

Benjamin Darko Asamoah

Lecturer, Department of Chemical Sciences,
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Sex: Male. Date of Birth: 8th May, 1989. Nationality: Ghanaian.

EDUCATION

PhD Chemistry (awaiting graduation) **Kwame Nkrumah University of Science and Technology (KNUST), Ghana.**

Specialization: Environmental Chemistry January, 2021 – March, 2025

MSc. Research Chemistry **University of Eastern Finland, Finland**

Specialization: Synthetic Inorganic Chemistry August, 2013 – March, 2015.

BEd. Science **University of Education, Winneba, Ghana**

Major: Chemistry

Minor: Physics

August, 2008 - July, 2012

WORK EXPERIENCE

- **Lecturer (August 2019 till date)** in the Department of Chemical Sciences at the University of Energy and Natural Resources (UENR), Sunyani, Ghana.
Courses lectured include Environmental Chemistry, Coordination Chemistry, General Chemistry, Inorganic Reaction Mechanisms and Organotransition Metal Chemistry, Main Group and Transition Metal Chemistry, Safety in a Chemical Environment, Quantum Chemistry, Chemical Kinetics, Surface Chemistry and Catalysis, Thermodynamics, and Biophysical Chemistry.
- **Assistant Lecturer (August 2017 to July 2019)** at the University of Energy and Natural Resources (UENR), Sunyani, Ghana.

- **Teaching Assistant (September 2012 - August 2013)** at the Chemistry Education Department, University of Education, Winneba during my National Service. Responsibilities include instructing undergraduate students in general laboratory work in chemistry and organizing tutorials on organic and inorganic chemistry.
- **Integrated Science Teacher (September 2011 - May 2012)** during my internship at Insaaniyya Senior High School as part of my undergraduate studies at the University of Education, Winneba. Ghana.

RESEARCH INTEREST

- Human health risk assessment
- Environmental modelling
- Bioaccessibility of Heavy Metals
- Environmental Inorganic chemistry
- Organometallic Compounds: Synthesis and Characterization

PUBLICATIONS

i. Journals Articles in Print

1. **Benjamin Darko Asamoah**, Lily Lisa Yevugah, Lawrence Sheringham Borquaye, Matt Dodd, Godfred Darko (2024). Spatial distribution, bioaccessibility, and human health implications of potentially toxic elements in mining-impacted topsoils in Obuasi Municipality of Ghana. *Environ Geochem and Health*, 46 (8), 1-13, <https://doi.org/10.1007/s10653-024-02028-w>.
2. **Benjamin Darko Asamoah**, Paul Danyi, Bernice Araba Otoo, Daniel Adusu, Bright Ankudze (2024). Contamination Status of Residential and Farmland Surface Soils within the Sunyani Municipality of Ghana. *Curr World Environ*, 19 (1), <http://dx.doi.org/10.12944/CWE.19.1.8>.
3. **Benjamin Darko Asamoah**, Matt Dodd, Lily Lisa Yevugah, Lawrence Sheringham Borquaye, Alexander Boateng, Marian Asantewah Nkansah, Godfred Darko. (2023). Distribution and in-vitro bioaccessibility of potentially toxic metals in surface soils from a mining and a non-mining community in Ghana: implications for human health. *Environ Geochem and Health*, <https://doi.org/10.1007/s10653-023-01776-5>.

4. Bright Ankudze, Atta Doreen, Richard Adjei, **Benjamin Darko Asamoah**. (2022). Antioxidant and Antimicrobial Synergistic Properties of Silver Nanoparticles Synthesized with Leaf Extract of *Pennisetum purpureum*. *International Journal of Nanoscience*, 21 (5), <https://doi.org/10.1142/S0219581X22500387>.
5. **Benjamin D. Asamoah**, Thomas K. Fosu, Augustine Boakye, Patrick O. Sakyi, Philip Aidoo, Ismaila Emahi (2021). Investigating the Use of Various Parts of *Moringa oleifera* for Removal of Mercury and Arsenic from Contaminated Water. *JENR*, 7 (2), 1-7. 10.26796/jenrm.v7i2.180.
6. **Benjamin Darko Asamoah**, Austin Asare, Stephen Wonders Okpati, Philip Aidoo. (2021). Heavy Metal Levels and their Ecological Risks in Surface Soils at Sunyani Magazine in the Bono Region of Ghana. *Scientific African*, 13, <https://doi.org/10.1016/j.sciaf.2021.e00937>.
7. Emmanuel Ayim, Julius Agongo, Patrick Opare-Sakyi, **Benjamin D. Asamoah**, Alfred K. Bienibuor, Philip Aidoo, Ismaila Emahi. (2020). Removal of Hg^{2+} , Pb^{2+} , Zn^{2+} and Cu^{2+} From Contaminated Water Using *Caladium Bicolor* (Wild Cocoyam). **Preprint**: Research square, DOI: [10.21203/rs.3.rs-22625/v1](https://doi.org/10.21203/rs.3.rs-22625/v1).
8. **Benjamin Darko Asamoah**, Austin Asare, Prosper Anumah. (2019). Heavy Metal Concentration in Sediments and Soils of Tano River Basin at Abesim Water Works, Ghana. *Academia Journal of Environmental Science* 7(8): 110-117. DOI: [10.15413/ajes.2019.0118](https://doi.org/10.15413/ajes.2019.0118).
9. Austin Asare, **Benjamin D. Asamoah**, Peter O. Sanful (2019). Assessment of Heavy Metal Contaminants using Pollution Indices in Ankobra River at Prestea Huni-Valley District, Ghana. *Journal of Geoscience and Environment Protection*, 7, 25-35. doi: [10.4236/gep.2019.79003](https://doi.org/10.4236/gep.2019.79003).

10. Thuy Minh Dau, **Benjamin Darko Asamoah**, Andrey Belyaev, Gomathy Chakkaradhari, Pipsa Hirva, Janne Jänis, Elena V. Grachova, Sergey P. Tunik and Igor O. Koshevoy (2016). Adjustable Coordination of a Hybrid Phosphine-Phosphine Oxide Ligand in Luminescent Cu, Ag and Au Complexes. *Dalton Trans.*, 45, 14160–14173.
DOI: [10.1039/C6DT02435A](https://doi.org/10.1039/C6DT02435A).

ii. Journal Articles Under Review.

1. Ismaila Emahi, Bernice Y. Danu, **Benjamin Darko Asamoah**, Augustine Boakye. Preferential binding of coconut husk adsorbents to mercury over copper in aqueous solution.

iii. Articles Published in Books of Abstracts

1. **Benjamin Darko Asamoah**, Matt Dodd, Godfred Darko, Lawrence Sheringham Borquaye, Osei Akoto (2024). Distribution, Bioaccessibility, and Human Health Implications of Potentially Toxic Elements in Top Soils through Gold Mining in the Obuasi Municipality of Ghana. In Proceedings of the 2024 SETAC North America 45th Annual Meeting (p.145).
2. Solomon Boamah Adu, Bernice Yram Danu, **Benjamin Darko Asamoah**, and Ismaila Emahi. [Comparison of crude extracts of cellulose and lignin towards the removal of toxic metals from water]. In: The Maiden International Conference on Science, Technology, and Health Innovations for Sustainable Development; 23rd to 25th August, 2023; University of Energy and Natural Resources, Ghana. Page 128.
3. **Benjamin Darko Asamoah**, Matt Dodd, Lily Lisa Yevugah, Lawrence Sheringham Borquaye, Alexander Boateng, Marian Asantewah Nkansah, Godfred Darko. [Concentration, distribution and bioaccessibility of heavy metals in top soils across the Sunyani Municipality of Ghana]. In: The Maiden International Conference on Science, Technology, and Health Innovations for Sustainable Development; 23rd to 25th August, 2023; University of Energy and Natural Resources, Ghana. Page 127.
4. Evans Kusi, Bernice Yram Danu, **Benjamin Darko Asamoah**, and Ismaila Emahi. [Polar crude phytochemical extracts from Moringa Oleifera seeds as efficient biosorbent to

remove copper ions from water]. In: The Maiden International Conference on Science, Technology, and Health Innovations for Sustainable Development; 23rd to 25th August, 2023; University of Energy and Natural Resources, Ghana. Page 125.

5. **Benjamin D Asamoah**, Thomas K. Fosu, Ismaila Emahi, and Lawrence S. Borquaye. [Evaluation of the Antioxidant Activity of Extracts from Turkey Berry (*Solanum torvum*) and Oil Palm (*Elaeis guineensis*)]. In: 31st Biennial Conference of Ghana Science Association; 30th July to 2nd August 2019; University of Cape Coast, Ghana. Page 91.
6. Austin Asare, **Benjamin D. Asamoah**, Peter O. Sanful. [Assessment of Heavy Metal Contaminants using Pollution Indices in Ankobra River at Prestea Huni-Valley District, Ghana]. In: 31st Biennial Conference of Ghana Science Association; 30th July to 2nd August 2019; University of Cape Coast, Ghana. Page 75.

INSTRUMENTAL EXPERIENCE

- X-Ray Fluorescence (XRF)
- Inductively Coupled Plasma – Mass Spectrometry (ICP – MS)
- Atomic Absorption Spectrometer (AAS)
- Nuclear Magnetic Resonance Spectroscopy (NMR)
- IR Spectroscopy
- UV-Vis. Spectrophotometry
- X-Ray diffractometer

EXTENSION SERVICES AT THE UNIVERSITY OF ENERGY AND NATURAL RESOURCES (UENR), SUNYANI-GHANA.

Currently:

- University Chaplain, UENR.
- Patron, Ghana Fellowship of Evangelical Students (GHAFES) – UENR chapter.
- Welfare Committee Chair, School of Sciences, UENR.
- Secretary, Departmental Research and Innovation Committee.
- Welfare Chairman, Department of Chemical Sciences.

Previously:

- Examination Officer, School of Sciences, UENR.
- Member, University Examination Audit Committee, UENR.
- Secretary, Ghana Science Association (GSA), Sunyani – Chapter.

- Patron, Ghana Students Chemical Society (GSCS), UENR – Chapter.
- Staff Seminar Coordinator, Department of Chemical Sciences.
- Coordinator for Industrial Attachment, Department of Chemical Sciences
- Coordinator for Undergraduate Research, Department of Chemical Sciences
- Secretary, Laboratory Management Committee, School of Sciences
- Sports Committee Member, School of Sciences.
- Chief Invigilator: 2018/2019 End of Second Semester Examination.

OTHER EXTENSION SERVICES

- Campus Pastor, Assemblies of God Campus Ministry (AGCM) – Catholic University College of Ghana, Fiapre (CUCG) - chapter (January 2018 to July 2022).
- Reviewer, Scientific Research Publishing (July 2019 till date).
- Reviewer, Journal of Energy and Natural Resources (October 2022 till date)
- Reviewer, Journal of Agricultural Biotechnology and Sustainable Development

AWARDS AND ACCOMPLISHMENTS

- Fully-funded scholarship as a student for the ‘International Master’s Degree Program for Research Chemists at the University of Eastern Finland.
- Received a two-month research trainee Fellowship at the Department of Chemistry, University of Eastern Finland (based on academic performance).

SEMINARS AND WORKSHOPS

- I. Presenter at the North America 45th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC) conference in Washington DC, October 20-24, 2024.
- II. Oral Presenter at the 33rd Biennial Conference of Ghana Science Association, University of Ghana, 5th to 7th September, 2023.
- III. Oral Presenter at International Conference on Science, Technology, and Health Innovation for Sustainable Development” (STHISD), Tyco City Hotel, Sunyani, 25th to 27th August, 2023.
- IV. Participant, UENR Management Retreat (21st – 23rd February 2023).
- V. Participant: 2-Day Transformational Dialogue on small-scale mining activities in Ghana at UENR, Sunyani. (25th and 26th May 2022).
- VI. Innovative Teaching & Assessment Practices in Higher Education Training at UENR, Sunyani. (10th to 12th January 2022).
- VII. Poster Presenter at the 31st Biennial Conference of Ghana Science Association on the theme: Promoting Science, Technology and Innovation for Sustainable Growth and Development. 30th July to 2nd August 2019 at the University of Cape Coast, Ghana.
- VIII. Materials for Renewable and Sustainable Energy: From Research to Development. An International Conference Organized by the Royal Society of Chemistry at

Kwame Nkrumah University of Science and Technology, Kumasi. (Monday, 3rd to Wednesday, 5th June, 2019).

- IX. Enhancing your Scientific Writing Skills for Academic Excellence: A Workshop by the Ghana Science Association – Sunyani Chapter. (28th March, 2019).
- X. Good Assessment Practices in Higher Education: Improving Teaching and Learning. A Workshop by the Quality Assurance and Planning Unit of the University of Energy and Natural Resources, Sunyani. (16th – 17th January, 2019).
- XI. 16th Biennial Workshop of the Ghana Science Association (GSA) at KNUST, Kumasi, on the theme: Combating Pests through Smart Agriculture on the (16th August 2018).
- XII. Participant in Instructional Skills Workshop (30th January – 2nd February 2018) organized for some lecturers of UENR.

MEMBERSHIP

- **Member:** University Teachers Association of Ghana (UTAG), UENR – Chapter.
- **Member:** Ghana Science Association (GSA), UENR – Chapter.

INTERESTS AND HOBBIES

- Reading of scientific journals
- Singing, drumming and dancing
- Playing football
- Driving

REFEREES

- Prof. Godfred Darko
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