Contribution ID: 167

Type: Oral

## Keynote Address: Airborne Radiometric Mapping and Health Implications of Natural Radionuclides in Selected Locations of Southwest, Nigeria

Wednesday, 17 April 2024 09:30 (30 minutes)

Exposure to heavy metals and natural radionuclides through various means can dispose mankind to deterioration of health. It is essential and of great importance to monitor environmental radiation level and understand the consequences of radiation exposure for ecological conservation and human health. Aero-radiometric data collected from Nigeria Geological Survey Agency (NGSA) for selected locations in some part of Ondo state was analyzed using Oasis Montaj. The activity concentration of 238U, 232Th in ppm ranged between 0.03-7.67, 1.31-40.36 and 0.18-3.03 in % for 40K respectively. The radionuclides content was re-construe in Bq/kg using the relevant conversion factor and the values ranges between 0.38-94.72, 5.31-163.86 and 56.40-949.71 for 238U, 232Th and 40K accordingly. The qualitative analysis gave the result of the absorbed dose of 13.82-163.02 nGy/h. The ternary map indicates the relative abundance of 40K in the study area. ERICA tool reported 3.74  $\mu$ Gyh-1 and 1.04 total dose rate/organism and risk quotient, respectively for cattle in Abeokuta-FUNAAB while it requested further assessments in Ikorodu-LASG-Fish-Farm, Ojo-LASU-Fish-Farm and Ifo-Dagbolu-Ajakaye as it returned risk quotients values >1. The study concluded that Abeokuta-FUNAAB and Agege-Matogbun have high radiation burdens. Remedial actions are recommended in locations with high-risk radiation levels.

Primary author: USIKALU, Mojisola Rachael (Covenant University)Presenter: USIKALU, Mojisola Rachael (Covenant University)Session Classification: Environmental Measurements