Prof. Sam Arkoful

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PROFILE

I am an Associate Professor in the University of Education, Winneba-Ghana. I have been in the teaching and research field for 14 years, working on Contaminated lands, Coordination Chemistry teaching and Water analysis; specifically groundwater analysis.

Currently, my concentration is on Environmental Education and using simplified teaching techniques to explain concepts in Coordination Chemistry.

RESEARCH

Interests	Environmental Education
Areas	Education · Pollution · Atmospheric Science · Chemical Health and Safety · Cognitive Neuroscience · Developmental and Educational Psychology

RESEARCH SUMMARY

22	112	6	4	0.26	0%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 22 publications listed below, 2007–2026. Field-weighted impact is the mean over the 7 works scored for it; 1.00 is the world average for works of the same field, type and year. 0 of the 7 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Dr 2009–present
Chemistry Education, University of Education Winneba Faculty of Science Education, Winneba, Ghana

EDUCATION AND QUALIFICATIONS

University of Education Winneba
Winneba, Ghana

PUBLICATIONS

Journal articles 20

1. Solomon Boachie, Francis Quansah, Emmanuel Kyame Oppong, **Sam Arkoful**, Rita Asano (2026). ASSESSING CLASSROOM PRACTICES OF CHEMISTRY LECTURERS IN COLLEGES OF EDUCATION: A QUALITATIVE MULTIPLE-CASE STUDY. *European Journal of Open Education and E-learning Studies*. https://doi.org/10.46827/ejoe.v11i1.6616
2. James Kwame Kusi, **Sam Arkoful**, Twumasi Ankrah Kwarteng, Jacob Dadzie (2026). Assessment of Groundwater Quality in Agona East District, Ghana. *Journal of Environmental & Earth Sciences*. https://doi.org/10.30564/jees.v8i4.13021
3. Francis Attiogbe, Godfred Safo-Adu, Francis Gorman Ofosu, **Arkoful Sam**, Owiredu Gyampo, Hyacinthe

Ahiamadjie (2026). Elemental characterisation, potential sources and health risk assessment of ambient PM10 in urban Ghana during the dry season. *Asian Journal of Atmospheric Environment*. https://doi.org/10.1007/s44273-026-00096-1

4. Yeboah Adjei, **Sam Arkoful**, Peter Akayuure, Solomon Boachie (2026). Exploring Pre-Service Teachers Perceived Challenges and Learning Needs in Studying General Chemistry. *OALib*. https://doi.org/10.4236/oalib.1115477
5. **Sam. Arkoful** (2026). Exploring Pre-Service teachers challenges and needs in studying General Chemistry. *Open Access Library Journal*.
6. Soloman Boachie, Francis Quansah, Emmanuel Oppong, **Arkoful Sam**, Yeboah Adjei (2026). Exploring Stakeholders' Views on Chemistry Curriculum Implementation in Teacher Education. *Teacher Education and Curriculum Studies*. https://doi.org/10.11648/j.tecs.20261101.13
7. **Arkoful Sam** (2026). Students' Lived Experiences of Temperature Inversions and Air Pollution: A Pathway for Green Chemistry Education Course Enrichment. *Journal for Research in Applied Sciences and Biotechnology*. https://doi.org/10.55544/jrasb.5.4.4
8. Kwarteng Twumasi, E Nartey, **A Sam**, R Hanson (2023). Chemistry students' knowledge and practices of chemical waste management in chemistry laboratories. *African Journal of Chemical Education*. https://www.ajol.info/index.php/ajce/article/view/251868
9. Francis Adjei, Ruby Hanson, **Arkoful Sam**, Samuel Sedegah (2022). The use of Collaborative Approaches on Students' Performances in Redox Reactions. *Science education international*. https://doi.org/10.33828/sei.v33.i2.4
10. **Sam Arkoful** (2019). The Influence Of Cooperative Learning Approach On Senior High School Students' Understanding Of Ionic Bonding In Integrated Science: The Case At Adeiso Presby Senior High School. *International Journal of Innovative Social & Science Education Research*. https://www.researchgate.net/profile/Arkoful-Sam/publication/338096780_The_Influence_Of_Cooperative_Learning_Approach_On_Senior_High_School_Students'_Understanding_Of_Ionic_Bonding_In_Integrated_Science_The_Case_At_Adeiso_Presby_Senior_High_School/links/5dfe0581a6fdcc28373239b2/The-Influence-Of-Cooperative-Learning-Approach-On-Senior-High-School-Students-Understanding-Of-Ionic-Bonding-In-Integrated-Science-The-Case-At-Adeiso-Presby-Senior-High-School.pdf
11. Kwarteng Twumasi, **Arkoful Sam** (2019). Unearthing pre-tertiary students' reasoning patterns about elements, mixtures and compounds. *tralian Journal of cation in Chemistry*. https://www.researchgate.net/profile/Arkoful-Sam/publication/337622913_Unearthing_pre-tertiary_students'_reasoning_patterns_about_elementsmixtures_and_compounds/links/5de0ef0ba6fdcc2837f43d44/Unearthing-pre-tertiary-students-reasoning-patterns-about-elementsmixtures-and-compounds.pdf#page=4
12. Kwarteng Twumasi, **A Sam**, R Hanson (2018). USING COOPERATIVE LEARNING TO ENHANCE PUPILS'UNDERSTANDING ABOUT THE SOLAR SYSTEM IN THE AGORTIME-ZIOPE DISTRICT OF GHANA. *European Journal of Basic and Applied Sciences Vol*. https://www.researchgate.net/profile/Arkoful-Sam/publication/323701411_USING_COOPERATIVE_LEARNING_TO_ENHANCE_PUPILS'_UNDERSTANDING_ABOUT_THE_SOLAR_SYSTEM_IN_THE_AGORTIME-ZIOPE_DISTRICT_OF_GHANA/links/5aa6a4e50f7e9b463804d4d3/USING-COOPERATIVE-LEARNING-TO-ENHANCE-PUPILS-UNDERSTANDING-ABOUT-THE-SOLAR-SYSTEM-IN-THE-AGORTIME-ZIOPE-DISTRICT-OF-GHANA.pdf
13. **A Sam** (2017). The Double-Pan Balance Approach: A Duplicate Key to Understand the Model of Educational Reconstruction in Tertiary Education. *European Journal of Research and Reflection in Educational Sciences Vol*. http://www.idpublications.org/wp-content/uploads/2016/12/Full-Paper-THE-DOUBLE-PAN-BALANCE-APPROACH-A-DUPLICATE-KEY-TO-UNDERSTAND-THE-MODEL-OF-EDUCATIONAL-RECONSTRUCTION-IN.pdf
14. **A Sam**, R Hanson (2016). Fusing Scientists' and Students' Conceptual Correspondences to Improve Teaching of Metal Complex Isomerism in Higher Education-An Educational Reconstructive Process. *International Journal of Academic and Reflection*. https://www.researchgate.net/profile/Ruby-Hanson-3/publication/291152964_FUSING_SCIENTISTS'_AND_STUDENTS'_CONCEPTUAL_CORRESPONDENCES_TO_IMPROVE_TEACHING_OF_METAL_COMPLEX_ISOMERISM_IN_HIGHER_EDUCATION-

AN_EDUCATIONAL_RECONSTRUCTIVE_PROCESS/links/569e5f9b08ae502916633c48/FUSING-SCIENTISTS-AND-STUDENTS-CONCEPTUAL-CORRESPONDENCES-TO-IMPROVE-TEACHING-OF-METAL-COMPLEX-ISOMERISM-IN-HIGHER-EDUCATION-AN-EDUCATIONAL-RECONSTRUCTIVE-PROCESS.pdf

15. **A Sam**, R Hanson, Ankrah Kwarteng Twumasi (2015). The model of educational reconstruction: scientists' and students' conceptual balances to improve teaching of coordination chemistry in higher education. *International Journal of Academic Research and Reflection*. http://www.idpublications.org/wp-content/uploads/2015/09/Full-Paper-The-Model-of-Educational-Reconstruction.pdf
16. Kwarteng Twumasi, **A Sam** (2012). Misconceptions of undergraduate chemistry teachers about hybridisation. *African Journal of Educational Studies in Mathematics and Sciences*. https://www.ajol.info/index.php/ajesms/article/download/91955/81414
17. **A Sam**, AE Duncan (2011). Assessment of the cation exchange capacities and elemental compositions of clay samples from the eastern region of Ghana. *International Journal of Applied Environmental Sciences*. https://go.gale.com/ps/i.do?id=GALE%7CA323258111&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=09736077&p=AONE&sw=w
18. Kwarteng Twumasi, R Hanson, **A Sam** (2011). The impact of interactive-engagement (IE) teaching on students understanding of concepts in mechanics: The use of force concept inventory (FCI) and mechanics baseline test (MBT). *International Journal of Educational Planning & Administration*. https://www.researchgate.net/profile/Ruby-Hanson-3/publication/308986182_The_impact_of_interactive-engagement_IE_teaching_on_students'_understanding_of_concepts_in_mechanics_The_use_of_force_concept_inventory_FCI_and_mechanics_baseline_test_MBT/links/5e6258904585153fb3c50a4b/The-impact-of-interactive-engagement-IE-teaching-on-students-understanding-of-concepts-in-mechanics-The-use-of-force-concept-inventory-FCI-and-mechanics-baseline-test-MBT.pdf
19. AE Duncan, David Kwesi Dodoo, **A Sam** (2010). Assessing the Potential of a Natural Wetland in Grey Water Treatment (A Case Study in Cape Coast-Central Region of Ghana). *International Journal of Applied Environmental Sciences*. https://www.researchgate.net/profile/Arkoful-Sam/publication/292903905_Assessing_the_potential_of_a_natural_wetland_in_grey_water_treatment_A_case_study_in_Cape_Coast_-_central_region_of_Ghana/links/584fdb3a08aeb989252e685d/Assessing-the-potential-of-a-natural-wetland-in-grey-water-treatment-A-case-study-in-Cape-Coast-central-region-of-Ghana.pdf
20. **A Sam**, DK Dodoo, DK Essumang, CK Adokoh (2010). Assessment of level of cadmium and mercury oftwo estuaries in two regions of Ghana. *Res J Appl Sci*. https://scholar.google.com/scholar?cluster=6217364753478744251&hl=en&oi=scholarr

Reports 1

1. **A Sam** (2021). Educational reconstruction of aspects of coordination Chemistry in higher education. *Emmpong Press*. https://www.researchgate.net/profile/Arkoful-Sam/publication/356162737_EDUCATIONAL_RECONSTRUCTION_OF_ASPECTS_OF_COORDINATION_CHEMISTRY_IN_HIGHER_EDUCATION/links/618e537e61f09877208887af/EDUCATIONAL-RECONSTRUCTION-OF-ASPECTS-OF-COORDINATION-CHEMISTRY-IN-HIGHER-EDUCATION.pdf

Theses 1

1. **A Sam** (2007). Mercury and cadmium budgets of the Pra Estuary in the Western Region of Ghana. *University Of Cape Coast*. https://ir.ucc.edu.gh/items/dc822981-5c6a-4175-96a6-b2a7358607ad