AGORKU, ERIC SELORM (PhD)

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https://scholar.google.co.za/citations?hl=en&user=iUg1bBsAAAAJ&view_op=list_works&sortby=pubdate

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Personal Information

Surname: Agorku

First Names: Eric Selorm

Gender: Male

Citizen: Ghanaian

Date of Birth: 23/11/78

EDUCATION

2012-2015	**PhD Chemistry,** University of Johannesburg, South Africa
Thesis:	Metals and nonmetals doped semiconductor photocatalysts for water treatment.
Supervisors:	Prof. A.K. Mishra, Prof. B.B. Mamba, Prof. A.C. Pandey
2004 – 2007	**MSc. Inorganic Chemistry**, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.
Thesis:	Total mercury levels in freshwater fish from some inland waters in Ghana.
Supervisor:	Prof. A.A. Adimado

1999 – 2003 **B.Sc. (Hons) Chemistry**, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.

SCOPE OF WORK

- Design of nanoparticles with unique structural and physical properties, and the assessment of their structure-property relationships.
- Development and evaluation of photocatalytic, ion exchange, adsorption/filtration properties of metal oxide semiconductors and agro-industrial wastes-based nanomaterials for their practical application in water/wastewater treatment.
- Nanomaterials synthesis and application in catalysis and gas sensors
- Pesticide research
- Graft biopolymer-based composite synthesis and application in adsorption studies, slow-release materials, oil spill remediation etc.
- Heavy metals in food, water, plants etc.
- Mercury Research
- Synthesis and characterization of molecularly imprinted polymers and applications
- Food, water, cosmetic, pharmaceutical and beverage quality assessment (physico-chemical, microbial and toxicological analysis).
- Industrial and domestic water analysis and wastewater treatment.
- Installation and servicing of laboratory equipment.
- Training of staff on safety, laboratory equipment and best laboratory practices.
- Analysis of pesticides and heavy metals in food and environmental samples.
- Product development.

Academic Ranks Held

2023 – Present **Associate Professor**, Department of Chemistry, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.

2015 – 2023 **Senior Lecturer**, Department of Chemistry, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.

2007 – 2015	**Lecturer**, Department of Chemistry, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.
2015 `	**Assistant Lecturer,** Department of Applied Chemistry, University of Johannesburg (UJ), Johannesburg, South Africa.
2012-2014	**Tutor,** Department of Applied Chemistry, University of Johannesburg (UJ), Johannesburg, South Africa.
2006– 2007	**Demonstrator (Graduate Teaching Assistantship),** Department of Chemistry, KNUST, Kumasi, Ghana.
2002 – 2003	**Teaching Assistant (National Service),** Department of Chemistry, KNUST.

Professional Activities

(A) Review Activities

1. **Reviewer:** Material Science in Semiconductor, Journal of Nanoparticle Research, New Journal of Chemistry, Surfaces and Interfaces, Regulatory, Toxicology and Pharmacology, Arabian Journal of Chemistry, Journal of Polymer Research, Surfaces and Interfaces, ChemistrySelect, ACS Applied Nano Materials

PUBLICATIONS

Journal Publications

1. **Agorku, E. S.**, Kangmennaa, A., Danu, B. Y., Ampong, F. K. and Voegborlo, R. B. (2025). Core-shell V_2O_5-Gum ghatti grafted poly (acrylamide-co-methacrylic acid) adsorbent for the removal of methylene blue dye in water: Kinetic, equilibrium and thermodynamic studies. *Next Sustainability*, 5, 100069.
2. Peasah, M. Y., Awewomom, J., Osae, R. and **Agorku, E. S.** (2024). Trace elements determination and health risk assessment of groundwater sources in Kumasi Metropolis, Ghana. *Environmental Monitoring and Assessment*, 196(9), 857.
3. Amarh, F. A., Kangmennaa, A., **Agorku, E. S.** and Voegborlo, R. B. (2024). Synthesis and characterization of magnetic molecularly imprinted polymers for the adsorption of chlorpyrifos from aqueous media, *Polymer Science, Series B*, 1-9.
4. Amponsah, B., Boadi, N. O., Saah, S. A., Sakyi, P. O., **Agorku, E. S.**, Okyere, H. and Nyamful, A. (2024). Evaluation of groundwater quality in communities near Sokoban Wood Village. *Heliyon*, 10 (2024), e32757

5. Kangmennaa, A., Forkuo, R.B. and **Agorku, E.S.** (2024). Carbon-based electrode materials for sensor application: a review. *Sensing Technology*, 2(1), p.2350174.
6. Amarh, F.A., Kangmennaa, A., **Agorku, E.S.** and Voegborlo, R.B. (2024). A state-of-the-art review of trends in molecularly imprinted polymers in the clean-up of pesticides in environmental samples. *Sustainable Environment*, 10(1), p.2298067.
7. Haruna, M., Bandoh, C.K., **Agorku, E.S.**, Opoku, F., Asare–Donkor, N.K. and Adimado, A.A. (2024). Experimental and ab initio studies of enhanced photocatalytic efficiency of La-doped ZnO/g-C_3N_4 nanocomposites for bromothymol blue dye degradation. *Next Materials*, 4, p.100212.
8. Amponsah, B., Boadi, N.O., Saah, S.A., Sakyi, P.O., **Agorku, E.S.**, Okyere, H. and Nyamful, A. (2024). Evaluation of groundwater quality in communities near Sokoban Wood Village. *Heliyon*, 10(2024), e32757.
9. Koranteng-Mantey, E., Kessie, C., **Agorku, E.S.**, Kwaansa-Ansah, E.E., Osei-Bonsu Oppong, S. and Opoku, F. (2024). Interfacial electronic states of GeC/g-C_3N_4 van der Waal heterostructure with promising photocatalytic activity via hydrogenation. *ChemPhysChem*, 25(8), p.e202300947.
10. Haruna, M., Eshun, F., Bandoh, C.K., **Agorku, E.S.**, Francis, O., Asare–Donkor, N.K. and Adimado, A.A. (2024). Binary Ce-doped-ZnO/rGO composite as excellent photocatalyst for bromothymol blue dye degradation. *Sustainable Chemistry for the Environment*, 5, p.100069.
11. Bandoh, C.K., Danu, B.Y., **Agorku, E.S.**, Ampong, F.K. and Nkum, R.K. (2024). The effect of cobalt-doped ZnO-g-C_3N_4 heterostructures on photocatalytic degradation of eosin yellow dye in water under simulated solar light. *Results in Materials*, 21, p.100515.
12. Haruna, M., Bandoh, C.K., **Agorku, E.S.**, Opoku, F., Asare-Donkor, N.K. and Adimado, A.A. (2024). Synthesis of La-doped ZrO_2/g-C_3N_4 nanocomposite for eosin yellow photodegradation: a combined experimental and theoretical studies. *Catalysis Communications*, 187, p.106852.
13. Kangmennaa, A., Acquah, S., Forkuo, R.B., Adusei, J.K., Atongo, G.A., Amarh, F.A., Opoku, F. and **Agorku, E.S.** (2024). Methylene blue dye adsorption on Ghana's

activated clay from Teleku Bukazo. *Journal of Dispersion Science and Technology*, p.1-14.

14. Amarh, F.A., Kangmennaa, A., **Agorku, E.S.** and Voegborlo, R.B. (2024). Synthesis and Characterization of Magnetic Molecularly Imprinted Polymers for the Adsorption of Chlorpyrifos from Aqueous Media. *Polymer Science*, Series B, p.1-9.
15. **Agorku, E.S.**, Kangmennaa, A., Haruna, M. and Opoku, F. (2023). Photocatalytic activity of red emission PVA-GdVO4: Eu3+ nanocomposite towards the degradation of Eosin Y in water. *Sustainable Environment*, 9(1), p.2266632.
16. Kangmennaa, A., Yakubu, H., Tutuwaa, A., Agyapong, C.O., Toku, M. and **Agorku, E.S.** (2023). Methylene blue adsorption on vanadium pentoxide nanorods dispersed in starch-grafted polyacrylonitrile. *International Journal of Polymer Analysis and Characterization*, 28(8), pp.697-713.
17. Haruna, M., Kwakye, J., Agorku, E.S., Opoku, F., Asare-Donkor, N.K. and Adimado, A.A. (2023). La–doped ZnO–rGO nanocomposites: Synthesis and characterization as photocatalyst for effective degradation of bromothymol blue dye in water. *Results in Materials*, 19, p.100449.
18. Amarh, F.A., **Agorku, E.S.**, Voegborlo, R.B, Ashong, G.W, Nortey, E.N.K and Mensah, N.J. (2023). Heavy metal content and health risk assessment of some selected medicinal plants from Obuasi, a mining town in Ghana. *Journal of Chemistry*, 2023(1), p.9928577.
19. Adusei, J.K., **Agorku, E.S.**, Voegborlo, R.B., Ampong, F.K., Awarikabey, E., Danu, B.Y. and Amarh, F.A. (2023). Zero valent iron impregnated sodium alginate grafted (acrylamide-co-acrylic acid) adsorbents for the removal of methylene blue in aqueous systems. *Journal of Macromolecular Science*, Part B, 62(6):265-279.
20. Amarh, F.A., **Agorku, E.S**., Voegborlo, R.B., Ashong, G.W. and Atongo, G.A. (2023). Health risk assessment of some selected heavy metals in infant food sold in Wa, Ghana. *Heliyon*, 9(5).
21. Jindor, N.J., **Agorku, E.S.** and Adimado, A.A. (2023). starch-grafted sodium alginate-modified clay composites as environmentally controlled-release materials for NPK fertilizer. *Applied and Environmental Soil Science*, 2023(1), p.5133023.

22. Wuloh, J., **Agorku, E.S**. and Boadi, N.O. (2023). modification of metal oxide semiconductor gas sensors using conducting Polymer Materials. *Journal of Sensors*, 2023(1), p.7427986.
23. Amenorfe, L.P., **Agorku, E.S.**, Sarpong, F. and Voegborlo, R.B. (2022). Innovative exploration of additive incorporated biopolymer-based composites. *Scientific African*, 17, p.e01359.
24. Adusei, J.K., **Agorku, E.S.**, Voegborlo, R.B., Ampong, F.K., Danu, B.Y. and Amarh, F.A. (2022). Removal of Methyl red in aqueous systems using synthesized NaAlg-g-CHIT/nZVI adsorbent. *Scientific African*, 17, p.e01273.
25. Bandoh, C., **Agorku, E.S.** and 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.
26. Danu, B.Y., **Agorku, E.S**., Ampong, F.K., Awudza, J.A.M., Torve,V., Amponsah, C., Quaye, R.N.M, Ama, O.M., Osifo, P.O. and Ray, S.S. (2022). Fes encapsulated chitosan-g-polyacrylamide nanocomposite for the removal of model anionic eosin Y from water: isotherm, kinetics and equilibrium studies. *International Journal of Petrochemistry & Natural Gas*, 2(1):30-38.
27. Awarikabey, E. Berko, M.B.F., Kwao-Boateng, E., Woode, M.Y., Nyamful, A., Bayari, E.E. and **Agorku, E.S.** (2022). Mass balance and quality assessment of potash from cocoa husk ash from Ghana. *International Journal of Science and Research*, 11(3):1308-1312.
28. Amarh, F., Voegborlo,, R.B., Essuman, E.K., **Agorku, E.S**., Tettey, C.O. and Kortei, N.K. (2021). Effects of soil depth and characteristics on phosphorus adsorption isotherms of different land utilization types: Phosphorus adsorption isotherms of soil. *Soil and Tillage Research*, 213:105-138.
29. Danu, B.Y., **Agorku, E.S**., Ampong, F.K., Awudza, J.A.M., Torve,V., Danquah, I.M.K., Ama, O.M., Osifo, P.O. and Ray, S.S. (2021). Iron sulfide functionalized polyaniline nanocomposite for the removal of eosin Y from water: equilibrium and kinetic studies. *Polymer Science, Series B*, 63(3):304-313.

30. Anku, W.W., **Agorku, E.S**., Oppong, S.O.B. and Karikari, A.Y. (2020). MWCNTs attached neodymium doped-ZnO photocatalysts for efficient removal of dyes from wastewater. *SN Applied Sciences*, *2*(5), 1-13.
31. **Agorku, E.S**., Mamba, B.B., Pandey, A.C. and Mishra, A.K. (2020). Corrigendum to "Sulfur/Gadolinium-Codoped TiO_2 Nanoparticles for enhanced visible-light photocatalytic performance". *Journal of Nanomaterials*, *2020*.
32. Danu, B.Y., **Agorku, E.S**., Ampong, F.K., Awudza, J.A.M., Torve,V., Amponsah, C., Quaye, R.N.M., Ama, O.M., Osifo, P.O. and Ray, S.S. (2020). FeS encapsulated chitosan graft polyacrylamide nanocomposite for the uptake of model anionic eosin Y from water: isotherms, kinetics and equilibrium studies.
33. Anku, W.W., Oppong, S.O.B., Shukla, S.K., **Agorku, E.S.** and Govender, P.P. (2016). Chitosan–sodium alginate encapsulated Co-doped ZrO_2–MWCNTs nanocomposites for photocatalytic decolorization of organic dyes. *Res Chem Intermed*. 42(10):7231-7245.
34. **Agorku, E.S**., Kwaansa-Ansah, E.E., Voegborlo, R.B., Amegbletor, P., and Opoku, F. (2016). Mercury and hydroquinone content of skin toning creams and cosmetic soaps, and the potential risks to the health of Ghanaian women. *SpringerPlus*, *5*(1), 319.
35. Anku, W.W., Oppong, S.O.B., Shukla, S K., **Agorku, E.S**. and Govender, P.P. (2016). Cobalt doped ZrO_2 decorated multiwalled carbon nanotube: a promising nanocatalyst for photodegradation of indigo carmine and eosin Y dyes. *Progress in Natural Science: Materials International*, *26*(4), 354-361.
36. Mzoughi, M., Anku, W.W., Samuel, O.B., Shukla, S.K.., **Agorku, E.S**. and Govender, P.P. (2016). Neodymium doped ZrO_2-graphene oxide nanocomposites: a promising photocatalyst for photodegradation of Eosin Y dye. *Adv. Mater. Lett.*, *7*(12), 946-950.
37. Brutti, R., Magu, M.M., **Agorku, E.S**.and Govender, P.P. (2016). Alternative method for qualitative analysis of specific non-volatile organic compounds present in South African water systems. *South African Journal of Chemistry*, 69, 244-253.

38. **Agorku, E.S.**, Kuvarega, A.T., Mamba, B.B., Pandey, A.C. and Mishra, A.K. (2015). Enhanced visible-light photocatalytic activity of multi-elements-doped ZrO_2 for the degradation of indigo carmine. *Journal of Rare Earths*, 33(5):498-506.

39. **Agorku, E.S**., Messai, A.M., Mamba, B.B., Pandey, A.C. and Mishra, A.K. (2015). Cobalt-doped graphene/ZnS Nanocomposite as advanced photocatalytic material. *Journal of Porous Material*, 22(1):47-56**.**

40. Okyere, H., Voegborlo, R. B., and **Agorku, S. E**. (2015). Human exposure to mercury, lead and cadmium through consumption of canned mackerel, tuna, pilchard and sardine. *Food Chemistry*, *179*, 331-335.

41. Oppong, S.O.B., Anku, W.W., Shukla, S.K., **Agorku, E.S.** and Govender, P.P. (2016). Photocatalytic degradation of indigo carmine using Nd-doped TiO_2-decorated graphene oxide nanocomposites. *J. Sol-Gel Sci Technol*, 80(1):38-49.

42. Anku, W.W., Oppong, S.O.B., Shukla, S.K., **Agorku, E.S.** and Govender, P.P. (2016). Palladium-doped–ZrO_2–multiwalled carbon nanotubes nanocomposite: an advanced photocatalyst for water treatment. *Appl. Phys. A*. 122(6):354-361

43. Shukla, S.K., Shukla, S.K., Govender, P.P. and **Agorku, E.S.** (2015). A resistive type humidity sensor based on crystalline tin oxide nanoparticles encapsulated in polyaniline matrix. *Michrochim Acta*, **183(2)**:573-580.

44. **Agorku, E.S**., Mittal. H., Mamba, B.B., Pandey, A.C. and Ajay K. Mishra (2014). Fabrication of photocatalyst based on Eu^{3+}-doped ZnS–SiO_2 and sodium alginate core shell nanocomposite. *International Journal of Biological Macromolecules*, 70:143–149.

45. **Agorku, E.S**., Mamba, B.B., Pandey, A.C. and Ajay K. Mishra (2014). Sulfur/Gadolinium-Codoped TiO_2 Nanoparticles for Enhanced Visible-Light Photocatalytic Performance. *Journal of Nanomaterials*, 2014:1-12.

46. Shukla, S.K., **Agorku, E.S**., Mittal, H. and Mishra, S.K. (2014). Synthesis, characterization and photoluminescence properties of Ce^{3+}-doped ZnO-nanophosphors. *Chemical Papers*, 68 (2):217-222.

47. Atta, A., Voegborlo, R. B. and **Agorku, E.S.** (2011). Total mercury distribution in different tissues of six species of freshwater fish from the Kpong hydroelectric

reservoir in Ghana. *Environmental Monitoring and Assessment*, 31(5):595-601.

48. Anin, E.T., Agorku, E.S. and Anin, A.K. (2011). A Comparative Analysis on Levels of Mercury in Human Scalp Hair of Students from Different Locations in Ghana. *Research Journal of Environmental and Earth Scienc*es 3(3): 293-296, 2011.
49. Kwaansa-Ansah, E. E., **Agorku, S.E.** and Nriagu, J.O. (2011). Levels of total mercury in different fish species and sediments form the Upper Volta Basin at Yeji in Ghana. *Bulletin of Environmental Contamination and Toxicology*, 86(4):406-409.
50. Oppong, S. O. B., Voegborlo, R. B., **Agorku, S.E**. and Adimado, A. A. (2010). Total mercury in fish, sediments and soil from the River Pra Basin, Southwestern Ghana. *Bulletin of Environmental Contamination and Toxicology*, 85:324-329.
51. **Agorku, E.S.**, Voegborlo, R. B. and Adimado, A. A. (2008). Total mercury levels in nine species of freshwater fish form two hydroelectric reservoirs in Ghana. *Environmental Monitoring and Assessment*, 153(1-4):383-389.
52. Voegborlo, R. B., **Agorku, E.S**., Buabeng-Acheampong B. and Zogli, E. (2008). Total mercury content of skin toning creams and the potential risk to the health of women in Ghana. *Journal of Science and Technology*, 28(1):88-94.
53. **Agorku, S.E.,** Voegborlo, R.B. and Adimado, A.A. (2004). Mercury concentration in canned tuna fish from Ghana. *Materials and Geoenvironment*, 51(1): 335-337.

Conferences/Presentations

1. Bandoh, C. K., Haruna, M., Danu, B. Y., **Agorku, E. S.,** Toku, M., Ampong, F. K. & Nkum, R. K. The Influence of Gadolinium on the Photocatalytic Performance of ZrO_2-g-C_3N_4 Systems Towards the Degradation of an Organic Dye in Water. Poster presentation. *The 3rd African Conference on Fundamental and Applied Physics (ACP2023). Protea Hotel King George*, South Africa. 25th to 29th September, 2023.
2. Bandoh, C. K., Pinto, O., Adu-Poku, D., Tutuwaa, A., **Agorku, E. S.**, Ampong, F. K. & Nkum, R. K. Synthesis and Characterization of Zirconium Oxide-Based

Nanocomposites for Photocatalytic Degradation of Eosin Yellow Dye in Water. Oral presentation. *Ghana Science Association (GSA) 33rd Biennial Conference. Department of Biochemistry, Cell and Molecular Biology*, University of Ghana, Legon. 5th to 8th September 2023

3. Bandoh, C. K., Haruna, M., Adu-Poku, D., **Agorku, E. S.**, Toku, M., Ampong, F. K. & Nkum, R. K. The Effect of Gadolinium on the Photocatalytic Performance of ZrO_2-g-C_3N_4 Systems Towards the Degradation of an Organic Dye in Water. Oral presentation. *Maiden Edition of the International Conference on Science, Technology, and Health Innovation for Sustainable Development*. School of Sciences, University of Energy and Natural Resources, Sunyani, Tyco City Hotel, Sunyani, Ghana. 23rd to 25th August 2023.
4. Bandoh, C. K., Pinto, O., **Agorku, E. S.**, Ampong, F. K. & Nkum, R. K. Cobalt/Graphitic Carbon Nitride co-doped Zinc Oxide Nanocomposite as an Advanced Photocatalyst for the Degradation of an Organic Dye in Water. Poster presentation. *KNUST Scientific Research Conference (TEKCONFAB)*. School of Business (KNUST), Kumasi, Ghana. 29th to 31st May 2023.
5. Moro H., John K., **Agorku E. S**., Opoku F., Noah A. D. K., Anthony A. A. La–doped ZnO–rGO nanocomposites: Synthesis and characterization as photocatalyst for effective degradation of bromothymol blue dye in water. Oral presentation. *KNUST-Research Conference*, 2023, GHANA (30th -31st MAY, 2023).
6. Moro H., Charles K. B., **Agorku E. S.**, Opoku F., Noah A. D. K., Anthony A. A. Experimental and theoretical study of La doped ZnO-g-C3N4 heterostructure's electrical, optical, and structural characteristics modified for photodegradation of bromothymol blue dye in water; under the theme "*Maiden Edition of the International*

Conference on Science, Technology, and Health Innovation for Sustainable Development". Oral presentation. 23rd – 25th AUGUST, 2023, SUNYANI.

7. Moro H., Charles K. B., **Agorku E. S.**, Opoku F., Noah A. D. K., Anthony A. A. La doped ZnO/g-C3N4 Van der Waals heterostructure's electrical, optical, and structural characteristics modified for photodegradation of bromothymol blue dye in water; *Ghana Science Association 33rd Biennial Conference 2023*. Oral presentation. (5th – 7th September), Legon.
8. Moro H., **Agorku E. S.,** Opoku F., Noah A. D. K., Anthony A. A. La-doped ZnO/g-C3N4 van der Waals heterostructure's electrical, optical, and structural characteristics modified for photodegradation of bromothymol blue dye. *5th Euro-Mediterranean Conference for Environmental Integration*. Poster presentation. 2-5 October 2023, Rende (Cosenza), Italy.
9. **Agorku, E.S.,** Ce doped-ZnO/reduced graphene oxide nanocomposites for the degradation of indigo carmine in water under simulated solar light. *Materials for Renewable and Sustainable Energy: From Research to Development*, Kwame Nkrumah University of Science and Technology, Amonoo-Neizer Conference Centre (IDL), Kumasi, Ghana, Oral Presentation, 3-5 June, 2019.
10. Danu, B.Y., **Agorku, E.S.**, Ampong, F.K., Awudza, J.A.M. Iron oxide based polyaniline nanocomposite for the removal of eosin Y from synthetic wastewater. *Materials for Renewable and Sustainable Energy: From Research to Development*, Kwame Nkrumah University of Science and Technology, Amonoo-Neizer Conference Centre (IDL), Kumasi, Ghana, Oral Presentation, 3-5 June, 2019.
11. **Agorku, E.S.** Luminescent properties of red emission PVA-$GdVO_4$:Eu^{3+} nanocomposite and its photocatalytic activity towards eosin y. College of Science Seminar at the Kwame Nkrumah University of Science and Technology, Kumasi-Ghana, 2016.
12. **Agorku E.S.,** Mamba B.B., Pandey A.C. and Mishra A.K. Visible-light photocatalytic activity of multi-element-doped ZrO_2 for the degradation of indigo carmine. *Poster Presentation. 3rd International Conference and Exhibition on Materials Science and Engineering*, Hilton San Antonio Airport, USA, 6-8 October, 2014.

13. **Agorku E.S.**, Mamba B.B., Pandey A.C. and Mishra A.K. Gd, C, N, S multi-doped ZrO_2 for photocatalytic degradation of indigo carmine under simulated solar light irradiation. Oral Presentation. *7th International Symposium on Macro- and Supramolecular Architecture and Materials*, Johannesburg, South Africa, 23-27 November, 2014.
14. **Agorku E.S.**, Mamba B.B., Pandey A.C. and Mishra A.K. Palladium decorated ZnS/rGO nanocomposite for enhanced visible-light-driven photocatalytic activity, *Department of Applied Chemistry, University of Johannesburg*, South Africa, 11th October, 2013.
15. **Agorku E.S.**, Messai A.M., Mamba B.B., Pandey A.C. and Mishra A.K. Cobalt Doped graphene/ZnS nanocomposite as advanced photocatalytic materials. *First International Conference on Composites, Biocomposites and Nanocomposite*, Oral Presentation. Durban, South Africa, 2-4 December, 2013.
16. **Agorku E.S.**, Mishra A.K., Mamba B.B. and Pandey A.C. Luminescent properties of red emission $GdVO_4:Eu^{3+}$/nanocomposite and its photocatalytic performance. *13th WaterNet/WARFSA/GWP-SA Conference*, Poster Presentation. Johannesburg, South Africa, 31 October-2 November, 2012.

EXPERIENCE

- Member of NAB/GTEC Panel of Experts for the Accreditation/Re-accreditation of Chemistry Courses (BSc, MPhil and PhD) at University of Cape Coast.
- Assistant Examiner, WAEC.
- College of Science Examination Centre Coordinator, KNUST.
- Head of Glass Blowing Unit, Department of Chemistry, KNUST, Kumasi, Ghana.
- Invigilator duties for KNUST exams.
- Member, College of Science Laboratory Committee.
- Member, College of Science Outreach Programs, KNUST.
- Member, Exhibition Committee, Department of Chemistry, KNUST-Kumasi.

- Member, SHS Quiz Committee
- Organize and Coordinated the Glass Blowing Workshop for Technicians in the Chemistry Department, KNUST-Kumasi.
- Postgraduate Representative to Departmental Board, Applied Chemistry Department, University of Johannesburg, DFC, South Africa.
- PTA Chairman, Knowledge Hub Academy, Anwomaso-Domeabra, Kumasi

WORKSHOP

Beyond Graphene, Materials Physics Research Institute and Centre of Excellence in Strong Materials, University of the Witwatersrand, Johannesburg, South Africa, 20th Nov. 2013.

INDUSTRIAL ATTACHEMENT

Quality assessment of cocoa products, Cocoa Processing Company Limited, Tema, Ghana. (2002).

SCOPE OF WORK

- Food, water, cosmetic, pharmaceutical and beverage quality assessment (physico-chemical and toxicological analysis).
- Industrial and domestic water analysis and wastewater treatment.
- Installation and servicing of laboratory equipment.
- Synthesis of smart and intelligent materials for oil spill treatment.
- Development of slow-release systems for agrochemicals.
- Installation of reverse osmosis systems for industrial and domestic water treatment.
- Gas sensor technologist.
- Training of staff on safety, laboratory equipment and best laboratory practices.
- Analysis of pesticides and heavy metals in food and environmental samples.
- Product development.

SCHOLARSHIPS/AWARDS/GRANTS

2020 Kwame Nkrumah University of Science and Technology Research Fund (KReF, 2020).

2015 University of Johannesburg Postdoctoral Research Fund.

2014 NRF Freestanding, DST Innovation and Scarce Skills Development Fund Masters and Doctoral Scholarship Awards.

REFEREES

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