

Charles Kwame Bandoh

	Office Address:	Department of Chemical Sciences, University of Energy and Natural Resources (UENR), P. O. Box 214, Sunyani, Ghana
	Nationality:	Ghanaian
	Date of Birth:	10 th March 1979
	Place of Birth:	Abura Obohen, Central Region, Ghana
	Marital Status:	Married
	Gender	Male
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WORK EXPERIENCE

Dates	November 2024 to Date
Occupation or position held	Assistant Examiner
Main activities and responsibilities	Marking of Physics 2 examination papers
Name and address of employer	West African Examination Council (WAEC), Accra
Type of business or sector	Professional Institution
Dates	August 2024 to Date
Occupation or position held	Team Leader
Main activities and responsibilities	Marking of integrated science examination papers & vetting Assistant Examiners' marked scripts
Name and address of employer	National Board for Professional and Technician Examination (NABPTEx), Accra
Type of business or sector	Professional Institution
Dates	November 2023 to Date
Occupation or position held	Lecturer
Main activities and responsibilities	Teaching, Researching, Supervising undergraduate project work, Academic Counselling, etc.
Name and address of employer	Department of Chemical Sciences, University of Energy and Natural Resources, P. O. Box 214, Sunyani, Ghana
Type of business or sector	Educational Institution

Dates	February 2021 to November 2023
Occupation or position held	Assistant Lecturer
Main activities and responsibilities	Teaching, Researching, Supervising undergraduate project work, Academic Counselling, etc.
Name and address of employer	Department of Chemical Sciences, University of Energy and Natural Resources, P. O. Box 214, Sunyani, Ghana
Type of business or sector	Educational Institution
Dates	March 2023 to date
Occupation or position held	Examiner
Main activities and responsibilities	Develop text items for the Ghana Teacher Licensure Examination.
Name and address of employer	National Teaching Council, P. O. Box MB 247, Accra, Ghana
Type of business or sector	Educational Institution
Dates	October 2017 to January 2021
Occupation or position held	Tutor
Main activities and responsibilities	Teaches Integrated Science, Methods of Teaching Science, General Biology, General Physics, General Chemistry; Project work supervision, Teaching practice supervision, Course Advisor.
Name and address of employer	St. Monica's College of Education, P. O. Box 250, Mampong Ashanti, Ghana
Type of business or sector	Educational Institution
Dates	April 2020 to January 2021
Occupation or position held	Team Leader
Main activities and responsibilities	Vetting of marked scripts.
Name and address of employer	University of Cape Coast, University Post Office, Cape Coast, Ghana
Type of business or sector	Educational Institution
Dates	October 2017 to January 2021
Occupation or position held	Assistant Examiner
Main activities and responsibilities	Marking of examination papers
Name and address of employer	University of Cape Coast, University Post Office, Cape Coast, Ghana
Type of business or sector	Educational Institution
Dates	June 2016 to Date
Occupation or position held	Assistant Examiner
Main activities and responsibilities	Marking of integrated science examination papers
Name and address of employer	National Board for Professional and Technician Examination (NABPTEx), Accra
Type of business or sector	Professional Institution

Dates	October 2014 to Date
Occupation or position held	Senior Tutor
Main activities and responsibilities	Assistant Examiner, Teaches General Physics, Elementary School Science, and Methods of Teaching Basic School Science
Name and address of employer	College of Distance Education (CoDE), University of Cape Coast, University Post Office, Cape Coast, Ghana
Type of business or sector	Educational Institution
Dates	September 2012 to September 2017
Main activities and responsibilities	Teacher
Occupation or position held	Teaches Integrated Science, Examination Committee Member
Name and address of employer	Kumasi Technical Institute (KTI), P. O. Box 1471, Kumasi - GES
Type of business or sector	Educational Institution
Dates	October 2011 to August 2012
Main activities and responsibilities	Teaching Assistant (National Service)
Occupation or position held	Organise tutorial classes, supervise and mark laboratory work for the undergraduates, and assist the lecturers in academic work
Name and address of employer	Department of Physics, Kwame Nkrumah University of Science and Technology, University Post Office, Kumasi, Ghana
Type of business or sector	Educational Institution
Dates	2004 to 2007
Occupation or position held	Furniture Designer and Builder
Main activities and responsibilities	Designing and Construction of all Kinds of Furniture
Name and address of employer	Exotic Wood Works, Ahinsan Estate-Kumasi
Type of business or sector	Manufacturing Company
Dates	2002 to 2004
Occupation or position held	Furniture Designer and Builder
Main activities and responsibilities	Designing and construction of all kinds of furniture
Name and address of employer	Pideck Interior Design and Furnishing, Oduom – Kumasi
Type of business or sector	Manufacturing Company

Committees Served

Date	1 st August 2023 to Date
Committee	School Undergraduate Committee
Position held	Departmental Coordinator and Member of the School of Science
Duties/Responsibilities	• Organize research seminars and training for final-year students • Assist students in solving project work-related issues with their supervisors • Organize and set a date for the final project work defense for final-year students • Assist students in collecting data for their projects.
Workplace	School of Sciences, University of Energy and Natural Resources, P. O. Box 214, Sunyani, Ghana
Date	October 2022 to Date
Committee	School of Energy Board
Position held	Cognate Member
Duties/Responsibilities	• Present a Report to the School of Science Board
Workplace	School of Energy, University of Energy and Natural Resources, P. O. Box 214, Sunyani, Ghana
Date	August 2021 to 31 st July 2023
Committee	Sports
Position held	Departmental Coordinator and Member of the School of Science
Duties/Responsibilities	• Oversee all aspects of a sports program in the department
Workplace	Department of Chemical Sciences, University of Energy and Natural Resources, P. O. Box 214, Sunyani, Ghana
Date	October 2019 to January 2021
Committee	Academic Affairs Committee
Position held	Assistant Academic Affairs Officer
Duties/Responsibilities	• Assist the Academic Affairs Officer in planning and implementing • Assist the Academic Board Committee in preparing timetables for various courses • Assist the Academic Affairs Officer in planning and conducting all examinations in the school. • Assist in ensuring timely cueing and submission of students' data to appropriate quarters, etc.
Workplace	St. Monica's College of Education, P. O. Box 250, Mampong Ashanti, Ghana

Date	October 2019 to January 2021
Committee	Quality Assurance Unit
Position held	Member
Duties/Responsibilities	• Encourage the establishment of management systems for effective teaching, learning, research and outreach, • Assist the Academic Planning and Quality Assurance office in harmonizing Action Plans of the various Departments of the College. • Provide the Academic Board/management with timely feedback on activities of the unit, etc.
Workplace	St. Monica's College of Education, P. O. Box 250, Mampong Ashanti, Ghana
Date	October 2019 to January 2021
Committee	Electoral Commission
Position held	Member
Duties/Responsibilities	• Plan and coordinate all activities relating to elections in the college. • Sensitize Staff and Students on elections in the college, etc.
Workplace	St. Monica's College of Education, P. O. Box 250, Mampong Ashanti, Ghana

EDUCATION AND TRAINING

Dates	December 2020 to November 2024
Title of qualification awarded	Doctor of Philosophy (Solid State Physics)
Principal subjects /occupational skills covered	Comprehensive Examination, Presentations, Seminars, and Conferences
Name and type of organisation providing education and training	Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana
Dissertation	Metal Oxides-Based Nanocomposites for the Photocatalytic Degradation of Eosin Yellow Dye in Water Supervisors: Prof. Francis. K. Ampong & Prof Eric S. Agorku
Dates	July 2020 to November 2021
Title of qualification awarded	Diploma in Education
Principal subjects/occupational skills covered	General Principles and Methods of Instruction, Educational Assessment and Evaluation, Instructional Methods in Specific Subjects, Guidance and Counselling, Fundamentals of Psychology of Education, etc.
Name and type of organisation providing education and training	Faculty of Education and General Studies, AAMUSTED, Mampong-Ashanti Campus

Dates	September 2012 to June 2015
Title of qualification awarded	Master of Philosophy (Solid State Physics)
Principal subjects/occupational skills covered	Classical and Quantum Physics, Low Temperature Physics, Theory of Fields, Experimental Methods in Condensed Matter Physics, Statistical Physics, Electrical and Optical Properties of Solids, etc.
Name and type of organisation providing education and training	Kwame Nkrumah University of Science and Technology, PMB, Kumasi, Ghana
Dissertation	Optical and Structural Properties of Cadmium Selenide and Lead Selenide Thin Films Deposited by Chemical Bath Deposition (CBD) Technique
	Supervisor: Prof. F. K. Ampong
Dates	August 2007 to June 2011
Title of qualification awarded	Bachelor of Science in Physics
Principal subjects/occupational skills covered	Basic Research in Physics, Quantum and Classical Mechanics, Statistical Mechanics, Electricity and Magnetism, Atomic Physics, Digital Electronics, Microprocessors, Optoelectronics, Electronic Materials and Devices, Solid State Physics, Spectroscopy, Electromagnetic Theory, Experimental Physics, etc.
Name and type of organisation providing education and training	Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
Dissertation	Investigation of Optical Properties of Zinc Sulphide Thin Films Deposited by Chemical Acidic Bath Technique
	Supervisor: Prof. F. K. Ampong
Dates	December 2004, December 2006
Title of qualification awarded	Senior Secondary School Certificate Examination (SSCE), Private
Principal subjects/occupational skills covered	Physics, Chemistry, Mathematics (Elective), English Language, Integrated Science, and Mathematics (core)
Name and type of organization providing education and training	West Africa Examination Council (WAEC), Kumasi branch, P. O. Box 3513, Kumasi, Tel: +233-3220-26064 / 34452 / 34454 / 34448
Dates	2000 to 2002
Title of qualification awarded	Furniture Design and Construction- Advanced Craft
Principal subjects/occupational skills covered	Furniture Design and Construction (theory and practical), Technical Drawing, English Language
Name and type of organization providing education and training	Kumasi Polytechnic, P. O. Box 854, Kumasi, Ghana, Tel: +233-3220-23387, +233-3220-23388. Email: info@kpoly.edu.gh, registry@kpoly.edu.gh

Dates	February 1997 to November/December 1999
Title of qualification awarded	Carpentry and Joinery Craft
Principal subjects/occupational skills covered	Carpentry and Joinery (theory and practical), General construction, English language, and Mathematics
Name and type of organization providing education and training	Asuansi Technical Institute, P. O. Box 162, Asuansi – Cape Coast, Ghana

CONFERENCES, WORKSHOPS, AND SEMINARS ATTENDED

Date	5 th to 9 th May 2024
Conference	American Chemical Society (ACS) Africa Regional Conference on Green and Sustainable Chemistry
Role played	Oral Presentation on the Title: Synthesis and characterization of cobalt-doped ZrO ₂ -g-C ₃ N ₄ heterostructure for photocatalytic degradation of eosin yellow dye in synthetic wastewater
Organizer(s)	Jointly organised by ACS Chapters in Egypt, Ghana, and Nigeria
Venue	Sheraton Hotel, Ikeja, & University of Lagos, Lagos, Nigeria
Date	25 th to 29 th September 2023
Conference	The 3rd African Conference on Fundamental and Applied Physics (ACP2023)
Role played	Poster Presentation on the Topic: The Influence of Gadolinium on the Photocatalytic Performance of ZrO ₂ -g-C ₃ N ₄ Systems Towards the Degradation of an Organic Dye in Water
Organizer(s)	African School of Physics, the South African Institute of Physics & Nelson Mandela University, George, South Africa
Venue	Protea Hotel King George, South Africa
Date	5 th to 8 th September 2023
Conference	Ghana Science Association (GSA) 33 rd Biennial Conference
Role played	Oral Presentation on the Title: Synthesis and Characterization of Zirconium Oxide-Based Nanocomposites for Photocatalytic Degradation of Eosin Yellow Dye in Water.
Organizer(s)	Ghana Science Association (GSA)
Venue	Department of Biochemistry, Cell and Molecular Biology, University of Ghana, Legon
Date	23 rd to 25 th August 2023
Conference	Maiden Edition of the International Conference on Science, Technology, and Health Innovation for Sustainable Development
Role played	Oral Presentation on the Title: The Effect of Gadolinium on the Photocatalytic Performance of ZrO ₂ -g-C ₃ N ₄ Systems Towards the Degradation of an Organic Dye in Water
Organizer(s)	School of Sciences, University of Energy and Natural Resources, Sunyani
Venue	Tyco City Hotel, Sunyani, Ghana

Date	29 th to 31 st May 2023
Conference	KNUST Scientific Research Conference (TEKCONFAB)
Role played	Poster Presentation on a Title: Cobalt/Graphitic Carbon Nitride Co-doped Zinc Oxide Nanocomposite as an Advanced Photocatalyst for the Degradation of an Organic Dye in Water
Organizer(s)	Kwame Nkrumah University of Science and Technology (KNUST)
Venue	School of Business, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana
Date	10 th to 12 th January 2022
Workshop	Innovative Teaching & Assessment Practices in Higher Education Training
Role played	Participant
Organizer(s)	Centre For Professional Development, UENR
Venue	University of Energy and Natural Resources, Sunyani (UENR)
Date	January 2020 to January 2021
Workshop	Professional Development Course (Modules: Developing positive attitude to learning, Modelling, Managing behaviour for learning, Success criteria and assessment, Providing formative feedback and checking for understanding, etc.
Role played	Participant
Organizer(s)	Train for Tomorrow Project of Plan International Ghana in Collaboration with National Teaching Council.
Venue	St. Monica's College of Education, Mampong-Ashanti, Ghana
Date	13 th April to 1 st May 2020
Workshop	Certificate in Online Design, Teaching and Learning.
Role played	Participant
Organizer(s)	Digital Society School, Amsterdam University for Applied Sciences
Venue	Virtual (through Zoom)
Date	8 th to 10 th September 2019
Workshop	Subject-Based Workshop for Course Tutors
Role played	Participant
Organizer(s)	School of Educational Development and Outreach, Institute of Education. University of Cape Coast
Venue	Wesley College of Education. Kumasi, Ghana.
Date	February 2019
Workshop	Colleges of Education subject-based workshop for first-year, second semester
Role played	Participant
Organizer(s)	School of Educational Development and Outreach, Institute of Education. University of Cape Coast
Venue	Wesley College of Education. Kumasi, Ghana.

Date	21 st to 22 nd February 2019
Workshop	Orientation on Gender Pedagogical Skills in Teaching and Learning for First and Second Year Teacher Trainees.
Role played	Facilitator
Organizer(s)	Centre for Gender and Disability Research and Advocacy (CeGDRA)
Venue	St. Monica's College of Education, Mampong-Ashanti, Ghana
Date	18 th February 2019
Workshop	Orientation on Gender Pedagogical Skills in Teaching and Learning for Tutors
Role played	Participant
Organizer(s)	Centre for Gender and Disability Research and Advocacy (CeGDRA)
Venue	St. Monica's College of Education, Mampong-Ashanti, Ghana
Date	October 2017 to June 2018
Workshop	T-TEL Professional Development Programme on Assessing Trainee Teachers
Role played	Participant
Organizer(s)	The National Council for Tertiary Education (NCTE) in partnership with the National Teaching Council (NTC)
Venue	St. Monica's College of Education, Mampong-Ashanti, Ghana
Date	09 to 12 June 2014
Conference	Crystallographic Training held in celebration of the 2014, the International Year of Crystallography
Role played	Participant
Organizer(s)	A UNESCO/International Union of Crystallography initiative in collaboration with PANalytical BV, F. Malawi Engineering Co. Ltd., and the Department of Physics at the University of Ghana in Accra
Venue	University of Ghana, Legon
Date	10 to 15 July 2011
Conference	27th Biennial Conference of the Ghana Science Association.
Role played	Oral Presentation on the Title: "Investigation of Optical Properties of Zinc Sulphide Thin Films Deposited by Chemical Acidic Bath"
Organizer(s)	Ghana Science Association.
Venue	Kwame Nkrumah University of Science and Technology (KNUST), Kumasi.

Date	May 2011
Conference	Workshop on “Developing Internationally Competitive Research on Solar Cell Materials at Kwame Nkrumah University of Science and Technology (KNUST)”.
Role played	Oral Presentation on the Title: “Investigation of Optical Properties of Zinc Sulphide Thin Films Deposited by Chemical Acidic Bath”.
Organizer(s)	Ghana Chemical Society, KNUST Branch.
Venue	Department of Chemistry, KNUST.

PERSONAL SKILLS AND COMPETENCES

Languages spoken	English, Fanti, Asante Twi
Social skills and competencies	Great communication skills and a team player. Ability to adapt to a multicultural environment, acquired through the KNUST campus and secondary school.
Technical skills and competencies	Excellent working knowledge of furniture design and construction
Computer skills and competencies	Good command of Microsoft™ tools (Word™, Excel™, and PowerPoint™) Good command of e-learning tools such as Google Classroom, Edmodo, Microsoft Teams, Zoom, Moodle, etc.
Hobby	Listening to gospel music, sharing God’s word with people, helping people to achieve their goals, Teaching.

PROFESSIONAL ASSOCIATION MEMBERSHIP

Association	Ghana Science Association (GSA), University Teachers Association of Ghana (UTAG)
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SUPERVISION OF STUDENTS' PROJECT WORKS: Supervised Over 15 Undergraduate Projects

RESEARCH INTEREST: Solid State Physics

RESEARCH AREAS:

Present Research	<i>Development of nanomaterials for the treatment of water and wastewater.</i> My current research involves the syntheses of semiconductor nanoparticles by wet chemical solution methods such as co-precipitation and solvothermal, and their use in applications such as wastewater treatment.
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My other area of research	Synthesis and characterisation of some inorganic nano-materials and studies of their opto-electronic properties for applications as solar cell materials. The syntheses technique employs soft chemical routes (Chemical bath deposition and Electrochemical deposition) with lowered environmental impact to deposit functional thin film compound semiconductor materials (binary and ternary), which have useful applications in photovoltaics, such as cadmium sulphide, lead selenide
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PUBLICATIONS ARISING OUT OF THE RESEARCH

Refereed Journal papers with exact references	Bandoh, C. K., Haruna, M., Adu, D., Bernice, P., Danu, Y., Pinto, O., Toku, M., Badu, M., Agorku, E. S., Ampong, F. K. & Nkum, K. R. (2025). Gd-doped ZnO-g-C₃N₄ nanocomposite : A novel photocatalyst for the photodegradation of eosin yellow dye in water. <i>Discover Applied Sciences</i>, 7(272). https://doi.org/10.1007/s42452-025-06759-y Bandoh, C. K., Adu-Poku, D., Haruna, M., Pinto, O., Danu, B. Y., Tutuwaa, A., Agorku, E. S., & Ampong, F. K. & Nkum, R. K. (2025). The influence of cobalt and graphitic carbon nitride on the efficiency of zirconium oxide for photodegradation of an organic dye in wastewater. <i>Journal of Chemical Research</i>, 49(1). https://doi.org/10.1177/17475198251316376. Bandoh, C. K., Haruna, M., Adu-Poku, D., Danu, B. Y., Toku, M., Ampong, F. K., Nkum, R. K. & Agorku, E. S. (2025). Gadolinium doped-zirconium oxide-graphitic carbon nitride heterostructures for photocatalytic degradation of eosin yellow dye in water. <i>Next Materials</i>, 6, 100424. https://doi.org/10.1016/j.nxmte.2024.100424 - Adu-Poku, D., Saah, S. A., Sakyi, P. O., Bandoh, C. K., Agyei-Tuffour, B., Azanu, D., Oteng-Pepurah, M., Hawawu, I., Azibere, S., & Affram, K. A. (2024). Acid-activated biochar for efficient elimination of amoxicillin from wastewater. <i>Journal of Chemistry</i>, 2024, 3648098. https://doi.org/10.1155/2024/3648098 - Haruna, M., Bandoh, C. K., Agorku, E. S., Opoku, F., Asare-Donkor, N. K., & Adimado, A. A. (2024). Experimental and ab initio studies of enhance photocatalytic efficiency of La-doped ZnO/g-C₃N₄ nanocomposites for bromothymol blue dye degradation. <i>Next Materials</i>, 4, 100212. https://doi.org/10.1016/j.nxmte.2024.100212 - Haruna, M., Bandoh, C. K., Agorku, E. S., Opoku, F., Asare-Donkor, N. K., & Adimado, A. A. (2024). Synthesis of La-doped ZrO₂/g-C₃N₄ nanocomposite for eosin yellow photodegradation: A combined experimental and theoretical studies. <i>Catalysis Communications</i>, 187, 106852. https://doi.org/10.1016/j.catcom.2024.106852
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7. Haruna, M., Eshun, F., **Bandoh, C. K.**, Agorku, E. S., Francis, O., Asare–Donkor, N. K., & Adimado, A. A. (2024). Binary Ce-doped-ZnO/rGO composite as excellent photocatalyst for bromothymol blue dye degradation. *Sustainable Chemistry for the Environment*, 5, 100069. <https://doi.org/10.1016/j.scenv.2024.100069>
8. **Bandoh, C. K.**, Danu, B. Y., Agorku, E. S., Ampong, F. K., & Nkum, R. K. (2024). The effect of cobalt-doped ZnO-g-C₃N₄ heterostructures on photocatalytic degradation of eosin yellow dye in water under simulated solar light. *Results in Materials*, 21, 100515. <https://doi.org/10.1016/j.rinma.2023.100515>
9. **Bandoh, C. K.**, Agorku, E. S., & Ampong, F. K. (2022). Graphitic carbon nitride based composites as advanced photocatalysts, from synthesis to application : A review. *Research & Reviews: Journal of Material Sciences*. 10(4), 1–17.
10. **Bandoh, C. K.**, Nkrumah, I., Ampong, F. K., Nkum, R. K. & Boakye, F. (2021). Effect of annealing on the structure and optical properties of lead selenide and cadmium selenide thin film prepared by chemical bath deposition. *Chalcogenide Letters*. 18(2), 81-89. https://chalcogen.ro/81_BandohCK.pdf

Books

1. Amoako, S. K., Siaw, W. N., **Bandoh, C. K.**, Duut, K. B. & Yeboah, A. (2020). *Fundamentals of Chemistry for College Students*. Kumasi: Eddygraphics. ISBN: 978-9983-3-0429-4
2. Duut, K. B., Siaw, W. N., Amoako, S. K., **Bandoh, C. K.**, Asumang, P., Kyenkyehene, S. A., Nkrumah, A. A. (2020). *Fundamentals of Biology for College Students*. Kumasi: Eddygraphics. ISBN: 978-9988-3-0105-7

References

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