

MY PROFILE

PASSPORT SIZE PHOTO



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Geoffrey Khamala is a proficient and experienced educationist, lecturer of Physics, and researcher in Atmospheric Physics. His career has been strongly anchored in a sustained pursuit of understanding Earth's dynamic climate systems, laying a solid foundation for deeper insight into these processes. As a strong advocate for the application of physics principles in addressing global warming, Geoffrey is committed to advancing efforts toward climate change mitigation, reducing its impacts, and supporting a substantial transition to clean and renewable energy. He holds a Doctor of Philosophy degree in Physics from Kibabii University, where he was admitted in December 2023. Geoffrey served as a high school teacher of Physics and Mathematics from 2012 to October 2025. He also worked as a part-time tutorial fellow and part-time lecturer in Physics in the Department of Science, Technology and Engineering at Kibabii University from 2019 to 2025. Since October 2025, Geoffrey has been serving as a full-time lecturer of Physics in the Department of Renewable Energy and Technology at Turkana University College, while also continuing to work as an internal part-time lecturer.

Major Publications

You may list your major and/or current publications, or provide links to your Google Scholar, ResearchGate, or related academic profiles.

1. Kiboi, D. C. and **Khamala, G. W. (2026)**: Spontaneous fission and cluster disintegration of super heavy nuclei. An international scientific journal. World scientific news. WSN 217 (2026) 14-23. <http://doi.org/10.65770/CVEQ6200>
2. **Khamala, G. W.**, Makokha, J. W., Wanyera, C., Kumar, K. R., Almazroui, M., Althaf, P. and Tariq, A. (2026): Vertical Distribution of Cloud Area Fraction and Associated Cloud Radiative Effects over East Africa Using MERRA-2 Reanalysis and CERES (2000–2025) Data. Earth Systems and Environment. <https://doi.org/10.1007/s41748-026-01266-5>
3. Situma, Y., Makokha, J. W., Khakina, P. N., **Khamala, G. W.**, Kumar, R. K. and Boiyo, R. (2026): Long-term characterization and discrimination of aerosol types across Africa using AERONET observations (1998–2024). *Journal of Atmospheric and Solar–Terrestrial Physics*, 285 (2026) 106877. <https://doi.org/10.1016/j.jastp.2026.106877>
4. **Khamala, G. W.**, Makokha, W. J., Boiyo, R. and Kumar, K.R. (2025): Assessment of Temporal Variability and Coupling of Land Surface Energy and Hydrological Fluxes for Improved Climate Modeling over Eastern Africa. (**Currently under review in Climate Dynamics Journal**)
5. Jepchirchir, C.M., **Khamala, G.W.** and Makokha, J.W. (2026): Spatiotemporal Assessment of Deforestation Effects on Aerosol Optical Characteristics and Climate Variability over the Mau Forest Complex Based on MERRA-2 Reanalysis. Open Access Library Journal, 13: e14932. <https://doi.org/10.4236/oalib.1114932>
6. Jepchirchir, C.M., **Khamala, G.W.** and Makokha, J.W. (2025): Long-Term Assessment of Deforestation and Its Impacts on Aerosol Optical Properties and Climate Variables over Mau Forest Complex Using Multisensory Data. *Atmospheric and Climate Sciences*, 15, 742-760. <https://doi.org/10.4236/acs.2025.154038>
7. Simiyu, K.W., **Khamala, G. W.** and Makokha, J. W. (2025) Long Term Characterization of Dust and Its Radiative Forcing over Kenya Using Satellite and Model-Based Data. *Atmospheric and Climate Sciences*, 15, 723-741. <https://doi.org/10.4236/acs.2025.154037>
8. **Khamala, G. W.** and Makokha, J. W. (2025): Spatiotemporal Variability and Source Apportionment of Particulate Matter (PM) Emissions Using Binned Size Distributions: Insights from MERRA-2 over Africa. *Earth Systems and Environment*. DOI: [10.1007/s41748-025-00641-y](https://doi.org/10.1007/s41748-025-00641-y)

9. **Khamala a, G.W.**, Makokha, J. W. and Boiyo, R. (2024):The Spatiotemporal and Dependency Analysis of selected Meteorological Parameters and Normalized Difference Vegetation Index with Aerosol Optical Depth over East Africa., HELIYON, <https://doi.org/10.1016/j.heliyon.2024.e39961>
10. **Khamala, G. W.**, Makokha, J. W., Boiyo, R., Kumar, K. R. (2023): Spatiotemporal analysis of absorbing aerosols and radiative forcing over environmentally distinct stations in East Africa during 2001–2018. Science of the Total Environment. <http://dx.doi.org/10.1016/j.scitotenv.2022.161041>
11. **Khamala, G. W.**, Makokha, J. W., Boiyo, R., and Kumar, K. R. (2022): Climatology (2001-2019) of spatial trends in absorption, scattering, and total aerosol optical depths over East Africa inferred from multiple sensors. Environmental Science and Pollution Research. <https://doi.org/10.1007/s11356-022-20022-6>
12. **Khamala, G.W.**, Makokha, J.W. and Boiyo, R. (2022): Statistical Analysis of Aerosols Characteristics from Satellite Measurements over East Africa Using Autoregressive Moving Average (ARIMA). Open Access Library Journal, 9: e9496. <https://doi.org/10.4236/oalib.1109496>
13. **Khamala, G.W.**, Odhiambo, J.O. and Makokha, J.W. (2018) Seasonal Variability in Aerosol Microphysical Properties over Selected Rural, Urban and Maritime Sites in Kenya. Open Access Library Journal 5: e4821. <https://doi.org/10.4236/oalib.1104821>.

Research interest

- Aerosols
- Radiative forcing
- Air Quality
- Renewable Energy