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RESEARCH

Interests	Mineral exploration · geophysics · environment · waste monitoring and management
Areas	Artificial Intelligence · Environmental Engineering · Geophysics · Ocean Engineering · Water Science and Technology · Geochemistry and Petrology

RESEARCH SUMMARY

58	840	16	25	1.38	18%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 58 publications listed below, 2009–2026. Field-weighted impact is the mean over the 40 works scored for it; 1.00 is the world average for works of the same field, type and year. 7 of the 40 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Associate Professor 2009–present
College of Science, Department of Physics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PUBLICATIONS

Journal articles 55

1. Gilbert Jesse, Cyril D. Boateng, Jeffrey N. A. Aryee, Marian A. Osei, **David D. Wemegah**, Solomon S. R. Gidigasu, Samuel K. Afful (2026). A new workflow for estimating groundwater recharge in data-scarce environments. *Journal of Water and Climate Change*. https://doi.org/10.2166/wcc.2026.329
2. Evans Asamoah, Christiana Subaar, Joseph Amanfo Ofori, Ezekiel Amarh Ashai, Eric Clement Desmond Kotei Addison, **David Dotse Wemegah**, Francis Kofi Ampong, Eric Kwabena Kyeh Abavare (2026). Evaluation of Natural Radionuclide Content in Potable Water in some Communities in Abuakwa South Municipality, Ghana. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v44i3.4
3. Gilbert Jesse, Cyril D. Boateng, Jeffrey N.A. Aryee, Marian A. Osei, Michael Baidu, **David D. Wemegah**, Solomon S.R. Gidigasu, Samuel K. Afful (2026). Machine learning-based modeling of groundwater recharge under three climate change scenarios in the Densu Basin of Ghana, West Africa. *Groundwater for Sustainable Development*. https://doi.org/10.1016/j.gsd.2026.101611
4. Gilbert Jesse, Cyril D. Boateng, Jeffrey N.A. Aryee, Marian A. Osei, **David D. Wemegah**, Solomon S.R. Gidigasu, Akyana Britwum, Samuel K. Afful, Haoulata Touré, Vera Mensah, Prinsca Owusu-Afriyie (2025). A systematic review of machine learning models for groundwater level prediction. *Applied Computing and Geosciences*. https://doi.org/10.1016/j.acags.2025.100303
5. Samuel K. Afful, Cyril D. Boateng, Emmanuel Ahene, Jeffrey N. A. Aryee, **David D. Wemegah**, Solomon S. R. Gidigasu, Akyana Britwum, Marian A. Osei, Jesse Gilbert, Haoulata Touré, Vera Mensah (2025). A systematic review of neural network applications for groundwater level prediction. *Discover Applied Sciences*. https://doi.org/10.1007/s42452-025-06817-5
6. Alfred K. Bienibuor, Kwasi Preko, Akwasi A. Aning, Aboagye Menyeh, **David D. Wemegah**, Michael K. Appiah, Amatus Gyilbag (2025). Application of the electrical resistivity tomography (ERT) method in

identifying high groundwater potential sites in the Atebubu municipality of Ghana. *Discover Geoscience*. https://doi.org/10.1007/s44288-025-00120-x

7. Alfred K. Bienibuor, Kwasi Preko, Akwasi A. Aning, Aboagye Menyeh, **David D. Wemegah**, Michael K. Appiah (2025). Groundwater potential and quality assessment of the Oti Pendjari and Obosum Groups of the Atebubu municipality. *Applied Water Science*. https://doi.org/10.1007/s13201-025-02465-7
8. Haoulata Touré, Cyril D. Boateng, Solomon S. R. Gidigasu, **David D. Wemegah**, Vera Mensah, Jeffrey N. A. Aryee, Marian A. Osei, Benjamin Boadi, Collins Okrah (2025). Groundwater potential mapping of the central region using integrated geological and geophysical methods. *Applied Water Science*. https://doi.org/10.1007/s13201-025-02708-7
9. Ralph Tagoe, Franklin Obiri-Nyarko, Collins Okrah, Patrick A. Mainoo, Evans Manu, **David D. Wemegah**, Anthony A. Duah, Anthony Y. Karikari, William A. Agyekum (2025). Investigating soil and groundwater contamination around the Kpone Engineered Landfill site, Ghana, using geoelectrical methods. *Acta Geophysica*. https://doi.org/10.1007/s11600-025-01668-5
10. **David Dotse Wemegah** (2025). Near Surface Geophysics. *Geophysics*. https://doi.org/10.1002/nsg.12223
11. Baah Asare-Bediako, Faustina Awafu, Evans Y. Boakye, Emmanuel Boahen, Cyril D. Boateng, **David D. Wemegah**, Akyana Britwum, Michael K. E. Donkor, Jeffrey N. A. Aryee, Emmanuel K. Brempong, Leonard K. Amekudzi (2025). Shoreline change detection along the eastern coast of Ghana: leveraging GIS and advanced remote sensing techniques. *Scientific Reports*. https://doi.org/10.1038/s41598-025-98260-0
12. Cyril D. Boateng, **David D. Wemegah**, Wazi Apoh, Vandycke A. Sarpong, James O. Akingbade, Akwasi Acheampong Aning, Thomas Dwomoh (2024). KNUST SEG Geophysics Field Camp: A project to study slavery-related archaeology in West Africa. *The Leading Edge*. https://doi.org/10.1190/tle43100676.1
13. **David Dotse Wemegah** (2024). Near Surface Geophysics. *Geophysics*. https://doi.org/10.1002/nsg.12164
14. Eric Dominic Forson, Prince Ofori Amponsah, **David Dotse Wemegah**, Michael Darko Ahwireng (2024). Random forest-based mineral prospectivity modelling over the Southern Kibi–Winneba belt of Ghana using geophysical and remote sensing techniques. *Applied Earth Science Transactions of the Institutions of Mining and Metallurgy*. https://doi.org/10.1177/25726838231225055
15. Denys Grombacher, Jesper Pedersen, **David Wemegah**, Rune Kragehede, Paul McLachlan, Pradip Maurya (2024). Rapid groundwater assessments in gneissic settings using transient electromagnetics — Examples from Togo. *Geophysics*. https://doi.org/10.1190/geo2024-0095.1
16. Haoulata Touré, Cyril D. Boateng, Solomon S. R. Gidigasu, **David D. Wemegah**, Vera Mensah, Jeffrey N. A. Aryee, Marian A. Osei, Jesse Gilbert, Samuel K. Afful (2024). Review of machine learning algorithms used in groundwater availability studies in Africa: analysis of geological and climate input variables. *Discover Water*. https://doi.org/10.1007/s43832-024-00109-6
17. P.V.S. Raju, Benjamin Boadi, **David Dotse Wemegah** (2024). Using Edge Detection Techniques on Aeromagnetic Data to Delineate Structures Controlling Orogenic Gold Deposits in the Sefwi Greenstone Belt, Ghana. *Journal of the Geological Society of India*. https://doi.org/10.17491/jgsi/2024/173936
18. Theophilus Yaw Amponsah, **David Dotse Wemegah**, Sylvester Kojo Danuor, Eric Dominic Forson (2023). Depth-based correlation analysis between the density of lineaments in the crystalline basement's weathered zones and groundwater occurrences within the Voltaian basin, Ghana. *Geophysical Prospecting*. https://doi.org/10.1111/1365-2478.13422
19. Augustine Owusu Sekyere, Helen Essandoh, **David Dotse Wemegah**, Lydia Otoo Amponsah (2023). Evaluating Groundwater Quality in the Asante Akyem Central District of Ghana. *Environmental Health Insights*. https://doi.org/10.1177/11786302231188270
20. K Preko, **DD Wemegah** (2023). Identification of high groundwater potential locations in the Atebubu Municipality of Ghana using the Electrical Resistivity Method. *Asric Journal on Natural Sciences*. https://www.researchgate.net/profile/Saheed-Adesokan/publication/380396594_Isotherm_Kinetic_and_Thermodynamic_Terms_of_Adsorption_of_Pyrimethamine_from_Binary_Aqueous_Solutions/links/663a837608aa54017ae41763/Isotherm-Kinetic-and-Thermodynamic-Terms-of-Adsorption-of-Pyrimethamine-from-Binary-Aqueous-Solutions.pdf#page=227

21. Cyril D. Boateng, Christopher A. Akurugu, **David D. Wemegah**, Sylvester K. Danuor (2023). Underrepresentation of Local Researchers in Geophysical Studies at the Bosumtwi Impact Crater: Insights from A Systematic Review. *Scientific African*. https://doi.org/10.1016/j.sciaf.2023.e01893

22. Benjamin Boadi, P.V. Sunder Raju, **David Dotse Wemegah** (2022). Analysing multi-index overlay and fuzzy logic models for lode-gold prospectivity mapping in the Ahafo gold district – Southwestern Ghana. *Ore Geology Reviews*. https://doi.org/10.1016/j.oregeorev.2022.105059

23. Eric Dominic Forson, **David Dotse Wemegah**, Godfred Bright Hagan, Desmond Appiah, Fortune Addo-Wuver, Isaac Adjovu, Frank Osae Otchere, Said Mateso, Aboagye Menyeh, Theophilus Amponsah (2022). Data-driven multi-index overlay gold prospectivity mapping using geophysical and remote sensing datasets. *Journal of African Earth Sciences*. https://doi.org/10.1016/j.jafrearsci.2022.104504

24. Theophilus Yaw Amponsah, Sylvester Kojo Danuor, **David Dotse Wemegah**, Eric Dominic Forson (2022). Groundwater potential characterisation over the Voltaian basin using geophysical, geological, hydrological and topographical datasets. *Journal of African Earth Sciences*. https://doi.org/10.1016/j.jafrearsci.2022.104558

25. Ewura Abena Coker, Bright Cephas Nkuah, Sandra Afia Amoanimaah, Joel Baffour Oppong, Opoku Gyamfi, Eugene Ansah, Kofi Agyarko Ababio, **David Dotse Wemegah**, Lawrence Sheringham Borquaye, Godfred Darko (2022). Human exposure to mercury in the atmosphere and soils in Konongo: an age-old mining centre in the Ashanti Region of Ghana. *Environmental Geochemistry and Health*. https://doi.org/10.1007/s10653-022-01441-3

26. E C D K Addison, S Kukubor, **D D Wemegah**, A N M Quaye (2022). RADON-222 CONCENTRATION IN AIR: A CASE STUDY OF AYEDUASE TOWNSHIP, KUMASI, GHANA. *European Journal of Technology*. https://doi.org/10.47672/ejt.900

27. **David Dotse Wemegah** (2021). For Active membership. *The Leading Edge*. https://pubs.geoscienceworld.org/seg/tle/article-abstract/40/12/942/704463

28. Eric Dominic Forson, Aboagye Menyeh, **David Dotse Wemegah** (2021). Mapping lithological units, structural lineaments and alteration zones in the Southern Kibi-Winneba belt of Ghana using integrated geophysical and remote sensing datasets. *Ore Geology Reviews*. https://doi.org/10.1016/j.oregeorev.2021.104271

29. **David Dotse Wemegah**, Courage Y. Deh, Jacob K. Agbenorhevi, Gilbert O. Sampson, Fidelis M. Kpodo (2020). Effect of Okra Pectin on the Sensory, Physicochemical and Microbial Quality of Yoghurt. *Food and Nutrition Sciences*. https://doi.org/10.4236/fns.2020.116032

30. Eric Dominic Forson, Aboagye Menyeh, **David Dotse Wemegah**, Sylvester K. Danuor, Isaac Adjovu, Isaac Appiah (2020). Mesothermal gold prospectivity mapping of the southern Kibi-Winneba belt of Ghana based on Fuzzy analytical hierarchy process, concentration-area (C-A) fractal model and prediction-area (P-A) plot. *Journal of Applied Geophysics*. https://doi.org/10.1016/j.jappgeo.2020.103971

31. ED Forson, **DD Wemegah**, SK Danuor, I Appiah (2020). Mesothermal gold prospectivity mapping of the southern Kibi-Winneba belt of Ghana based on Fuzzy analytical hierarchy process, concentration-area (CA) fractal model and .... *Journal of Applied Geophysics*. https://www.sciencedirect.com/science/article/pii/S0926985119308195

32. Akwasi Acheampong Aning, Vandycke Sarpong Asare, **David Dotse Wemegah**, Reginald Mensah Noye, Kwasi Preko, Sylvester Kojo Danuor (2019). Integrated Geophysical and Geological Mapping of the Lithological and Geological Structures at a Proposed Generator Site. *Journal of Geoscience and Environment Protection*. https://doi.org/10.4236/gep.2019.712005

33. Kwaku Takyi-Kyeremeh, **David Dotse Wemegah**, Kwasi Preko, Aboagye Menyeh (2019). Integrated geophysical study of the Subika Gold Deposit in the Sefwi Belt, Ghana. *Cogent Geoscience*. https://doi.org/10.1080/23312041.2019.1585406

34. Fosu Brempong, **David Dotse Wemegah**, Kwasi Preko, Thomas Armah, Benjamin Boadi, Aboagye Menyeh, Isaac Amankwah Oppong, Mariam Maku Quarshie, Akwasi Acheampong Aning, Vandycke Sarpong Asare, Reginald Mensah Noye (2019). Interpretation of Geological Structures Hosting Potential Gold Deposits in the Konongo Gold Mine Using Airborne Magnetic, Electromagnetic and Radiometric Datasets. *Journal of*

Geoscience and Environment Protection. https://doi.org/10.4236/gep.2019.76016

35. Marian Amoakowaah Osei, Leonard Kofitse Amekudzi, **David Dotse Wemegah**, Kwasi Preko, Emmanuella Serwaa Gyawu, Kwasi Obiri-Danso (2019). The impact of climate and land-use changes on the hydrological processes of Owabi catchment from SWAT analysis. *Journal of Hydrology Regional Studies*. https://doi.org/10.1016/j.ejrh.2019.100620
36. Nathaniel Owusu Boadi, Lawrence Sheringham Borquaye, Godfred Darko, **David Dotse Wemegah**, Dodzi Agorsor, Randy Akrofi (2018). Assessment of the quality of the Owabi reservoir and its tributaries. *Cogent Food & Agriculture*. https://doi.org/10.1080/23311932.2018.1492360
37. Isaac Appiah, **David Dotse Wemegah**, Van-Dycke Sarpong Asare, Sylvester K. Danuor, Eric Dominic Forson (2018). Integrated geophysical characterisation of Sunyani municipal solid waste disposal site using magnetic gradiometry, magnetic susceptibility survey and electrical resistivity tomography. *Journal of Applied Geophysics*. https://doi.org/10.1016/j.jappgeo.2018.02.007
38. **David Dotse Wemegah**, Patrick Adu Poku, Eric Clement Desmond Kotei Addison, David Dotse Wemengah, Anthony Apeke Adimado (2018). Measurement of radon concentration in groundwater in the Ashanti region of Ghana. *Journal of Radioanalytical and Nuclear Chemistry*. https://doi.org/10.1007/s10967-018-5930-1
39. Godfred Darko, Matt Dodd, Marian Asantewah Nkansah, Yaw Aduse-Poku, Eugene Ansah, **David Dotse Wemegah**, Lawrence Sheringham Borquaye (2017). Distribution and ecological risks of toxic metals in the topsoils in the Kumasi metropolis, Ghana. *Sustainable Environment*. https://doi.org/10.1080/23311843.2017.1354965
40. Marian A. Nkansah, Francis Opoku, James H. Ephraim, **David D. Wemegah**, Luke P.M. Tetteh (2016). Characterization of Beauty Salon Wastewater from Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, and Its Surrounding Communities. *Environmental Health Insights*. https://doi.org/10.4137/ehi.s40360
41. MB Mensah, NO Boadi, **DD Wemegah**, M Badu (2016). Physicochemical Properties and Levels of Heavy Metals in Selected Rivers within the Kumasi Metropolis of Ghana. *International Journal of Science and Technology*.
42. **David Dotse Wemegah**, Gianluca Fiandaca, Esben Auken, Aboagye Menyeh, Sylvester Kojo Danuor (2016). Spectral time-domain induced polarisation and magnetic surveying – an efficient tool for characterisation of solid waste deposits in developing countries. *Near Surface Geophysics*. https://doi.org/10.3997/1873-0604.2016048
43. Leonard K. Amekudzi or Leonard Amekudzi, K Preko, **DD Wemegah** (2016). The use of electromagnetic and electrical resistivity methods in assessing groundwater resource potentials in Adoe, Sunyani, Ghana. *International Journal of Scientific and Technology Research*. https://www.academia.edu/download/93097107/The-Use-Of-Electromagnetic-And-Electrical-Resistivity-Methods-In-Assessing-Groundwater-Resource-Potentials-In-Adoe-Sunyani-Ghana.pdf
44. **David Dotse Wemegah**, Kwasi Preko, Reginald Mensah Noye, Benjamin Boadi, Aboagye Menyeh, Sylvester Kojo Danuor, Thomas Amenyoh (2015). Geophysical Interpretation of Possible Gold Mineralization Zones in Kyerano, South-Western Ghana Using Aeromagnetic and Radiometric Datasets. *Journal of Geoscience and Environment Protection*. https://doi.org/10.4236/gep.2015.34008
45. A Menyeh, **DD Wemegah** (2015). Qualitative interpretation of aerogravity and aeromagnetic survey data over The South Western part of the Volta River Basin of Ghana. *Int J Sci Technol Res*. https://www.academia.edu/download/124114792/Qualitative-Interpretation-Of-Aerogravity-And-Aeromagnetic-Survey-Data-Over-The-South-Western-Part-Of-The-Volta-River-Basin-Of-Ghana.pdf
46. J Apau, HK Agbovi, **DD Wemegah** (2014). Assessment of the water quality of boreholes in the Aburi municipality of eastern region of Ghana. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v33i3.9
47. Leonard K. Amekudzi or Leonard Amekudzi, K Preko, **DD Wemegah** (2014). Estimation of water table depths and local groundwater flow pattern using the Ground Penetrating Radar. *International Journal of Scientific and Research Publications*. https://scholar.google.com/scholar?

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48. B Kwakye-Awuah, **DD Wemegah**, I Nkrumah (2013). Antimicrobial activity of silver-zeolite LTA on heavily-contaminated underground Ghanaian waters. *International Journal of Science and Research*.

49. Leonard K. Amekudzi or Leonard Amekudzi, K Preko, **DD Wemegah** (2013). Application of ground penetrating radar in delineating zones of gold mineralization at the Subenso-North concession of Newmont Ghana gold limited. *Int J Sci Res Publ*. https://www.researchgate.net/profile/Evans-Manu/publication/317886830_Application_of_Ground_Penetrating_Radar_in_delineating_zones_of_Gold_Mineralization_at_the_Subenso-North_Concession_of_Newmont_Ghana_Gold_Limited/links/62aa69b0a920e8693ef75c5b/Application-of-Ground-Penetrating-Radar-in-delineating-zones-of-Gold-Mineralization-at-the-Subenso-North-Concession-of-Newmont-Ghana-Gold-Limited.pdf

50. M Badu, **DD Wemegah**, NO Boadi (2013). Assessment of the nutrient load and selected heavy metals in the Owabi reservoir and its feeder waters. *American Journal of Scientific and Industrial Research*. https://www.scihub.org/AJSIR/PDF/2013/4/AJSIR-4-4-337-343.pdf

51. **D Wemegah**, AA Adimado (2013). Chemical Analysis of Freshwater Bodies in the Kumasi Metropolis and Its Environs, Ghana. *Journal of environment and earth science*. https://scholar.google.com/scholar?cluster=14873258774489359568&hl=en&oi=scholarr

52. P Kwasi, **DD Wemegah** (2013). Geological and structural interpretation of part of the Buem formation, Ghana, using aerogeophysical data. *Unpublished M. Sc. thesis, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana*. https://www.academia.edu/download/53066331/Grahams_Thesis-1.pdf

53. Leonard K. Amekudzi or Leonard Amekudzi, **DD Wemegah**, K Preko (2013). Geological and structural interpretation of the Konongo area of the Ashanti gold belt of Ghana from aeromagnetic and radiometric data. *International Research Journal of Geology and Mining*. https://scholar.google.com/scholar?cluster=14137857169508868897&hl=en&oi=scholarr

54. **DD Wemegah**, A Menyeh, SK Danuor (2009). Magnetic Susceptibility Characterization of mineralized and nonmineralized rocks of the Subenso Concession of Newmont Ghana Gold Limited. *Ghana Science Association Biennial Conference*. https://scholar.google.com/scholar?cluster=9822656153551493073&hl=en&oi=scholarr

55. **D Wemegah**, A Menyeh, S Danuor (2009). The use of landsat and aeromagnetic data in the interpretation of geological structures in the Nangodi Belt. *University of Cape Coast*. https://scholar.google.com/scholar?cluster=13310904871971324539&hl=en&oi=scholarr

Conference papers 2

1. Cyril D. Boateng, **David D. Wemegah** (2023). Uncovering hidden histories through a field camp: Geophysical surveys for archaeological investigations of slavery in Ghana. https://doi.org/10.1190/image2023-3910999.1

2. **D.D. Wemegah**, G. Fiandaca, E. Auken, A. Menyeh, S.K. Danuor (2014). Time-domain Spectral Induced Polarization and Magnetics for Mapping Municipal Solid Waste Deposits in Ghana. *Proceedings*. https://doi.org/10.3997/2214-4609.20142084

Reports 1

1. Eric Dominic Forson, **David Dotse Wemegah**, Godfred Bright Hagan, Desmond Appiah, Fortune Addo-Wuver, Isaac Adjovu, Frank Osae Otchere, Said Mateso, Aboagye Menyeh, Theophilus Amponsah (2022). Data-Driven Multi-Index Overlay Gold Prospectivity Mapping Using Geophysical and Remote Sensing Datasets. https://doi.org/10.54985/peeref.2209p5617862