

CURRICULUM VITAE

Name: Dr. Emmanuel Yeri Kombe

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Petroleum Engineering,
Kenyatta University
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Kenya.

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ACADEMIC QUALIFICATIONS

2017- 2023 **Doctor of Philosophy (Ph.D.)**
Kenyatta University (Kenya)

Subject: Renewable Energy Technologies
Research Title: Thermodynamic Modelling and Optimization of
Gasification System for Fischer-Tropsch Synthesis

2015-2016 **Master of Science (MSc.), with merit**
University of Glasgow (United Kingdom)

Subject: Sustainable Energy
Dissertation Title: Quantitative Analysis of tar produced from
Gasification of Miscanthus by Fluorescence Spectroscopy

2010-2014 **Bachelor of Science (BSc.), with First Class Honors**
Masinde Muliro University of Science and Technology (Kenya)

Subject: Physics (Renewable Energy Option)
Project: Optimization of Biogas production from Kitchen Waste

WORK EXPERIENCE

2023-Date Lecturer, Kenyatta University Kenya

2020-2023 Tutorial Fellow, Kenyatta University Kenya

2016-2017 Intern, Masinde Muliro University of Science and Technology

RESEARCH PUBLICATION

A. Referred Scientific journal papers

1. **Kombe EY**, Muguthu J. Geothermal Energy Development in East Africa: Barriers and

Strategies. Journal of Energy Research and Reviews. 2018.2(1):1-6.

2. **Kombe EY.** Effect of furnace temperature on the distribution of tar during gasification of Miscanthus. Journal of Energy Research and Reviews. 2018. 2(1):1-7.
3. **Kombe EY,** Muguthu J. Assessment of Wind Energy Potential in Great Cumbrae Island using Weibull Distribution. Journal of Energy Research and Reviews. 2019. 2(2): 1-8.
4. Musanga LM, Barasa WH, Maxwell M, **Kombe EY.** The Impact of air mass on the performance of a Monocrystalline Solar Module in Kakamega. Physical Science International Journal. 2019. 21(2). 1-9.
5. **Kombe EY,** Lang'at N, Njogu P, Malessa R, Weber C, Njoka F, & Krause U. Numerical investigation of sugarcane bagasse gasification using Aspen Plus and response surface methodology. Energy Conversion and Management. 2022. 254, 115198.
6. **Kombe, EY.,** Lang'at, N, Njogu, P, Malessa, R, Weber, C-T., Njoka, F, & Krause, U. (2022). Process modeling and evaluation of optimal operating conditions for production of hydrogen-rich syngas from air gasification of rice husks using aspen plus and response surface methodology. Bioresource Technology, 361, 127734.
7. Matasyoh IM., Osodo B., **Kombe EY.,** Muguthu J. Characterization, performance evaluation and optimization of wheat straw – bagasse blended fuel pellets. Int. J. Renew. Energy Dev. 2024, 13 (3), 457-465.

B. Conference proceedings

1. Kombe EY. Optimization of biomass gasification system for Fischer-Tropsch synthesis. In: Newton Fund Researcher Links Workshop: *How Resilient Manufacturing Can Solve the Unemployment Problem in Kenya*, 18-21 September 2018, Nairobi, Kenya; p.37.

RESEARCH PROJECT SUPERVISION

- i. **Anne Wambui Nganga – MSc. Renewable Energy Technology** “Social Net Present Value of Green Hydrogen and Power-To-X Technologies in Kenya” – *ongoing.*

RESEARCH INTERESTS

Renewable energy technologies, Energy modelling and Optimization, Thermal Engineering, Cogeneration, Gasification, Applied Thermodynamics, Data Science and Machine Learning.