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Chemistry

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My research interest is on the use of analytical chemistry and techniques for environmental monitoring and modeling; remediation of pollutants in the environment using simulated and field studies; assessment of pesticide residues in food raw materials; development of local raw materials for industrial application; applications of seed oil as sources of renewable and eco-friendly fuel. I obtained my PhD degree in 2010 from University of Ibadan, Nigeria with research work on the use of a novel modeling concept (Fuzzy logic model) and other models toward understanding metal pollution chemistry. I found fulfillment in solving problems, helping others and in service.

## CURRENT RESEARCH

<u>Topic</u>	<u>Methodology</u>	<u>Application</u>
Occurrence, fate and remediation of emerging contaminants in KwaZulu-Natal, South Africa	<ul style="list-style-type: none"><li>• Sample collection and extraction;</li><li>• Solid phase extraction;</li><li>• Quantification with Liquid chromatography-mass spectrometer;</li><li>• Remediation with advance oxidative process (Assisted Fenton reactions);</li><li>• Empirical modeling the data for understanding contaminant fate and mobility</li></ul>	<ul style="list-style-type: none"><li>• Provision of information on the presence of contaminant and their fate for appropriate policy formulation;</li><li>• Useful information for water treatment and process redesigning;</li><li>• Useful information toward understanding probable causes of drug resistance</li></ul>

## UKZN main Publications

1. Pharmaceuticals as emerging organic contaminants in Umgeni River water system, KwaZulu-Natal, South Africa (Manuscript preparation).

## Past Researches

1. Olu-Owolabi, B.I., **Agunbiade, F.O.**, Bamidele O. Fagbayigbo, Adebowale K.O. 2013. Monitoring Cu bioaccumulation in cocoa from Cu-based pesticides treated cocoa farms using Fuzzy Similarity Method. Bioremediation Journal 17(3), 131-147.
2. **Agunbiade, F. O.**, Olu-Owolabi, B. I., Adebowale, K. O. 2012. Fuzzy logic modelling of bioaccumulation pattern of metals in coastal biota of Ondo State, Nigeria. Environmental Monitoring and Assessment 184(1), 89–102.
3. Olu-Owolabi, B.I., **Agunbiade, F.O.**, Oseghe, E.O., Adebowale K.O. 2012. Fuzzy logic modelling of contamination degree of Ni and V metal species in sediments from crude oil prospecting area of Ondo coast, Nigeria. Human and Ecological Risk Assessment 18, 1 – 17.
4. **Agunbiade, F. O.**, Olu-Owolabi, B. I., Adebowale, K. O. 2009. Phytoremediation potential of *Eichornia crassipes* in metal contaminated coastal water. Bioresource Technology 100, 4521 – 4526.

For other research outputs check this link - <http://scholar.google.com/citations?user=UICQKFYAAAAJ&hl=en>

## Future Interests

1. Research works on air pollution studies and climate change
2. Research works on renewable energy sources (biofuels)
3. Consultancy

## Extra Interests

Listening to music; reading books about financial intelligence