Edward Ebow Kwaansa-Ansah

Department of Chemistry
Kwame Nkrumah University of Science and Technology

ORCID 0000-0002-5706-8706 · Google Scholar scholar.google.com/citations?user=_Oy5eZMAAAAJ&hl=en · Profile knust.peerford.com/staff/4e96a64c-f5cc-4da5-a8c3-3b1f16286e01

RESEARCH

Areas: Pollution · Health, Toxicology and Mutagenesis · Materials Chemistry · Environmental Chemistry · Geochemistry and Petrology · Building and Construction

RESEARCH SUMMARY

50	828	15	21	1.77	15%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 50 publications listed below, 1994–2026. 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. 6 of the 40 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Kwame Nkrumah University of Science and Technology
Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

Kwame Nkrumah University of Science and Technology
Kumasi, Ghana

PhD 2010–2015
Chemistry, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PUBLICATIONS

Journal articles 50

1. Gerheart Winfred Ashong, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah**, Prince Sarfo (2026). Assessment of fluoride concentrations, water quality status, source identification, and non-carcinogenic health risks in groundwater from Saboba, Northern Ghana. *Ecological Frontiers*. https://doi.org/10.1016/j.ecofro.2026.03.004
2. Gerheart Winfred Ashong, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah** (2026). Comprehensive pollution profile and groundwater quality assessment in Tarkwa Nsuaem, Ghana; potentially toxic elements, health risk assessment, statistical and multivariate analysis. *Environmental Challenges*. https://doi.org/10.1016/j.envc.2026.101595
3. Richard Tsiwah Cobbinah, Gerheart Winfred Ashong, Nathaniel Owusu Boadi, **Edward Ebow Kwaansa-Ansah**, Emmanuel Bonney, Martin Owusu Asante (2026). Occurrence, source identification, and implications of human and ecological risks of potentially toxic elements in sediments from Keta Lagoon, Ghana. *Discover Water*. https://doi.org/10.1007/s43832-026-00409-z
4. Gerheart Winfred Ashong, Mohammed Alhassan, **Edward Ebow Kwaansa–Ansah**, Bennett Ampadu Kwakye, Christian Edem Darko (2026). Preliminary assessment for the investigation of the phytochemical constituents and antimicrobial activity of Aloe ferox leaf extract as a foundation for medicinal applications. *Discover Chemistry*.. https://doi.org/10.1007/s44371-026-00504-z

5. Michael Ankapong, Gerheart Winfred Ashong, Albert Amatey Adjaottor, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah**, Mandela Toku (2025). Assessment and management of arsenic contamination in groundwater from Sanso, Ghana: Health risk implications, source identification, adsorption and immobilization for safe disposal. *Toxicology Reports*. https://doi.org/10.1016/j.toxrep.2025.102157

6. Mohammed Alhassan, Gerheart Winfred Ashong, Boansi Adu Ababio, **Edward Ebow Kwaansa–Ansah** (2025). Butachlor contamination in surface water and sediment: Assessing human health, ecological risks, and environmental implications of the Bontanga irrigation scheme in the Northern region of Ghana. *Environmental Nanotechnology Monitoring & Management*. https://doi.org/10.1016/j.enmm.2025.101073

7. Boansi Adu Ababio, Gerheart Winfred Ashong, Thomas Peprah Agyekum, Blessed Adjei Yeboah, Marian Asantewah Nkansah, Jonathan Nartey Hogarh, Michael Kweku Commeh, **Edward Ebow Kwaansa-Ansah**, Kwabena Dabie, Felix Adulley, Eldad Boansi, Lorenda Sarbeng, Birago Adu Ababio, Maame Serwaa Boapea, Nana Kwabena Oduro Darko, Meshach Kojo Appiah (2025). Comprehensive health risk assessment of urban ambient air pollution (PM2.5, NO2 and O3) in Ghana. *Ecotoxicology and Environmental Safety*. https://doi.org/10.1016/j.ecoenv.2024.117591

8. Gerheart Winfred Ashong, Christian Edem Darko, Eliot Pappoe, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah** (2025). Exploration of the phytochemical evaluation, chemical profile, and antimicrobial activities of cashew nut shell oil, a potential medicinal plant for various applications. *Pharmacological Research - Natural Products*. https://doi.org/10.1016/j.prenap.2025.100291

9. Obrand Amankona Kyere, Mohammed Alhassan, **Edward Ebow Kwaansa-Ansah**, Boansi Adu Ababio (2025). Occurrence and Hazard Ranking of Microplastics in Owabi Headworks in the Ashanti Region of Ghana. *Water Air & Soil Pollution*. https://doi.org/10.1007/s11270-025-08810-5

10. Seidu Atta Ishmael, Rita Opoku, Michael Konney Laryea, **Edward Ebo Kwaansa-Ansah**, Godfred Darko, Lawrence Sheringham Borquaye (2025). Occurrence and ecological risk assessment of commonly used pharmaceuticals in water and soil of Sefwi Wiawso, Ghana. *Discover Chemistry.*. https://doi.org/10.1007/s44371-025-00146-7

11. Gerheart Winfred Ashong, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah**, John Alexander Appiah-Kubi (2025). Occurrence, metallo-toxicological interactions, and health risks of selected potentially toxic elements in the River Offin, Ghana. *Scientific Reports*. https://doi.org/10.1038/s41598-025-26887-0

12. Francis Opoku, Eric Selorm Agorku, Samuel Osei-Bonsu Oppong, **Edward Ebow Kwaansa-Ansah**, Noah Kyame Asare-Donkor, Penny Poomani Govender (2025). Theoretical study on vertical B 2 CSe/Mg(OH) 2 van der Waals heterostructures with high solar-to-hydrogen efficiency. *New Journal of Chemistry*. https://doi.org/10.1039/d5nj00757g

13. Francis Opoku, Eric Selorm Agorku, Samuel Osei–Bonsu Oppong, **Edward Ebow Kwaansa–Ansah**, Noah Kyame Asare–Donkor, Penny Poomani Govender (2025). Visible–light–driven photocatalyst for solar–to–hydrogen efficiency via a Type–II SGaInS/GaGePS van der Waals heterostructure. *Applied Surface Science*. https://doi.org/10.1016/j.apsusc.2025.163433

14. Boansi Adu Ababio, **EE Kwaansa–Ansah** (2024). Comparative analysis of phytochemical constituents in different parts of Aspilia africana: A potential medicinal plant for therapeutic applications. *Phytomedicine Plus*. https://www.sciencedirect.com/science/article/pii/S2667031324001301

15. Andrews Obeng Affum, **Edward Ebow Kwaansa-Ansah**, Shiloh Dede Osae (2024). Estimating groundwater geogenic arsenic contamination and the affected population of river basins underlain mostly with crystalline rocks in Ghana. *Environmental Challenges*. https://doi.org/10.1016/j.envc.2024.100898

16. Gerheart Winfred Ashong, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah** (2024). Evaluation of trace metals and quality of selected brands of vegetable cooking oils available on the Ghanaian market. *Journal of Trace Elements and Minerals*. https://doi.org/10.1016/j.jtemin.2024.100119

17. Gerheart Winfred Ashong, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah**, Enock Gyabeng, Samuel Owusu Nti (2024). Human and ecotoxicological risk assessment of heavy metals in polymer post treatment sludge from Barekese Drinking Water Treatment Plant, Kumasi. *Toxicology Reports*. https://doi.org/10.1016/j.toxrep.2024.03.010

18. Eugenia Koranteng-Mantey, Charles Kessie, Eric Selorm Agorku, **Edward Ebow Kwaansa-Ansah**, Samuel

Osei-Bonsu Oppong, Francis Opoku (2024). Interfacial Electronic States of GeC/g-C3N4 van der Waal Heterostructure with Promising Photocatalytic Activity via Hydrogenation. *ChemPhysChem*. https://doi.org/10.1002/cphc.202300947

19. Gerheart Winfred Ashong, Boansi Adu Ababio, **Edward Ebow Kwaansa-Ansah**, Simon Konadu Koranteng, Gwalley Diyawul-Haqq Muktar (2024). Investigation of fluoride concentrations, water quality, and non-carcinogenic health risks of borehole water in bongo district, northern Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2024.e27554
20. Kofi Duodu, Gerheart Winfred Ashong, Anderson Ndego, **Edward Ebow Kwaansa-Ansah** (2024). Investigation on the improvement of shea butter yield and quality through enhanced pre-treatment methods: An analytical study on physicochemical properties. *Food Chemistry Advances*. https://doi.org/10.1016/j.focha.2024.100840
21. Francis Opoku, Albert Aniagyei, Osei Akoto, **Edward Ebow Kwaansa-Ansah**, Noah Kyame Asare-Donkor, Anthony Apeke Adimado (2023). Investigation of 2D Janus Al2OS/Ga2SSe van der Waals heterojunction as next-generation thermoelectric and photocatalytic devices. *Next Materials*. https://doi.org/10.1016/j.nxmate.2023.100042
22. Francis Opoku, Osei Akoto, **Edward Ebow Kwaansa-Ansah**, Noah Kyame Asare-Donkor, Anthony Apeke Adimado (2023). Rational design of 2D/2D CS/SiC van der Waals type-II heterojunctions: a visible-light-driven photocatalyst for hydrogen production. *Materials Advances*. https://doi.org/10.1039/d2ma01061e
23. Francis Opoku, Osei Akoto, **Edward Ebow Kwaansa-Ansah**, Noah Kyame Asare-Donkor, Anthony Apeke Adimado (2023). Role of BaTiO3 crystal surfaces on the electronic properties, charge separation and visible light–response of the most active (001) surface of LaAlO3: A hybrid density functional study. *Chemical Physics Impact*. https://doi.org/10.1016/j.chphi.2023.100236
24. Joseph Apau, Margaret Ohui Siameh, Jemima Adwoa Misszento, Opoku Gyamfi, Jonathan Osei-Owusu, **Edward Ebow Kwaansa-Ansah**, Akwasi Acheampong (2022). Determination of potentially toxic elements in selected vegetables sampled from some markets in the Kumasi metropolis. *Cogent Public Health*. https://doi.org/10.1080/27707571.2022.2145699
25. Francis Opoku, Albert Aniagyei, Osei Akoto, **Edward Ebow Kwaansa-Ansah**, Noah Kyame Asare-Donkor, Anthony Apeke Adimado (2022). Effect of van der Waals stacking in CdS monolayer on enhancing the hydrogen production efficiency of SiH monolayer. *Materials Advances*. https://doi.org/10.1039/d2ma00331g
26. Andrews Obeng Affum, Shiloh Dede Osae, **Edward Ebow Kwaansa-Ansah**, Michael K. Miyittah (2020). Quality assessment and potential health risk of heavy metals in leafy and non-leafy vegetables irrigated with groundwater and municipal-waste-dominated stream in the Western Region, Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2020.e05829
27. **Edward Ebow Kwaansa-Ansah**, Desmond Nkrumah, Samuel Owusu Nti, Francis Opoku (2019). Adsorption of heavy metals (Cu, Mn, Fe and Ni) from surface water using Oreochromis niloticus scales. *Pollution*. https://doi.org/10.22059/poll.2018.259347.454
28. **Edward Ebow Kwaansa-Ansah**, Edward Kwaku Armah, Francis Opoku (2019). Assessment of Total Mercury in Hair, Urine and Fingernails of Small–Scale Gold Miners in the Amansie West District, Ghana. *Journal of Health and Pollution*. https://doi.org/10.5696/2156-9614-9.21.190306
29. Andrews Obeng Affum, Samuel Osafo Acquaah, Shiloh Dede Osae, **Edward Ebow Kwaansa-Ansah** (2018). Distribution and risk assessment of banned and other current-use pesticides in surface and groundwaters consumed in an agricultural catchment dominated by cocoa crops in the Ankobra Basin, Ghana. *The Science of The Total Environment*. https://doi.org/10.1016/j.scitotenv.2018.03.129
30. **Edward Ebow Kwaansa-Ansah**, Samuel Owusu Nti, Francis Opoku (2018). Heavy metals concentration and human health risk assessment in seven commercial fish species from Asafo Market, Ghana. *Food Science and Biotechnology*. https://doi.org/10.1007/s10068-018-0485-z
31. **Edward Ebow Kwaansa-Ansah**, Leticia Peace Amenorfe, Edward Kwaku Armah, Francis Opoku (2017). Human health risk assessment of cyanide levels in water and tuber crops from Kenyasi, a mining community in the Brong Ahafo Region of Ghana. *International Journal of Food Contamination*. https://

doi.org/10.1186/s40550-017-0061-y

32. **EE Kwaansa-Ansah**, F Opoku (2017). Level of exposure of occupational respirable dust to underground gold mine workers in Ghana. *Glob Environ Health Saf*. https://scholar.google.com/scholar?cluster=10772449320890205 22&hl=en&oi=scholarr

33. Ngumbu, R. S., Voegborlo, R. B., **Kwaansa-Ansah, E. E.** (2017). Levels of Some Essential Heavy Metals in Commercially Important Fish Species Collected from Markets in Monrovia, Liberia. *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.21575256

34. **Edward Ebow Kwaansa-Ansah**, Anthony Apeke Adimado, Jerome Okon Nriagu, Niladri Basu (2016). Comparison of Three Analytical Methods for the Quantitation of Mercury in Environmental Samples from the Volta Lake, Ghana. *Bulletin of Environmental Contamination and Toxicology*. https://doi.org/10.1007/s00128-016-1920-6

35. Andrews Obeng Affum, Shiloh Osae Dede, Benjamin Jabes Botwe Nyarko, Samuel Osafo Acquaah, **Edward Ebow Kwaansa-Ansah**, Godfred Darko, Adomako Dickson, Enoch Acheampong Affum, Joseph Richmond Fianko (2016). Influence of small-scale gold mining and toxic element concentrations in Bonsa river, Ghana: a potential risk to water quality and public health. *Environmental Earth Sciences*. https://doi.org/10.1007/s12665-015-5000-8

36. Eric Selorm Agorku, **Edward Ebow Kwaansa-Ansah**, Ray Bright Voegborlo, Pamela Amegbletor, Francis Opoku (2016). Mercury and hydroquinone content of skin toning creams and cosmetic soaps, and the potential risks to the health of Ghanaian women. *SpringerPlus*. https://doi.org/10.1186/s40064-016-1967-1

37. Noah Kyame Asare-Donkor, **Edward Ebow Kwaansa-Ansah**, Francis Opoku, Anthony Apeke Adimado (2015). Concentrations, hydrochemistry and risk evaluation of selected heavy metals along the Jimi River and its tributaries at Obuasi a mining enclave in Ghana. *ENVIRONMENTAL SYSTEMS RESEARCH*. https://doi.org/10.1186/s40068-015-0037-y

38. **EE Kwaansa-Ansah**, F Opoku (2015). Mercury in different tissues of Grey Herons (Ardea cinerea) from the Volta Lake. *Ghana. Journal of Marine Science Research and Development*. https://www.researchgate.net/profile/Francis-Opoku-3/publication/288003911_Mercury_in_Different_Tissues_of_Grey_Herons_Ardea_cinerea_from_the_Volta_Lake_Ghana/links/567d973008ae1e63f1e608f6/Mercury-in-Different-Tissues-of-Grey-Herons-Ardea-cinerea-from-the-Volta-Lake-Ghana.pdf

39. **EE Kwaansa-Ansah**, NK Asare-Donkor, AA Adimado (2013). Evaluation of mercury and selenium concentrations in the edible tissue of freshwater fish from the Volta Lake in Ghana. *J Environ Occup Sci*. https://scholar.google.com/scholar?cluster=2434357905816997 89&hl=en&oi=scholarr

40. **EE Kwaansa-Ansah** (2013). Journal of Environmental and Occupational Science. *Journal of Environmental and Occupational Science*. https://www.academia.edu/download/87595299/62-1377107734.pdf

41. **EE Kwaansa-Ansah**, AA Adimado (2012). Determination of toxic and essential elements in tilapia species from the Volta lake with inductively coupled plasma–mass spectrometry. *International Journal of Environmental Protection*. https://scholar.google.com/scholar?cluster=17429759894272604264&hl=en&oi=scholarr

42. **EE Kwaansa-Ansah**, AA Adimado (2012). Distribution of mercury in water, sediment and fish from the Volta Lake and its major tributaries. *J. Environ. Occup. Sci*. https://scholar.google.com/scholar?cluster=2148899858816959107&hl=en&oi=scholarr

43. **E. E. Kwaansa-Ansah**, R. B. Voegborlo, A. A. Adimado, J. H. Ephraim, J. O. Nriagu (2012). Effect of pH, Sulphate Concentration and Total Organic Carbon on Mercury Accumulation in Sediments in the Volta Lake at Yeji, Ghana. *Bulletin of Environmental Contamination and Toxicology*. https://doi.org/10.1007/s00128-011-0502-x

44. **E. E. Kwaansa-Ansah**, S. E. Agorku, J. O. Nriagu (2011). Levels of Total Mercury in Different Fish Species and Sediments from the Upper Volta Basin at Yeji in Ghana. *Bulletin of Environmental Contamination and Toxicology*. https://doi.org/10.1007/s00128-011-0214-2

45. **E. E. Kwaansa-Ansah**, N. Basu, J. O. Nriagu (2010). Environmental and Occupational Exposures to

Mercury Among Indigenous People in Dunkwa-On-Offin, a Small Scale Gold Mining Area in The South-West of Ghana. *Bulletin of Environmental Contamination and Toxicology*. https://doi.org/10.1007/s00128-010-0141-7

46. R. B. Voegborlo, D. A. Baah, **E. E. Kwaansa-Ansah**, A. A. Adimado, J. H. Ephraim (2004). Mercury Concentrations in Fish Species from the Gulf of Guinea, Ghana. *Bulletin of Environmental Contamination and Toxicology*. https://doi.org/10.1007/s00128-004-0532-8

47. **EE Kwaansa-Ansah**, RB Voegborlo (2004). Mercury Levels in Fish Samples from Lake Bosomtwi in the Ashanti Region of Ghana. *Materials and Geoenvironment*. https://scholar.google.com/scholar?cluster=11794358993487821614&hl=en&oi=scholarr

48. RB Voegborlo, **E Kwaansa-Ansah**, AA Adimado (2004). Mercury concentrations in edible fish from the Atlantic Coast of Ghana. *MATERIALS AND GEOENVIRONMENT*. https://scholar.google.com/scholar?cluster=10415787273704135715&hl=en&oi=scholarr

49. RB Voegborlo, **EE Kwaansa-Ansah**, AA Adimado (2004). Total Mercury Levels in Fish from Akosombo and Kpong Hydroelectric Reservoirs in Ghana. *MATERIALS AND GEOENVIRONMENT*. https://scholar.google.com/scholar?cluster=5999460991655794846&hl=en&oi=scholarr

50. A.A. Golow, **E.E. Kwaansa-Ansah** (1994). Comparison of lead and zinc levels in the hair of pupils from four towns in the Kumasi municipal area of Ghana. *Bulletin of Environmental Contamination and Toxicology*. https://doi.org/10.1007/bf00197221