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Degrees

BSc. Chemistry (University of Cape Coast); **MSc.** (Ecological Marine Managemen

Research Interests

Water quality monitoring and assessment, trace metal pollution in aquatic ecosystems, trace metals in a

Profile

Mr. Humphrey Ferdinand Darko is a Senior Research Scientist of the Environmental Chemistry

and Sanitation Engineering Division (ECSED) of the CSIR Water Research Institute (CSIR-WRI). He obtained his Bachelor's degree in Chemistry at the University of Cape Coast, Ghana, in 1999, and a Master's degree in Ecological Marine Management in 2004 at the Vrije Universiteit Brussel (Free University of Brussels), Belgium. His area of research include marine ecotoxicology, water quality monitoring and assessment, pollution studies, and drinking water quality assessment. He has experience in water quality monitoring and assessment of surface waters (rivers, lakes reservoirs, etc.), pollution studies, and drinking water quality assessment. Mr. Darko has been involved in surface water quality monitoring and assessment of the Southwestern, Coastal and Volta Rivers Systems of Ghana from 2005 to date, with funding at different times from DANIDA, EU, WRC, etc. He has supervised Project Work of several final year HND students of the Accra Polytechnic (now Accra Technical University). From 2005 to 2015, he was an Assistant Examiner to the West African Examinations Council. Mr. Darko is a member of the National Technical Committee on Effluent Quality Standards for environmental protection. He has published several peer-reviewed journal articles in international journals and written several technical and consultancy reports.

Current Research

My current research involves water quality monitoring and assessment surface of waters, drinking water quality assessment for potable use and industrial use, and assessment of final effluent quality of industrial wastewater for environmental compliance. Currently, my research include Water quality monitoring and assessment of surface waters in the Southwestern, Coastal and Volta Rivers Systems of Ghana. This work was started in 2013 in collaboration with the Water Resources Commission (WRC) of Ghana. Water sampling stations are visited in all the river basins of Ghana twice every year to collect water samples for analysis of various water quality parameters. The objective is to assess the general state of water quality in the country in the various river basins and determine pollution trends, if any. Data generated from these activities are compiled as water quality index which shows the extent of pollution, or otherwise of the quality of water, and is used for decision making. I am also currently undertaking water quality studies of the Kakum River in the Central Region of Ghana. Field visits are made to the Kakum River periodically to collect water samples from River Kakum and its tributaries for analysis of various water quality parameters. This project was started in 2017 with the objective to investigate water quality of the Kakum River to determine the temporal and spatial pollution trends which will guide proper management of the basin. I also undertake drinking water quality assessment for public drinking water supply and private water supply systems. I am currently involved in the physico-chemical water quality assessment of boreholes and tap water of the Oyibi Area Water and Sanitation Development Board. The objective of this project is to periodically assess the quality and suitability of water from boreholes, standpipes and municipal water in the Oyibi locality for potable use.

Current Projects

- Water Quality Monitoring and Assessment of Surface Waters in Southwestern, Coastal and Volta Rivers Systems of Ghana.

- Assessment of water quality of the Kakum River.

- Final Effluent Quality Assessment for Phyto-Riker (GIHOC) Pharmaceuticals Ltd.

- Final Effluent Quality Assessment for Pioneer Food Cannery Ltd.

- Potable Water Quality Assessment for Pioneer Food Cannery (PFC) Ltd.

- Physico-chemical and Bacteriological Water Quality Assessment of Boreholes and Tap Water of the Oyibi Area Water and Sanitation Development Board.

Publications

Amu-Mensah, M.A., Amu-Mensah, F.K., Akrong, M.O., Darko, H., Addico, G. (2017). Significance of Lake Bosomtwe as a freshwater resource in Ghana; communities' perception. *International Journal of Development and Sustainability, 6* (10), 1305-1318.

Ansa-Asare, O.D., Darko, H. and Obiri, S. (2015). Assessment of Carcinogenic Risk and Non-Carcinogenic Health Hazard from Exposure to Toxicants in Water from the Southwestern Coastal River System in Ghana. *Human and Ecological Risk Assessment: An International Journal* , *21* (2), 445-465, DOI: 10.1080/10807039.2014.923715

Darko, H.F., Ansa-Asare, O.D. and Paintsil, A. (2013). A Number Description of Ghanaian Water Quality—A Case Study of the Southwestern and Coastal Rivers Systems of Ghana. Journal of Environmental Protection, 4, 1318-1327. DOI: http://dx.doi.org/10.4236/jep.2013.41

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