Sep 2003 .
24	An overview of Polychlorobiphenyls (PCBs) in the Lake Victoria Basin, Kengara O.F., The African Network for the Chemical Analysis of Pesticides (ANCAP) Inaugural symposium held at the Department of Chemistry, Makerere University, Uganda on 25 th July 2002.

c. Poster presentations

	PAPER
1	Concentrations and human health risk assessment of organochlorine pesticide residues in water and fish in Nyanza gulf, Lake Victoria (East Africa). Nyaundi J.K., Getabu A., Kengara F.O. World Seafood Congress (WSC) held in Reykjavik Iceland from 10 th – 13 th Sep 2017
2	Influence of anthropogenic activities and seasons on heavy metals in spring water along Amala and Nyangores tributaries of the Mara River Basin. Owuor J.J., Owuor P. O., Kengara F.O. , Ofula V. O., Matano A.S. The 9 th international conference of the Kenya Chemical Society held at the United States International University- Africa in Nairobi, Kenya from 9 th – 12 th May 2017 . Theme: The role of chemistry in inventing a sustainable future.
3	Effect of anthropogenic activities on heavy metal levels in the Amala and Nyangores tributaries of River Mara. Nyairo W.N., Owuor P.O. and Kengara F.O. CREATE-3 International Conference held at Kisumu Hotel, Kenya in Feb 2015
4	Sorption of Cu ²⁺ and Cd ²⁺ to biochar. Jia M., Wang F., Kengara F.O., Jin X., Song Y., Jiang X. 4 th International Biochar Conference held in Beijing, China in Sep 2013 .
5	Effects of pH and metal ions on the sorption of oxytetracycline to biochar. Jia M., Wang F., Kengara F.O. Yongrong B., Jin X., Song Y., Jiang X. 4 th International Biochar Conference held in Beijing, China in Sept. 2013 .

4. SUPERVISION OF GRADUATE STUDENTS

(A) GRADUATED STUDENTS

	Student	Institution	Field	Year
M.Sc	Joram Owuor	Maseno University	Chemistry	2015
	Nyairo Wilfrida	Maseno University	Chemistry	2015
	Martin M. Wafula	Maseno University	Chemistry	2014
	Rogers O. Ong'injo	Maseno University	Chemistry	2021
	Lilian M. Ndiege	Moi University	Chemistry	2021
Ph.D	Victor Shikuku	Maseno University	Chemistry	2018

(B) CONTINUING STUDENTS

	Student	University	Field	Status
Ph.D	Patrick C. Musungu	Maseno	Chemistry	Completed research. Data analysis

	David Jaoko Aboro	Maseno	Chemistry	Completed research. Data analysis
	Stephen Otieno	Maseno	Chemistry	Completed research. Data analysis
	Joseph Nyaundi	Kisii	Limnology	Continuing with research
	Catherine Chemtai	Moi	Chemistry	Continuing with research
	Rania Awad Naiyl	Moi	Chemistry	Continuing with research
	Micah O. Omare	Moi	Chemistry	Completed research. Data analysis
M.Sc	Audrey Awuor	Maseno	Chemistry	Given submission notice
	Jacinta Akinyi	Maseno	Chemistry	Completed research. Data analysis
	Carolyne Shihanyisia	Maseno	Chemistry	Completed course work.
	Caroline Chepkirui	MMUST	Chemistry	Continuing with research.
	Calvince O. Ondijo	Moi	Chemistry	Completed research. Data analysis.
	Evans K. Ruto	Moi	Chemistry	Completed course work

5. RESEARCH GRANTS, AWARDS & COLLABORATIONS

(a) Research grants

1. DFID grant AQ150029).The Royal Society Africa Capacity Building initiative grant for a project entitled, ‘tuning of natural zeolites for biodiesel production’. Award granted 2016 - 2021. I am a co-investigator.
2. International Foundation for Science (IFS) grant C/5248-1 of 11800 USD for a project entitled, ‘Enhancement of DDT degradation in soils of malaria endemic areas in Kenya’. Grant received in 2014. I am the principal investigator.
3. National Council for Science and Technology (NCST) grant NCST/ST&I/RCD/2ND CALL/POST DOC/039 for a project entitled, ‘Degradation and biochar sequestration of POPs and their volatile metabolites in tropical soils’. Grant received in 2013. I am the principal investigator.

(b) Awards

1. June 2012 – June 2013: TWAS-CAS post-doctoral fellowship to undertake research in China

(c) Collaborations, partnerships and linkages

1. Prof Robert Mokaya, Materials Chemistry Department, University of Nottingham, UK.
2. Prof. Fang Wang, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China.
3. Dr John Wasswa, Department of Chemistry, Makerere University
4. Department of Chemistry, MasindeMuliro University
5. Department of Chemistry and Biochemistry, Moi University
6. Department of Chemical Science and Technology, The Technical University of Kenya
7. Pesticide Residues laboratory, Department of Chemistry, University of Nairobi

6. PROFESSIONAL AFFILIATIONS

1. Kenya Chemical Society (KCS). Membership number W01.
2. Royal Society of Chemistry (RSC). Membership number 650374
3. African network for the chemical analysis of pesticides and other pollutants (ANCAP)

7. EXTERNAL EXAMINATION/EXAMINATION OF THESIS

1. External examiner for Masinde Muliro University (2017)

2. External examiner for thesis (University of Nairobi, Kisii University, Masinde Muliro University)
3. Internal examiner (thesis) for chemistry and other departments
4. Representative for the SPBS during thesis defense.

8. ADMINISTRATION AND RESPONSIBILITIES

	Responsibility
1	Acting Dean, School of Pure and Applied Sciences, Bomet University College
2	Department of Chemistry Industrial attachment coordinator, Maseno University (up to Aug 2020)
3	Member, University Environmental Management Committee, Maseno University (up to Aug 2020)
4	Member, University Safety Committee, Maseno University (up to Aug 2020)
5	Karate coach, Maseno University (up to Aug 2020)
6	Deputy SOMU returning officer (2014 – 2017), Maseno University
7	Have been in the organizing committee or coordinator for various university functions such as: <ol style="list-style-type: none"> 1. Pan African Chemistry Network seminar series at Maseno University in 2019 2. The KUSA Womens' championship hosted by Maseno University in 2018 3. The Renewable Energy workshop hosted by Maseno University in 2017 4. The Biosafety workshop hosted by Maseno university in 2017

9. COMMUNITY SERVICE AND OUTREACH

	Responsibility
1	Chairman, Kenya Chemical Society – Western Chapter. This is my second term in office. I have previously served the office as Vice-chairman for one term of 3 years.
2	Secretary General, Kenya Karate Federation - Lake Region. I have previously served the organization as Technical commissioner for two terms of 3 years each.
3	Board of Management (BOM) member, Riondonga High School, Kisii (2017 – 2019). Was chairman of the Academic sub-committee.
4.	Board of Management member (BOM), St. Stephen's Secondary, Kisii (2017 – to date).
5	Member, Nyaribari Chache Academic Standards committee. A community-based initiative concerned with improving performance of schools (primary and secondary) in the constituency
6	Reviewer for a number of international journals such as: <ol style="list-style-type: none"> 1. Environmental Monitoring and Assessment (Springer Nature) since 2010 2. Journal of Environmental Sciences (Elsevier) since 2011 3. Pedosphere (Elsevier) since 2013 4. Science of the Total environment (Elsevier) since 2015. 5. Chemosphere (Elsevier) since 2016 6. Scientific Africa (Elsevier) since 2019
7	Have been in the organizing committee for various functions such as: <ol style="list-style-type: none"> 1. The 10th Symposium of The African Network for Chemical Analysis of Pesticides and other Pollutants (ANCAP) held at Reef Hotel Mombasa from 2nd- 4th December 2017 2. The 9th International Kenya Chemical Society conference held at USIU-A from 9th – 12th May 2017. Also facilitated the event.

10. REFEREES

Prof. Dr. Jean Charles Munch, Professor emeritus, Lehrstuhl für Grünlandlehre,	Prof. Shem O. Wandiga FRSC, Managing Trustee, Centre for Science and Technology Innovations
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<p>Prof. Dr. Xin Jiang, Department of Soil Chemistry and Environmental Pollution, Institute of Soil Science, Chinese Academy of Sciences, P.O. Box 821, Nanjing 210008, PR China. Tel: +86 (0) 25-8688-1195 Fax: +86 (0) 25-8688-1196 E-mail: jiangxin@issas.ac.cn</p>	