

NANOMATERIALS: SYNTHESIS, CHARACTERIZATION, AND BIOMEDICAL APPLICATIONS

By: Dr Ikhazuagbe Hilary Ifijen

Abstract:

The unique size-dependent properties of materials with nanoscale dimensions have made them the most advanced materials in the scientific and industrial world today. As such, their applications in the fields of biotechnology and medicine have attracted significant interest worldwide. The nanoscale materials offer a wide surface/volume ratio, unique structures and similar dimensions to biomolecules resulting in unusual properties for biomedical applications. They exhibit novel characteristics that are different from those of their bulk counterparts due to their small sizes. This presentation will cover various synthetic approaches utilized in recent times for generating nano-sized metals, metal oxides and polymeric materials. It will also include the description of several characterizations techniques employed in studying these materials and their applications in the biomedical field.

Citation

Dr Ikhazuagbe Hilary Ifijen obtained a Bachelor's and Master's degree in Industrial Chemistry, 2008, 2013 respectively and a PhD degree in Nanomaterial Chemistry in 2018 from the University of Benin. "He was awarded a research fellowship from 2016 to 2017 to work on the fabrication of photonic crystals for multi-functional applications" in CSIR-National Institute for Interdisciplinary Science and Technology, India.

He has published over 40 articles in peer-reviewed national and international journals/conferences. His current research interest is on the synthesis of novel nanomaterials for industrial, environmental and biomedical applications.

Dr Ikhazuagbe Hilary Ifijen is currently a Senior Research Officer at the Department of Research Operations, Rubber Institute of Nigeria, Iyanomo, Benin City, Edo State, Nigeria. He is happily married to Mrs Precious Olohi Ifijen and blessed with a beautiful daughter, Miss Ariella Olohitare Ifijen.