

VICTOR SHIKUKU- CURRICULUM VITAE

Dr. Victor Shikuku, PhD, AMRSC
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Google scholar: <https://scholar.google.com/citations?user=hFizjagAAAAJ&hl=en>

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RESEARCH INTERESTS

- Materials Chemistry: Tunability of microporous and mesoporous materials namely biochars, clays, zeolites and geopolymers for drinking and wastewater treatment systems
- Fate and remediation of xenobiotic in the environment (Environmental Chemistry)

ACADEMIC QUALIFICATIONS

Doctor of Philosophy in Physical Chemistry (PhD)	Maseno University	Awarded on 21 st December, 2018
Masters of Science (MSc) in Chemistry	Maseno University	Awarded on 12 th December, 2014
Bachelor of Science (Basic Sciences) with IT	Maseno University	Awarded on 10 th December, 2010 [1 st Class Honors]
Kenya certificate of secondary education (K.C.S.E)	Jamhuri High School	Awarded in 2004 [Grade A- (minus)]
Kenya Certificate of primary education (KCPE)	St. Teresa's Boys Primary School	Awarded in 2000 [504/700 marks]

WORK EXPERIENCE

Lecturer	Kaimosi Friends University College Responsibilities: <ul style="list-style-type: none"> • Exams coordinator for the School of Science • University College Timetable Coordinator • Chair, School board of graduate studies (SBGS) 	January 2019 to date January 2019 to date January 2020 to date
Tutorial Fellow	Kaimosi Friends University College	Sept. 2017 to Dec 2018
Head, Laboratory services	CSI International Ltd	Jan. 2015 to September 2017
Part-time lecturer	Maseno University	January 2017 to date
Teaching Assistant	Masinde Muliro University of Science and Technology	September 2011 to December 2014
Part-time lecturer	Kenya Medical Training College (KMTC)-Mombasa Campus	February –August 2011
Intern	Kenya Industrial Research and Development Institute (KIRDI)	May-August 2010

RESEARCH STAYS ABROAD

Department of Soil Science, Trier University-Germany	Post-doc Research visit	1 st July to 31 st December 2019
CSIR-National Metallurgical Laboratory, India	PhD Research visit	16 th December 2017 to 15 th March 2018
Laboratory of Pesticides Residues Analysis (LARP),	PhD Research visit	1 September 2015 to 26 February 2016

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Federal University of Santa Maria (UFMS)- Brazil		
Laboratory of Pesticides Residues Analysis (LARP), Federal University of Santa Maria (UFMS)- Brazil	Masters Research visit	1 July to 30 September 2013
CONFERENCES AND SEMINARS/WORKSHOPS		
“ Sub-Saharan Africa Conference on Water Resources Management in Africa ” held virtually on 28-29 th October, 2021, Ghana- <i>Oral presentation</i>		
“ The Alexander Von-Humboldt-Kenya ‘Kollegs’ Conference ”, held virtually on 5-8 th October 2021, Kirinyaga University, Kenya- <i>Oral presentation</i>		
The QMS ISO/IEC 17025:2017 Testing and Calibration Implementation Course by ChromAfrica held on 25-26 February 2021, Kisumu-Kenya		
“ Holistic approach to water Resources Management in Africa ” Workshop, held on 3 rd -8 th June 2018, University of Yaounde I, Yaounde-Cameroon- <i>Oral presentation</i>		
“ International Inorganic Chemistry Conference ”, held on 22 nd -24 th May 2018, Nairobi, Kenya- <i>Oral presentation</i>		
“ Advances in Sustainable Energy Materials for Africa ” workshop, held on 14-15 November 2017, Kisumu-Kenya		
Expert workshop on “ Sustainable use of water Resources ” held on 3-8 July 2016, Kisumu-Kenya- <i>Oral presentation</i>		
CREATE-3 International Conference on “ Understanding Ecosystem degradation, Restoration Ecology and Water Management in the Lake basin region of Kenya ” held on 3-6 February 2015, Kisumu-Kenya- <i>Oral presentation</i>		
Kenya DAAD scholars’ association (KDSA) “ Maseno/MMUST/JOUST Research Dissemination workshop ” held on 27-28 November 2014, Kisumu-Kenya		
Regional training on “ Water and Wastewater Treatment ” held on April 28- May 4, 2013, University of Malawi (Chancellor College), Zomba City-Malawi		
Expert Seminar on “ Water Issues in Megacities ” held on March 3-10, 2013- Ho Chi Minh City-Vietnam- <i>Oral presentation</i>		
AWARDS, GRANTS AND FELLOWSHIPS		
The African Academy of Sciences (AAS) ARISE-PP call for proposals 2021. (Grant 340,000 USD)- under review		
International Foundation for Science (IFS), Individual grant 2021. (Grant 15,000 USD)- under review		
Alexander von Humboldt Foundation, post-doctoral fellowship 2019, for Research visit at Trier University, Germany (15,600 Euros)		
The reagent project, Equipment Donation , 2019. Equipment worth: 14,398 USD		
C.V Raman International Fellowship for African Researchers 2016, for Research Visit at the CSIR-National metallurgical Laboratory, Jamshedpur-India		
National Research Fund (NRF)-Govt. of Kenya, 2016 PhD Research grant : 1,050,000 KShs.		
Exceed-SWINDON, PhD scholarship 2015-2016, for Research Stay at Federal University of Santa Maria, Brazil		
Exceed-Excellence Centre for Development Cooperation, MSc Scholarship 2013, for Research Stay at Federal University of Santa Maria, Brazil		
NCST and Science, Technology and Innovation Research Grant 2012/13 Grant for Masters research		
Masinde Muliro University of Science and Technology Staff Development Scholarship for Masters in Physical Chemistry, 2011		
SUPERVISION OF POST-GRADUATE STUDENTS		

1. Owino Eugene Kevin (Admission Number: MSC/SC/00010/2018), Masters student, Maseno
Supervisors: Prof. C. Kowenje, **Dr. V. Shikuku**, Dr. W. Nyairo
2. Isaac Luttah (Admission Number: MSC/SC/00020/2018), Masters student, Maseno
Supervisors: Prof. C. Kowenje, **Dr. V. Shikuku**, Dr. D. Onunga
3. Mary Auma Oriaro (Admission number: MSC/00058/2012), Masters student, Maseno
Supervisors: Dr. K. Bowa, **Dr. V. Shikuku**

PUBLICATIONS

Books	<ul style="list-style-type: none"> • Shikuku V.O (2020). Effects of Emerging Chemical Contaminants on Water Resources and Environmental Health. IGI Global Publishers. ISBN13: 9781799818717. DOI: 10.4018/978-1-7998-1871-7
Book Chapters	<ul style="list-style-type: none"> • Shikuku V.O, Wilfida N. Nyairo, Chrispin O. Kowenje (2021). Fundamentals and Sources of Magnetic nanocomposites and their Sorption Properties: In Research Anthology on Synthesis, Characterization and Applications of Nanomaterials. pp 636-655. IGI Global Publishers. DOI: 10.4018/978-1-7998-8591-7.ch028 (Chapter 28) • Nyairo W.N., Ng'eno E., Shikuku V.O and Ssebugere P. (2021). Application of Metal-Organic Framework Adsorbents for Water Defluoridation. In Shima M., Elsayed Z., and Abdel-Azim A. (Eds). Emerging Applications and Implementations of Metal-Organic Frameworks. IGI Global Publishers. ISBN13: 9781799847618. DOI: 10.4018/978-1-7998-4760-1.ch005 (Chapter 5) • Kwach B., Shikuku V.O (2020). Microplastics as Emerging Contaminants: Occurrence, Toxicology, and Analysis: In Shikuku V.O (Editor). Effects of Emerging Chemical Contaminants on Water Resources and Environmental Health. IGI Global Publishers. ISBN13: 9781799818717. DOI: 10.4018/978-1-7998-1871-7.ch03 (Chapter 3) • Ng'eno E., Shikuku V.O (2020). Emerging Contaminants: Pollution Control and Abatement. In Shikuku V.O (Editor). Effects of Emerging Chemical Contaminants on Water Resources and Environmental Health. IGI Global Publishers. ISBN13: 9781799818717. DOI: 10.4018/978-1-7998-1871-7.ch010 (Chapter 10) • Shikuku V.O, and Wilfida N. Nyairo (2020). Preparation and Application of Polymer-Metal Oxide Nanocomposites in Wastewater Treatment; Challenges and Potentialities: In Gabriele Clarizia and Paola Bernardo (Editors) Diverse Applications of Organic-Inorganic Nanocomposites: Emerging Research and Opportunities. IGI Global Publishers. ISBN13: 9781799803119. DOI: 10.4018/978-1-7998-1530-3.ch04 (Chapter 4) • Shikuku V.O, George O. Achieng', Chrispin O. Kowenje (2019). Removal of Dyes from Wastewater by Adsorption onto Low-cost Adsorbents: In Khursheed A. Wani & Nirmala K. Jangid (Editors) Impact of Textile Dyes on Public Health and the Environment. pp 239-257. IGI Global Publishers. ISBN13: 9781799803119. DOI: 10.4018/978-1-7998-0311-9.ch011 (Chapter 11) • Shikuku V.O, and Wilfida N. Nyairo (2019). Advanced Oxidation Processes for Dye Removal from Wastewater: In Khursheed A. Wani & Nirmala K. Jangid (Editors) Impact of Textile Dyes on Public Health and the Environment. pp 205-238. IGI Global Publishers. ISBN13: 9781799803119. DOI: 10.4018/978-1-7998-0311-9.ch010 (Chapter 10) • Shikuku V.O and Sylvain Tome (2019). Application of Geopolymer Composites in Wastewater Treatment; Trends, Opportunities and Challenges: In Nouredine Ramdani (Editor) Polymer Nanocomposites for Advanced Engineering and Military Applications. pp 131-149. IGI Global Publishers. ISBN13: 9781522578383. DOI: 10.4018/978-1-5225-7838-5 (Chapter 5) • Shikuku V.O, Wilfida N. Nyairo, Chrispin O. Kowenje (2018). Preparation and Application of Biochars for Organic and Microbial Control in Wastewater Treatment

	<p>Regimes: In Athar Hussein (Editor) <i>Advanced Treatment Techniques for Industrial Wastewater</i>. pp 19-34. IGI Global Publishers. ISBN13: 9781522557548 DOI: 10.4018/978-1-5225-5754-8.ch002 (Chapter 2)</p> <ul style="list-style-type: none"> • Shikuku V.O, George O. Achieng' (2018). Occurrence and Fate of Selected Heavy Metals in a Conventional Municipal Wastewater Treatment Plant in Kisumu City: A Case Study: In Athar Hussein (Editor) <i>Advanced Treatment Techniques for Industrial Wastewater</i>. pp 211-224. IGI Global Publishers. ISBN13: 9781522557548 DOI: 10.4018/978-1-5225-5754-8.ch012 (Chapter 12) • Shikuku V.O, Wilfida N. Nyairo, Chrispin O. Kowenje (2017). Fundamentals and Sources of Magnetic nanocomposites and their Sorption Properties: In Tawfik A. Saleh (Editor) <i>Advanced Nanomaterials for Water Engineering, Treatment and Hydraulics</i>. pp 58-82. IGI Global Publishers. ISBN13: 9781522521365. DOI: 10.4018/978-1-5225-2136-5 (Chapter 4)
2021	<ul style="list-style-type: none"> • Shikuku V.O, Mishra T. (2021). Adsorption isotherm modeling for methylene blue removal onto magnetic kaolinite clay: A comparison of two-parameter isotherms. <i>Appl. Water Sci.</i>, 11, 103. https://doi.org/10.1007/s13201-021-01440-2 • Tome, S., Dzoujo, H., Shikuku, V., Otieno, S. (2021). Synthesis, characterization and application of acid and alkaline activated volcanic ash-based geopolymers for adsorptive remotion of cationic and anionic dyes from water. <i>Ceram. Int.</i> 47(15), 20965-20973 https://doi.org/10.1016/j.ceramint.2021.04.097 • Kowenje C.O., Onyango D.M., Okwiri L., Shikuku V.O., Sifuna A., Omondi E., Barasa D., Oduor A., Lungayia B.O., Owigar R., Otuya P. (2021). Effects of temperature and humidity and effectiveness of some selected antioxidants on lipid oxidation of fresh Nile tilapia (<i>Oreochromis niloticus L.</i>) of Lake Victoria, Kenya. <i>Int. Res. J. Environ. Sci.</i> 10(1), 39-47 • Mbithi B. M., Shikuku V.O., Getenga Z. M., Lalah J. O., Wandiga S. O., Rothballer M. (2021). Adsorption-desorption and leaching behavior of diuron on selected Kenyan agricultural soils. <i>Heliyon</i>, 7(2), e06073. https://doi.org/10.1016/j.heliyon.2021.e06073 • Osewe E.T., Shikuku V.O., Pereira, C.A., Otieno, S., Okoyo A. (2021). Effects of different types of zeolites on the degradation kinetics of malathion pesticide in water. <i>Chem. Sci. Int. J.</i>, 30(4) 38-49 • Dzoujo T. H., Tome S., Shikuku V.O., Tchuigwa J.T., Spieß A., Janiak C., Etoh A., Dina D. (2021). Enhanced performance of hydrogen peroxide modified pozzolan-based geopolymer for abatement of methylene blue from aqueous medium. <i>Silicon</i>, https://doi.org/10.1007/s12633-021-01264-4 • Shikuku V.O., Tome S., Dzoujo T. H., Tompsett G., Timko M. (2021). Rapid adsorption of cationic methylene blue dye onto volcanic ash-metakaolin based geopolymers. (Under review, <i>Silicon</i>) • Kimosop, S., Okello, V.A., Shikuku, V.O., Orata, F., Getenga, Z.M. (2021). Synthesis of Mesoporous akaganeite functionalized maize cob biochar for adsorptive abatement of carbamazepine: kinetics, isotherms, and thermodynamics. (Under review, <i>J. Hazard. Mater. Adv.</i>) <p>Technical Report: Scientific Report on Pesticides in Kenyan Market (2021). https://routetofood.org/wp-content/uploads/2021/09/Scientific-Report-on-Pesticides-in-the-Kenyan-Market-Report-Final-1.pdf</p>

2020	<ul style="list-style-type: none"> • Achieng', G.O., Shikuku, V.O (2020). Adsorption of copper ions from water onto fish scales derived biochar: Isothermal perspectives. <i>J. Mater. Environ. Sci.</i>, 11, 1816-1827 • Marete, G.M., Shikuku, V.O., Lalah, J.O., Mputhia, J., Wekesa, V.W. (2020). Occurrence of pesticides residues in French beans, tomatoes and kales in Kenya, and their human health risk indicators. <i>Environ. Monit. Assess.</i>, 192, 692. https://doi.org/10.1007/s10661-020-08662-y • Mbithi B. M., Shikuku V.O., Lalah J. O., Getenga Z. M., Wandiga S. O., Rothballer M. (2020). Enhanced degradation of diuron by two <i>Bacillus</i> species isolated from diuron contaminated sugarcane and pineapple-cultivated soils in Kenya. <i>Appl. Soil Ecol.</i>, 157 (2021) 103721 • Shikuku V.O. and Kimosop, S. (2020). Efficient removal of sulfamethoxazole onto sugarcane bagasse-derived biochar: Two and Three-parameter isotherms, kinetics, thermodynamics. <i>S. Afr. J. Chem.</i>, 73,111-118
2019	<ul style="list-style-type: none"> • Kimosop, S., Orata, F., Shikuku, V.O., Okello, V.A., Getenga, Z.M. (2019). Insights on adsorption of carbamazepine onto iron oxide modified diatomaceous earth: Kinetics, isotherms, thermodynamics, and mechanisms. <i>Environ. Res.</i>, 180, 108898 • Ng'eno, E., Shikuku V.O., Orata, F., Lilechi, D.B., Kimosop, S. (2019). Caffeine and Ciprofloxacin Adsorption from water onto clinoptilolite: Linear isotherms, kinetics, thermodynamics and mechanistic studies. <i>S. Afr. J. Chem.</i>, 72,136-142 • Achieng'G.O., Shikuku V.O., Andala, D.M., Okowa, G.M., Owuor, J.J (2019). Assessment of the water quality of the Nyando River (Muhoroni-Kenya) using the water quality index (WQI) method. <i>Int. Res. J. Environ. Sci.</i> 8(2) 27-33
2018	<ul style="list-style-type: none"> • Shikuku, V.O., Zanella, R., Kowenje C.O., Filipe F. Donato., Nelson Bandeira, Prestes, O.D. (2018). Single and Binary Adsorption of sulphonamide antibiotics onto iron-modified clay: Linear and nonlinear Isotherms, Kinetics, thermodynamics and mechanistic studies. <i>Appl. Water Sci.</i>, 8:175 https://doi.org/10.1007/s13201-018-0825-4 • Shikuku V.O., Kowenje C.O., Kengara, F. (2018). Errors in Parameters Estimation using Linearized Adsorption Isotherms: Sulfadimethoxine Adsorption onto Kaolinite Clay. <i>Chem. Sci. Int. J.</i>, 23 (4), 1-6
2017	<ul style="list-style-type: none"> • Shikuku, V.O., Zanella, R., Kowenje C.O., Filipe F. Donato., Nelson Bandeira, Prestes, O.D. (2017). Single and Competitive removal of sulfachloropyridazine and Sulfadimethoxine onto natural kaolinite clay: Kinetics, Isotherms and thermodynamics. <i>S. Afr. J. Chem.</i>, 70, 120-127 • Shikuku, V.O., Achieng', G.O., Ng'eno, E., Okowa, G.M., Masitsa, G.A., Owuor, J.J. (2017). Distribution and Removal Efficiency of heavy Metals by a Conventional Activated Sludge at a Municipal Wastewater Treatment Plant in Kisumu City-Kenya. <i>Res. J. Chem. Sci.</i> 7(8), 19-25 • Jemutai-Kimosop, S., Okello, V.O., Orata, F., Getenga, Z.M., Shikuku, V.O. (2017). Green Remediation of carbamazepine from water using iron modified carbonized bagasse: kinetics, equilibrium and mechanistic studies. <i>Chem. Sci. Int. J.</i> 18(3), 1-9
2016	<ul style="list-style-type: none"> • Shikuku, V.O., Filipe F. Donato., Nelson Bandeira, Winfrida N. Nyairo, Kowenje C.O., Zanella, R., Prestes, O.D (2016). Equilibrium and Kinetics studies of sulfonamides adsorption from aqueous solution onto iron modified clay in Proceedings of the expert workshop Sustainable Use of Water Resources July 3-8 Pages 33-41. CuvillierVerlag Gottingen. ISBN 978-3-3699453-9 • Ng'eno, E., Orata, F., Lilechi, D.B., Shikuku V.O., Kimosop, S. (2016). Adsorption of caffeine and ciprofloxacin onto pyrolytically derived water hyacinth biochar: Isothermal, kinetics and thermodynamics. <i>J. Chem. Chem. Eng.</i> 10, 185-194

2015	<ul style="list-style-type: none">• Shikuku V.O., Filipe F. Donato., Kowenje C.O., Zanella, R., Prestes, O.D. (2015). A comparison of adsorption equilibrium, kinetics and thermodynamics of aqueous phase clomazone between Faujasite X and a Natural zeolite from Kenya. <i>S. Afr. J. Chem.</i>, 68, 245-252
2014	<ul style="list-style-type: none">• Shikuku V.O., Kowenje C.O., Onger, D.M.K., Zanella, R., Prestes, O.D. (2014). Removal of Tebuconazole from wastewater by zeolite X: kinetics and thermodynamic studies. <i>Int. J. Eng. Res. Technol.</i>, 3(8), 1584-1590

PROFESSIONAL BODIES

Associate Member, Royal Society of Chemistry
Membership Number: 642760

REVIEWER FOR SELECTED JOURNALS

Journals: Scientific African, Environmental Research, Heliyon, Science of the Total Environment

REFEREES

Prof. Chrispin Kowenje
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Machakos University
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