John Wise Divine Ayer

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RESEARCH

Interests	GIS · Geodesy
Areas	Aerospace Engineering · Oceanography · Environmental Engineering · Geography, Planning and Development · Global and Planetary Change · Applied Mathematics

RESEARCH SUMMARY

35	187	8	5	1.84	16%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 35 publications listed below, 2008–2026. Field-weighted impact is the mean over the 25 works scored for it; 1.00 is the world average for works of the same field, type and year. 4 of the 25 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

ASSOCIATE PROFESSOR 2002–present
GEOMATIC ENGINEERING DEPARTMENT, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

MSC. GEODETIC AND GEOGRAPHIC INFORMATION SYSTEMS 1995–1996
SURVEYING AND PHOTOGRAMMETRY, University College, London, London, United Kingdom

BSC. GEODETIC ENGINEERING 1989–1991
GEODETIC ENGINEERING DEPARTMENT, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

BSC. 1980–1984
PHYSICS, University of Ghana, Accra, Ghana

DOCTOR OF PHYLOSOPHY 2017
GEOMATIC ENGINEERING DEPARTMENT, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

DISTINCTIONS, MEMBERSHIPS AND SERVICE

licensed Surveyors Association of Ghana
ACCRA, Ghana

GHANA INSTITUTION OF SURVEYORS
ACCRA, Ghana

STAFF SURVEYOR 1989–2001
EXAMINATION, SURVEY DEPARTMENT OF GHANA, ACCRA, Ghana

PUBLICATIONS

Journal articles 35

1. Michael Nyoagbe, Jonathan Arthur Quaye-Ballard, **John Divine Wise Ayer**, Yaw Mensah Asare, Tina Dzigbordi Wemegah (2026). Enhanced dam spillage prediction using lagged feedback random forests at Weija Dam, Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2026.e03611
2. Emmanuel Adu-Afari, Caleb Kelly, **John Ayer**, Yaw Mensah Asare, Monica Naa Morkor Cudjoe, Samuel Ato Andam-Akorful, Gordon Foli (2026). Geospatial assessment of ground deformation in the Greater Accra Region of Ghana using SBAS-InSAR and Sentinel-1 time series. *Applied Geomatics*. https://doi.org/10.1007/s12518-026-00805-z
3. Emmanuel Adu-Afari, Caleb Kelly, **John Ayer**, Yaw Mensah Asare, Muhammad Sanan, Samuel Ato Andam-Akorful, Dongkai Yang, Gordon Foli (2026). Multi-sourced data integration for detecting and mapping the 30th July 2017 Adaklu Mountain landslide in the Volta Region of Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2026.e03325
4. Michael Nyoagbe, Jonathan Arthur Quaye-Ballard, **John Divine Wise Ayer**, Yaw Mensah Asare, Tina Dzigbordi Wemegah (2026). Smart city–oriented GeoAI framework for urban flood early warning: Evidence from Weija Dam, Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2026.e03591
5. Diriba Firdisa Tolasa, Emmanuel Offei Akrofi, **John Wise Divine Ayer**, Edward Matthew Osei Jnr., Jonathan Arthur Quaye-Ballard (2025). An Assessment Of The Legal, Institutional, And Geospatial Technology For Managing Urban Land In Addis Ababa And Adama, Ethiopia. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v43i2.1
6. Osman Mohammed Abukari, Akwasi Afrifa Acheampong, Samuel Osah, **John Ayer** (2023). Assessing the Quality of Data from Continuously Operating Reference Stations in Ghana. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v41i3.1
7. Cosmas Yaw Asante, **John Ayer**, Yao Ziggah, Ebenezer Tetteh Doku (2023). Comparison between the azimuths of astronomical and geodetic coordinates in Ghana. *Journal of the Ghana Institution of Engineering (JGhIE)*. https://doi.org/10.56049/jghie.v23i1.53
8. Osman Mohammed Abukari, Akwasi Afrifa Acheampong, Samuel Osah, **John Ayer** (2023). Homogenizing coordinates through the use of the active CORS in Ghana. *South African Journal of Geomatics*. https://doi.org/10.4314/sajg.v12i.2.2
9. Ebenezer Tetteh Doku, Cosmas Yaw Asante, **John Ayer**, Richard Clophy Amoah, Surveying and Mapping Division, Lands Commission, Accra, Ghana (2022). A hybridized geoid model for Ashanti Region, Ghana. *Japan Journal of Research*. https://doi.org/10.33425/2690-8077.1047
10. Alex Osei-Akoto, Akwasi Afrifa Acheampong, Isaac Dadzie, **John Ayer**, Samuel Osmah (2022). Determination of position coordinates of the new active CORS in Ghana. *Journal of the Ghana Institution of Engineering (JGhIE)*. https://doi.org/10.56049/jghie.v22i1.25
11. Gameti Charles, Acheampong Akwasi Afrifa, **John Ayer** (2022). Development of GNSS software for Ghana Survey and Mapping Division. *South African Journal of Geomatics*. https://doi.org/10.4314/sajg.v11i1.10
12. **John Ayer**, Cosmas Yaw Asante, Yaw Y. Ziggah, Ebenezer Tetteh Doku (2022). Grid, Geodetic and Astronomical Azimuth Conversions in Ghana. *World Journal of Geomatics and Geosciences*. https://doi.org/10.31586/wjgg.2022.288
13. **J Ayer**, CY Asante (2022). Grid, deodetic and astronomical azimuth conversions in Ghana. *World Journal of Geomatics and Geosciences*. https://www.academia.edu/download/94360958/grid_geodetic_and_astronomic_azimuth_conversions_in_Ghana.pdf
14. **J Ayer** (2022). Map conflation using piecewise linear rubber-sheeting transformation between layout and as-built plans in Kumasi Metropolis. *African Journal of Land Policy and Geospatial Sciences*. https://ageconsearch.umn.edu/record/334489/
15. SA Andam-Akorful, **J Ayer** (2021). Global gravity models and the Ghanaian Vertical Datum: challenges of a

proper definition. *Survey review*.

16. Sebastian Botsyo, Bernard Borketey Bortei, **John Ayer** (2020). CORS Usage for GPS Survey in the Greater Accra Region: Advantages, Limitation, and Suggested Remedies. *Journal of Geovisualization and Spatial Analysis*. https://doi.org/10.1007/s41651-020-00061-8
17. Kwaku Owusu Twum, Kwabena Asiama, **John Ayer**, Cosmas Yaw Asante (2020). Gender, Land and Food Access in Ghana's Suburban Cities: A Case of the Adenta Municipality. *Land*. https://doi.org/10.3390/land9110427
18. Caleb Iddissah Yakubu, **John Ayer**, Prosper Basommi Laari, Theophilus Yaw Amponsah, Craig Matthew Hancock (2019). A mutual assessment of the uncertainties of digital elevation models using the triple collocation technique. *International Journal of Remote Sensing*. https://doi.org/10.1080/01431161.2019.1579388
19. Kwaku Owusu Twum, **John Ayer** (2019). Connecting the complex dots: A review of urban change complexities in Ghana. *Cogent Social Sciences*. https://doi.org/10.1080/23311886.2019.1677119
20. C. I. Kelly, S. A. Andam-Akorful, C. M. Hancock, P. B. Laari, **J. Ayer** (2019). Global gravity models and the Ghanaian Vertical Datum: challenges of a proper definition. *Survey Review*. https://doi.org/10.1080/00396265.2019.1684006
21. Efiba Vidda Senkyire Kwarteng, Yarhands Dissou Arthur, **John Ayer** (2019). Project finance and investment in the oil and gas industry in developing countries: a case study of Ghana. *International Journal of Energy Technology and Policy*. https://doi.org/10.1504/ijetp.2019.102657
22. Lily L. Yevugah, Edward M. Osei Jnr., **John Ayer**, Joshua Osei Nti. (2017). Spatial Mapping of Carbon Stock in Riverine Mangroves Along Amanzule River in the Ellembelle District of Ghana. *Earth Science Research*. https://doi.org/10.5539/esr.v6n1p120
23. **J Ayer** (2016). A hybridized centroid technique for 3D Molodensky-Badekas coordinate transformation in the Ghana geodetic reference network using total least squares approach. *South African Journal of Geomatics*. https://www.ajol.info/index.php/sajg/article/download/147156/136664/0
24. Richard Fiifi Annan, Yao Yevenyo Ziggah, **John Ayer**, Christian Amans Odutola (2016). ACCURACY ASSESSMENT OF HEIGHTS OBTAINED FROM TOTAL STATION AND LEVEL INSTRUMENT USING TOTAL LEAST SQUARES AND ORDINARY LEAST SQUARES METHODS. *Geoplanning Journal of Geomatics and Planning*. https://doi.org/10.14710/geoplanning.3.2.87-92
25. Yao Yevenyo Ziggah, **John Ayer**, Prosper Basommi Laari, Eric Frimpong (2016). COORDINATE TRANSFORMATION USING FEATHERSTONE AND VANÍČEK PROPOSED APPROACH - A CASE STUDY OF GHANA GEODETIC REFERENCE NETWORK. *Geoplanning Journal of Geomatics and Planning*. https://doi.org/10.14710/geoplanning.4.1.19-26
26. **J Ayer**, A.B. Agyemang, F Yeboah, E.M. Osei Jnr, S Abebrese, I Suleman (2016). Comparative analysis of extracted heights from topographic maps and measured reduced levels in Kumasi, Ghana. *South African Journal of Geomatics*. https://doi.org/10.4314/sajg.v5i3.4
27. Richard Fiifi Annan, Yao Yevenyo Ziggah, **John Ayer**, Christian Amans Odutola (2016). Hybridized centroid technique for 3D Molodensky-Badekas coordinate transformation in the Ghana geodetic reference network using total least squares approach. *South African Journal of Geomatics*. https://doi.org/10.4314/sajg.v5i3.1
28. Richard Trumah, **John Ayer**, Dadson Awunyo-Vitor (2015). Climatic Variables and Disease Incidence in Ghana: A Study of Cerebrum Spinal Meningitis (CSM). *Annual Research & Review in Biology*. https://doi.org/10.9734/arrb/2015/15448
29. **John Ayer**, EMO Jnr (2015). Computing Flood Volume of Dikpe Catchment using HEC-HMS. *Glob J. Of Hum-Social Sci*. https://www.academia.edu/download/132656667/2-Computing-Flood-Volume-of-Dikpe.pdf
30. **J Ayer**, SKY Gawu (2014). A non-topographic photogrammetric approach to monitoring total suspended solids (TSS) in environmental control dams in the Ahafo Ano district of Ghana. *Am. J. Soc. Mgmt. Sci*. https://scihub.org/AJSMS/PDF/2014/2/AJSMS-5-2-44-53.pdf

31. **J Ayer** (2009). Equipping and recognising the cadastral surveyor's role in development information in Ghana'. *Geo Spatial World*. https://geospatialworld.net/article/equipping-and-recognising-the-cadastral-surveyors-role-in-development-information-in-ghana/

32. JA Quaye-Ballard, **J Ayer** (2009). Using GIS and statistical approach to model the effect of population increase on water and public toilet facilities at densely populated areas: A case study of Aboabo in the …. *Retrieved November*. https://scholar.google.com/scholar?cluster=17166203809023236110&hl=en&oi=scholarr

33. **J Ayer** (2008). Datum transformation by the iterative solution of the Abridging inverse Molodensky formulae. *The Ghana Surveyor*. https://www.researchgate.net/profile/John-Ayer/publication/267962746_Datum_Transformations_by_iterative_Solution_of_the_abridging_inverse_Molodensky_formulae/links/5ab67d81aca2722b97cdf63c/Datum-Transformations-by-iterative-Solution-of-the-abridging-inverse-Molodensky-formulae.pdf

34. **J Ayer**, C Fosu (2008). Map Coordinate Referencing and the use of GPS Datasets in Ghana. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v28i1.33084

35. **J Ayer** (2008). Transformation models and procedures for framework integration of the Ghana national geodetic network. *The Ghana Surveyor*. https://scholar.google.com/scholar?cluster=17542934150950512442&hl=en&oi=scholarr