

CURRICULUM VITAE

Personal Details

Name: Susan Waiyego Karuga
Gender: Female
Nationality: Kenyan
Languages: Fluent in English and Swahili
Email address: swkaruga@uonbi.ac.ke

Education

<u>Year</u>	<u>Institution</u>	<u>Achievement</u>
2015 - Present	University of Nairobi	Ph.D Nuclear Science
2011 - 2015	University of Nairobi	MSc. Nuclear Science
2004 - 2008	University of Nairobi	B.Sc. Chemistry
2004 - 2005	Visions Institute of Professional Studies	CPA, Section III
2003	East Africa Commercial College	Computer skills.
1999 - 2002	Kyeni Girls High School	K.C.S.E certificate
1995 - 1998	Kamuthatha Boarding Primary School	K.C.P.E certificate

Work Experience

- July 2021 – Present:** Tutorial Fellow, Department of Electrical and Information Engineering, University of Nairobi.
- 2019 Oct – July 2021:** Tutorial Fellow, Institute of Nuclear Science & Technology, University of Nairobi.
- 2014 Oct – 2019 Oct:** Graduate Assistant, Institute of Nuclear Science & Technology, University of Nairobi.
- 2015 – 2018:** PhD Guest Researcher at Delft University of Technology (TUDelft), The Netherlands (annual short term visits).
- Research topic: Optimization of the solid-solid interface between the electrolyte and electrode in a solid-state lithium ion battery: Application of electrospray technique.
- 2013 Nov – 2014 May:** MSc. Guest Researcher at Chalmers University of Technology, Gothenburg, Sweden.
- Research topic: Synthesis and characterization of proton conducting oxides for clean energy applications: Application of X-Ray Diffraction, Impedance Spectroscopy and Thermogravimetric Analysis.
- 2012 Dec – 2013 Oct:** MSc. Research fellow at World Agroforestry Centre (icraf), Nairobi.
- Research topic: Micronutrients in plants from selected sites in Kenya; Application of Total Reflection X-ray Fluorescence (TXRF).

2011 Jan – 2011 Oct: Quality Control Analyst at Sphinx Pharmaceuticals Ltd.

- Chemical analysis of pharmaceutical products and raw materials.

2010 Jan – 2010 Dec: Quality Control Analyst at Universal Corporation Ltd.

- Chemical analysis of pharmaceutical products and raw materials.

Patents

KE/P/2017/2677: Solid state lithium ion batteries.

Journal Publications

E.M. Kelder, J.C.M. Marijnissen, **S. Waiyego Karuga**. "EDHA for Energy Production, Storage and Conversion Devices". Journal of Aerosol Science, Volume 125, November 2018, Pages 119-147.

Conference Papers

- **S.W. Karuga**, M.J. Gatari, J.C.M Marijnissen and E.M. Kelder (2019). Morphological control of thin films: Application of electrospray technique. Proceedings of the European Aerosol Conference (EAC2019), Gothenburg, Sweden. August 25 - 30, 2019.
- **S.W. Karuga**, M.J. Gatari, E.M. Kelder, and J.C.M Marijnissen (2018). Electrospray synthesis of porous cathode material for lithium ion batteries. Proceedings of the Aerosol Technology Conference 2018, Bilbao, Spain. June 18 - 20, 2018.
- **S.W. Karuga**, M.J. Gatari, E.M. Kelder, and J.C.M Marijnissen (2017). Solid-state electrolytes for lithium ion batteries: Application of electrospray technique. Proceedings of the European Aerosol Conference (EAC2017), Zurich, Switzerland. August 27 – September 1, 2017.
- **Karuga S.**, Gatari M. J., Maina D.M., Shepherd K.D., Nyambura M., Galgallo A. and Gichohi B.M. (2013). Uptake of Zinc in Sugarcanes: An Experiment using samples from Nairobi River Basin. Proceedings of the 27th Soil Science Society of East Africa and the 6th African Soil Science Society Conference. 20 - 25 October 2013.
- A. Galgallo , M. Gatari, R. Keskinen, M. Esala, K. Shepherd and **S. Karuga** (2014). Total and Extractable Trace Elements in Soil. 20th World Congress of Soil Science 2014, 6, 160-160.
- Galgallo A.H., Gatari M.J., Maina D.M., Shepherd K.D., Nyambura M., Nyandika H., **Karuga S.** and Gichohi B.M. (2013). Trace Elements in Soils from Tanzania: Application of TXRF Analysis. Proceedings of the 27th Soil Science Society of East Africa and the 6th African Soil Science Society Conference. 20 - 25 October 2013.

Trainings/Workshops

- ISO/IEC 17025:2017 - General Requirements for the Competence of Testing and Calibration Laboratories (virtual training 1st to 3rd February 2021).
- Pedagogy, Andragogy and Mentorship Training – UoN, Kenya (26th -28th June 2019).
- Grant Proposal Writing – UoN, Kenya (6th – 8th February 2019).
- Radiation Technologies and Tracer Techniques for Industrial Processes – IAEA

Department of Nuclear Sciences and Application, Seibersdorf Laboratories, Austria
(28th Nov – 16th Dec 2016).

- Aerosol Technology Training Workshop – UoN, Kenya (5th – 7th October 2016).
- Radiotracer Data Analysis using Flow Rig - Kenya Bureau of Standards, Nairobi (27th – 28th Oct 2015).
- Renewable energies: Photovoltaics, Solar Thermal & Wind - International Summer University on Energy, Switzerland (25th Aug – 5th Sep 2014).
- X-ray spectrometry (EDXRF and TXRF), Vienna University of Technology, Austria (26th Aug – 6th Sep 2013).

Awards

- Outstanding contribution to the University of Nairobi community in scholarly contribution to innovation in the field of Nuclear Science & Technology of international recognition (UoN at 50, 2021).
- Best Poster Award at the Aerosol Technology Conference (AT2018) held in Bilbao, Spain.
- 1st runner up in the water sector trust fund innovations challenge awards (WICA) 2016, under the water and wastewater treatment category.
- University of Nairobi MSc. scholarship award (2011).

Referees

Prof. Michael J. Gatari

Director,

Nuclear Science and Technology Research Institute

University of Nairobi

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Prof. Jan Marijnissen

Visiting Professor,

University of Nairobi, Kenya and Florida USA

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Mr. Michael Mangala

Lecturer,

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