

Abstract

Title: Biophysics in Africa

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Biophysics is a scientific field of study that uses basic principles in physics and chemistry to unravel the details of biological phenomena. It is a multidisciplinary field that also uses mathematical methods to predict/explain the function, dynamics and structural organization of biological systems.

Specialties in biophysics include computational biophysics, membrane biophysics, protein engineering, molecular structures and mechanisms. Thus, biophysics involves the study of proteins, lipids carbohydrate and nucleic acids.

Biophysics finds application in human health, environment and the interaction between the duo. It has contributed to the development of life-saving treatments and device innovations such as radiotherapy, kidney dialysis, neuronal electrical conduction, cardiac defibrillator and pacemakers. Biophysics also helps in understanding how other living organisms interacts, survive, compete and reproduce within the natural environment.

According to the World Health Organization, some African countries are designated as developing nations while many others are classified as underdeveloped. These come with diverse environmental and human health challenges that need different approaches for resolution.

This presentation, on “Biophysics in Africa”, looks into the current Biophysics education in Africa, current research activities, available facilities/resources and the socio-economic impact of biophysics research. This is with a view to understanding the relevance of Biophysics research to the development of Africa and how research scientists can work together for a common goal.