

Eng. Simon Thuku Mwangi Academic Staff Profile

Personal Profile

Personal Details

Name: **Simon Thuku Mwangi**
Title/Qualification: **PhD (Mechanical Engineering - ongoing)**
Department: **Agricultural and Biosystems Engineering**
Designation/Position: **Tutorial Fellow**
Email: **mwangi.simon@ku.ac.ke**
Contact Address: **14057-00400 Nairobi**
Area of Specialization:

- **Power, Machinery and Mechanization engineering**
- **Refrigeration**
- **Renewable Energy**

Research Interests:

- **Refrigeration systems**
- **Supercritical CO₂ cycle**
- **Renewable Energy**
- **Hybrid Renewable System**
- **Power, Machinery and Mechanization engineering**
- **Wastewater and Solid waste management**

Google Scholar:

ORCID ID: <https://orcid.org/0000-0003-0231-1315>



Academic & Professional Qualifications

- PhD – Mechanical Engineering (Ongoing), Aston University- Birmingham UK
- Master of Science in Environmental and Biosystems Engineering, University of Nairobi, 2015-2018
- Bachelor of Science in Biosystems Engineering (First Class Honours), University of Nairobi, 2009 - 2014

Employment History

- Tutorial Fellow, Department of Agricultural and Biosystems Engineering. Kenyatta University, 2020 – To date
- Part-time lecturer, Department of Environmental and Biosystems Engineering. University of Nairobi, 2019-2022
- Part-time lecturer, Department of Agricultural and Biosystems Engineering. Kenyatta University. 2019 – 2020
- Assistant Engineer, AGENN Associated Limited 2018 – 2023
- Intern Environmental Health and Safety, East Africa Portland Cement Company 2015 – 2016:
- Graduate Irrigation Engineer, GEDO Associates Limited 2014 – 2015

- Project Assistant University of Nairobi – National Water Conservation and Pipeline Corporation (NWCPC) Project. (UoN-NWCPC 2014)

Achievements

Publications

Referred Journals

- Gitau, A.N. and **Mwangi, S.T.** (2019). Mechanization Status in Africa: An Overview. In: Journal of Engineering in Agricultural and the Environment (JEAE) ISSN 1562-6946, Volume 5 No.2. 2019
- Mwonga, N.K., Gitau, A.N., Mutua, J.M. and **Mwangi, S.T.** (2019) Optimization of Specific Draft Requirement and Hitch Length for an Animal Drawn Sub-Soiler: A Case of Sandy Clay Loam Soils. Open Journal of Optimization, 8, 83-99. <https://doi.org/10.4236/ojop.2019.83008>
- **Mwangi, S.T.**, Gitau, A.N. and Muchiri, G. (2018). Effect of Chisel Ploughing on Physical and Mechanical Soil Properties on a Maize Cropped Field. International Journal of Emerging Technology and Advanced Engineering Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 8, Issue 11, November 2018)
- Gitau, A.N., Wilba, S.N., Mbugu, D.O. and **Mwangi, S.T.** (2018). Modelling variable cost of Tractors. A case study of ten tractor models in Juba Southern Sudan. AMA Spring 2018 Vol. 49 No. 2. ISSN 0084-5841. Pp 104-111.

Conference/Workshops/Seminar Papers

Conference Papers

- Mechanization Status in Africa: An Overview. In: Pan African Society for Agricultural Engineering Conference in Southern Sun Mayfair Hotel, Nairobi Kenya, 25-28 March 2018.
- Optimization of Specific Draft Requirement and Hitch Length for an Animal Drawn Sub-Soiler: A Case of Sandy Clay Loam Soils. Innovation Exposition of Agricultural, Environmental and Biosystems Engineering on 23rd October 2018, -DAAD School of Engineering Conference University of Nairobi
- Fungal contaminants and aflatoxins in the maize from lower eastern region in Kenya, The Sixth African Higher Education Week and RUFORUM Biennial Conference, 22-26 October 2018 KICC.

Conferenced/Workshops/Seminars Attended

Conferences Attended

- Engineering Innovations and Strategic Solutions”, 24th IEK International Conference and symposium, Intercontinental Hotel- Nairobi 10th – 12th May 2017
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Workshops Attended

- COVID-19 Response in Africa Online Training Program. Worcester Polytechnic Institute 17th April – 5th June 2019
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Supervision of Postgraduate Students

Masters

- Omari Josphat (ongoing), Effects of the subsoiler shank shape on soil cutting factors and power requirements in different soil types. A case study of and Animal Drawn subsoiler.

Community Service and Other Engagements

- Church administrator, Abide in Christ Church and Ministry, Nairobi
- Judge - The F1 in Schools West Midlands Regionals UK (19th and 20th April 2023)

Affiliation of Professional Bodies

- Graduate Engineer - Engineers Board of Kenya (EBK), B.15783
- Graduate Member - Institution of Engineers of Kenya (IEK), G.8222
- Member - Kenya Society of Environmental, Biological and Agricultural Engineers (KeSEBAE), K23034
- Lead expert - National Environment Management Authority (NEMA), 7772
- Lead Expert - Environment Institute of Kenya (EIK), EIK/2/3746

National and International awards and Recognitions

- Commonwealth Scholarship Commission PhD scholarship – Aston University Birmingham – 2022
- University of Nairobi Scholarship to undertake Masters study in ***Environmental and Biosystems Engineering*** – University of Nairobi, 2015
- University of Nairobi – Institute of Engineers of Kenya Prize: **Best Final Year** Project in the department of Environmental and Biosystems Engineering in the School of Engineering in the 2013/2014 Academic year. (***Design of a biological slaughterhouse wastewater treatment system Using an anaerobic baffle reactor – constructed wetland system- case study of Kiserian Slaughterhouse***)

Administrative Positions Held

Recognized university administrative positions.

- Acting Chairman, Department of Agricultural and Biosystems Engineering 25th April – 9th May 2022

Other administrative positions Held.

- Website committee member, Department of Agricultural and Biosystems Engineering - 2023
- School Website committee member, School of Engineering and Architecture - 2023