



Prof Omotayo Rafu Awofolu

Topic: Implacable Onslaught of Chemicals and Human Survival: Possible Resolution!

Abstract

The use of chemicals and chemical related products by humans date back to about 3600 BC and human growth over the millennia has resulted in the development, refinement and utilisation of chemicals and chemical products. The industrial age saw the emergence and use of revolutionary chemical products, which was made possible through the process of chemical synthesis.

Synthetic chemicals are applied in such diverse fields as agriculture, pharmaceuticals, warfare and others. Many of these synthetic chemicals and their by-products are non-biodegradable, highly toxic and persistent in the environment. An example is the Dichloro-diphenyl trichloroethane [1,1,1-trichloro-2,2-bis(p-chlorophenyl) ethane] commonly referred to as DDT. It is an organochlorine compound that was first synthesised in 1874 and used as an insecticide across the world.

Many of these 'beneficial' synthetic chemicals also pose serious harm to humans and the environment. The threshold at which the environment buffers the 'onslaught' of these toxic chemicals on human lives has been reached, and perhaps exceeded. The solution to this conundrum is sustained global cooperation through efforts to ensure a paradigm shift towards the utilisation of renewable and biodegradable chemical products. Current contributions towards this effort include the evaluation and application of novel waste material for the removal of toxic trace metals in aqueous systems. In addition, a monitoring scheme of toxic trace metals in farm produce from farms in Northern Namibia is on-going. From the preliminary results obtained, appropriate recommendations on mitigation and remediation strategies will be submitted to the farmers and funder of the project.

About the Speaker

Professor Omotayo Awofolu was born and grew up in Lagos Island in Lagos, Nigeria. He obtained a National Diploma in Drug and Chemical Technology from the Lagos State Polytechnic in 1984 and a BSc Ed (Hons) degree in Chemistry from the Lagos State University in 1988. In 1990, he obtained a MSc degree in Analytical/Environmental Chemistry from the University of Lagos Akoka, in Lagos, Nigeria. Professor Awofolu is also the holder of a PhD in Analytical/ Environmental Chemistry from the University of Fort Hare, Alice, Eastern Cape Province, South Africa. During 2004 and 2006 he was a Post-Doctoral Research Fellow in the Department of Environmental Sciences, Faculty of Science, Tshwane University of Technology in Tshwane, South Africa. He later secured an appointment as Associate Professor at the University of South Africa.



His research focus is in the areas of Analytical Methods Development, Monitoring and Assessment of Toxic Trace Metals in the Ecosystems and Application of Novel Remediation Techniques for the Removal of Toxic Trace Metals from Aqueous Systems. Professor Awofolu has taught extensively since 1991 and his university teaching career has taken him to five universities across three African countries, spanning a period of twenty-seven years. Currently, he is a Professor of Environmental Health Sciences, in the Department of Health Sciences, within the Faculty of Health and Applied Sciences at NUST.

His research interests include the Environmental Epidemiology of Priority Elemental and Organic Pollutants and Impact of Climatic Forcing Air Pollutants on Climate Change. His current research projects focus on the Distribution and Dynamics of Toxic Trace Metals in Cultivated Farm Produce from Grootfontein, Tsumeb and Otavi (Postgraduate students involved) and the Assessment and Distribution of Selected Priority Trace Metals (As, Cd, Mn, Zn and Cu) in Environmental Indicators (NCRST funded project with students). Professor Awofolu has published extensively in peer-reviewed journals, including two book chapters and over 30 conference presentations.

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Time: 18:00

Venue: Auditorium 1

Enquiries

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