Lawrence Darkwah

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RESEARCH

Interests	Environmental Engineering · Mineral Processing · Energy · Bioremediation · Industrial Biotechnology
Areas	Pollution · Biomedical Engineering · Building and Construction · Artificial Intelligence · Waste Management and Disposal · Automotive Engineering

RESEARCH SUMMARY

31	527	13	14	1.48	19%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 31 publications listed below, 2005–2025. Field-weighted impact is the mean over the 21 works scored for it; 1.00 is the world average for works of the same field, type and year. 4 of the 21 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Associate Professor 2005–present
Chemical Engineering, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

PhD 2001–2005
Chemical Engineering, The University of Birmingham, Birmingham, United Kingdom

MSc. 1995–1996
Industrial Biotechnology, Liverpool John Moores University, Liverpool, United Kingdom

BSc. (Hons.) 1990–1994
IMME, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

DISTINCTIONS, MEMBERSHIPS AND SERVICE

Hall Master 2018–present
Otumfuo Osei Tutu II, Graduate Students, Shaba and Wilkado Hostels, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Head of Department 2016–2018
Chemical Engineering, Kwame Nkrumah University of Science and Technology College of Engineering, Kumasi, Ghana

International Students Officer 2011–2016
Kwame Nkrumah University of Science and Technology College of Engineering, Kumasi, Ghana

PUBLICATIONS

Journal articles 26

1. Emmanuela Kwao-Boateng, Emmanuel Godwin Ankudey, **Lawrence Darkwah**, Kwabena Owusu Danquah (2024). Assessment of diesel fuel quality. *Heliyon*. https://doi.org/10.1016/j.heliyon.2024.e24733
2. E Kwao-Boateng, KO Danquah, EG Ankudey, **L Darkwah** (2024). Desulfurization Capabilities of Indigenous Bacteria Isolates for Enhanced Sulfur Removal. *Journal of Chemical and Petroleum Engineering*. https://jchpe.ut.ac.ir/article_88267.htmlhttps://jchpe.ut.ac.ir/article_97510.html
3. Emmanuela Kwao-Boateng, Emmanuel Godwin Ankudey, **Lawrence Darkwah**, Kwabena Owusu Danquah, Derrick Boateng Kontoh (2024). Evaluating the Health and Environmental Consequences of Sulphur-Related Diesel Emissions. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v1i1.1s
4. Patrick Boakye, Miriam Beneireh Nuagah, Sampson Oduro-Kwarteng, Eugene Appiah-Effah, Jolly Kanjua, Anthony Boakye Antwi, **Lawrence Darkwah**, Kwame Sarkodie, Yen Adams Sokama-Neuyam (2023). Pyrolysis of municipal food waste: A sustainable potential approach for solid food waste management and organic crop fertilizer production. *Sustainable Environment*. https://doi.org/10.1080/27658511.2023.2260057
5. Alfred Dawson Quansah, Felicia Dogbey, Prince Junior Asilevi, Patrick Boakye, **Lawrence Darkwah**, Sampson Oduro-Kwarteng, Yen Adams Sokama-Neuyam, Patrick Mensah (2022). Assessment of solar radiation resource from the NASA-POWER reanalysis products for tropical climates in Ghana towards clean energy application. *Scientific Reports*. https://doi.org/10.1038/s41598-022-14126-9
6. Gilbert Kofi Selormey, Benedict Barnes, Edward A. Awafo, Francis Kemausuor, **Lawrence Darkwah** (2022). Development of mathematical model for predicting methane-to-carbon dioxide proportion in anaerobic biodegradability of cattle blood and rumen content. *Energy Conversion and Management X*. https://doi.org/10.1016/j.ecmx.2022.100250
7. Patrick Boakye, Godfred Ohemeng-Boahen, **Lawrence Darkwah**, Yen Adams Sokama-Neuyam, Eugene Appiah-Effah, Sampson Oduro-Kwarteng, Barnabas Asamoah Osei, Prince Junior Asilevi, Seung Han Woo (2022). Waste Biomass and Biomaterials Adsorbents for Wastewater Treatment. *Green Energy and Environmental Technology*. https://doi.org/10.5772/geet.05
8. Gilbert Kofi Selormey, Benedict Barnes, Francis Kemausuor, **Lawrence Darkwah** (2021). A review of anaerobic digestion of slaughterhouse waste: effect of selected operational and environmental parameters on anaerobic biodegradability. *Reviews in Environmental Science and Bio/Technology*. https://doi.org/10.1007/s11157-021-09596-8
9. Yusif Rhule Sam, **Lawrence Darkwah**, Derrick Kpakpo Allotey, Adjei Domfeh, Mizpah Ama Dziedzorm Rockson, Emmanuel Kwaku Baah-Ennumh (2021). Chemical Plant Design for the Conversion of Plastic Waste to Liquid Fuel. *Advances in Chemical Engineering and Science*. https://doi.org/10.4236/aces.2021.113015
10. Ahenkan Serwaa Afena, Derrick Kontoh Boateng, **Lawrence Darkwah**, Albert A. Adjaottor (2021). Decolourisation of Textile Wastewater by Dye Degrading Microorganisms Isolated from Textile Effluent. *Journal of Environmental Protection*. https://doi.org/10.4236/jep.2021.1210046
11. Gyasi P., Selormey G. M., **Darkwah L.**, Amano K. O. A., Quarshie S. D. (2021). Impact of Different Mixing Ratios on Biomethanation of Cattle Blood and Rumen Content. *International journal of research and scientific innovation*. https://doi.org/10.51244/ijrsi.2021.8404
12. **Lawrence Darkwah**, Sandra Boakye, Lawrence Sheringham Borquaye, Matt Dodd, Godfred Darko (2020). Distribution of heavy metals in soils from abandoned dump sites in Kumasi, Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2020.e00614
13. Emmanuel Quayson, Jerome Amoah, Nova Rachmadona, Kenta Morita, **Lawrence Darkwah**, Shinji Hama, Ayumi Yoshida, Akihiko Kondo, Chiaki Ogino (2020). Valorization of palm biomass waste into carbon matrices for the immobilization of recombinant Fusarium heterosporum lipase towards palm biodiesel synthesis. *Biomass and Bioenergy*. https://doi.org/10.1016/j.biombioe.2020.105768

14. Samuel Wiafe, Richard Buamah, Helen Essandoh, **Lawrence Darkwah** (2019). Assessment of Typha capensis for the remediation of soil contaminated with As, Hg, Cd and Pb. *Environmental Monitoring and Assessment*. https://doi.org/10.1007/s10661-019-7484-2

15. Wiafe Samuel, Richard Buamah, Helen Essandoh, **Lawrence Darkwah** (2018). Mapping, Characterization and Dispersion of Metallic Pollutants within a Catchment of Illegal Gold Mining Activities in Ghana. *American Journal of Engineering and Applied Sciences*. https://doi.org/10.3844/ajeassp.2018.111.120

16. Pol Arranz-Piera, Francis Kemausuor, **Lawrence Darkwah**, Ishmael Edjekumhene, Joan Cortés, Enrique Velo (2018). Mini-grid electricity service based on local agricultural residues: Feasibility study in rural Ghana. *Energy*. https://doi.org/10.1016/j.energy.2018.04.058

17. Francis Kemausuor, Ahmad Addo, Emmanuel Ofori, **Lawrence Darkwah**, Simon Bolwig, Ivan Nygaard (2015). Assessment of technical potential and selected sustainability impacts of second generation bioenergy in Ghana.

18. **L Darkwah** (2015). Re-engineering domestic septic tanks into biogas tanks. *Journal of Energy and Natural Resource Management*. http://jenrm.uenr.edu.gh/index.php/uenrjournal/article/view/73

19. Francis Kemausuor, Ahmad Addo, **Lawrence Darkwah** (2015). Technical and Socioeconomic Potential of Biogas from Cassava Waste in Ghana. *Biotechnology Research International*. https://doi.org/10.1155/2015/828576

20. **L Darkwah**, L. and Owusu-Boateng (2013). Mine water and the environment: a case study at Central African Gold Bibiani Limited, Ghana. *Global Advanced Research Journal of Physical and Applied Sciences*. https://scholar.google.com/scholar?cluster=6851247565718961698&hl=en&oi=scholarr

21. **L Darkwah** (2013). Water quality assessment of a wastewater treatment plant in a Ghanaian Beverage Industry. *International Journal of Water Resources and Environmental Engineering*. https://www.academia.edu/download/53600086/article1379668675_Agyemang_et_al.pdf

22. Emmanuel Okoh Agyemang, Esi Awuah, **Lawrence Darkwah**, Richard Arthur, Gabriel Osei (2013). Water quantity auditing of a Ghanaian beverage plant. *Journal of Water Sanitation and Hygiene for Development*. https://doi.org/10.2166/washdev.2013.030

23. F Kemausuor, A Addo, **L Darkwah** (2008). Guidebook on modern bioenergy conversion technologies in Africa. *UNIDO, Vienna*. https://scholar.google.com/scholar?cluster=18989144540971678 09&hl=en&oi=scholarr

24. Francis Kemausuor, **L Darkwah**, G Obeng (2008). Renewable energy technology, capacity and R&D in Africa. *Thematic background paper for the International Conference on Renewable Energy in Africa*. https://www.researchgate.net/profile/George-Yaw-Obeng/publication/264518362_Renewable_Energy_Technology_Capacity_Building_and_RD_in_Africa_Thematic_Background_Paper_for_International_Conference_on_Renewable_Energy_in_Africa/links/56184e0d08ae044edbad2310/Renewable-Energy-Technology-Capacity-Building-and-R-D-in-Africa-Thematic-Background-Paper-for-International-Conference-on-Renewable-Energy-in-Africa.pdf

25. **L Darkwah**, E Ramde, F Kemausuor, A Addo (2007). Biofuels industry development in Africa. *Background paper prepared for AU/Brazil/UNIDO High Level Seminar on Biofuels in Africa (30 July–1 August 2007). Addis Ababa, Ethiopia: African Union Commission [Google Scholar]*. https://www.academia.edu/download/53600089/Background_paper_prepared_for_AUBrazilUN20170620-31428-91v6it.pdf

26. **L Darkwah** (2005). Laboratory scale bioremediation of acid mine water drainage from a disused tin mine. *Biotechnology letters*. https://doi.org/10.1007/s10529-005-3201-z

Book chapters 2

1. Grant Degbe Dzitse, Helen M. K. Essandoh, **Lawrence Darkwah** (2025). Assessment of Energy Potential of Residential Solid Waste in the Asokore Mampong Municipality of the Ashanti Region of Ghana. *World sustainability series*. https://doi.org/10.1007/978-3-031-87043-9_1

2. Martina Francisca Baidoo, Nana Yaw Asiedu, **Lawrence Darkwah**, David Arhin-Dodoo, Jun Zhao, Francois Jerome, Prince Nana Amaniampong (2022). Conventional and Unconventional Transformation of Cocoa Pod Husks into Value-Added Products. *IntechOpen eBooks*. https://doi.org/10.5772/intechopen.102606

Conference papers 2

1. D. Osei-Twumasi, B. Fei-Baffoe, **L. Darkwah**, F. Adomako, D. A. Boateng, W. B. Johnson, R. Yartel, K. Ennin (2016). Pilot Plant Bioremediation of Hydrocarbon Contaminated Drill Mud - Case Study in Ghana. https://doi.org/10.2118/183592-ms
2. **L Darkwah** (2014). Feasibility study of biomass hybrid micro-plants for mini-grid based electricity services in rural communities in Ghana. *Proceedings of the 22nd EU BC&E*. https://upcommons.upc.edu/entities/publication/038d8a08-c3b8-42d3-8cc7-c754860e2843

Theses 1

1. **L Darkwah** (2005). Remediation of Acid Mine Drainage. *University of Birmingham*. https://scholar.google.com/scholar?cluster=17075368936249193618&hl=en&oi=scholarr