**CURRICULUM VITAE**

**FULL NAME (Surname First): MARTINS, Gbenga**

**DATE AND PLACE OF BIRTH:** 28th August, 1989

**TOWN:** Ile-Ife

**STATE OF ORIGIN, SENETORIAL**

**DISTRICT AND LOCAL GOVT. AREA:** Osun, Ife-Ijesa, Ife-East

**NATIONALITY:** Nigerian

**MARITAL STATUS:** Married

**NUMBER OF CHILDREN:** 1

**NEXT OF KIN:** Mrs. Taiwo Adejumoke Martins

**RELIGION:** Christianity

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 gmartins@unimed.edu.ng

**PRESENT POSITION OCCUPIED** Assistant Lecturer

**DATE OF ASSUMPTION OF DUTY:** 1 February, 2022

**FACULTY:** Science

**DEPARTMENT:** Physics

**INSTITUTION ATTENDED WITH DATES:**

Obafemi Awolowo University, Ile-Ife 2017

Obafemi Awolowo University, Ile-Ife, (Adeyemi College of Education, Ondo) (B.Sc.Ed) 2008-2012

Federal University of Technology, Akure 2014

Saint John’s Grammar School, Ile-Ife 2000-2006

Saint Paul’s Anglican Primary School, Ile-Ife 1995-2000

**ACADEMIC/PROFESSIONAL QUALIFICATIONS AND DISTINCTION OBTAINED WITH DATE:**

Masters in Medical Physics (Average Grade: 62%) 2017

Bachelor of Science in Physics Ed. (2nd class upper {HONOURS} Division) 2012

National Examination Council 2006

Primary School Leaving 2000

National Youth Service Corps 2013

ICPC (NYSC Anti-Corruption Campaign) Certificate 2013

Computer diploma Certificate (Upper Credit) 2014

NIDSA Instructor Certificate(s) 2011-2014

**TEACHING EXPERIENCE WITH DATES:**

University of Medical Sciences, Ondo City, Ondo State 2022-Till Date

Osun State College of Technology, Esa-Oke 2018-2022

Obafemi Awolowo University, Ile-Ife 2014-2017

Federal University of Technology, Akure 2014

Urban Boy’s Secondary School, Nsukka, Enugu State 2012/2013

God’s Image Secondary School, Oke-Opa, Ile-Ife 2012

Adeyemi College of Education, Ondo, Ondo State 2009-2011

National Ife Descendants Students’ Association (NIDSA), Ile-Ife 2011-2014

**ACADEMIC RANK HELD WITH DATES:**

Academic Committee Member 2009-2011

NIDSA (Instructor) 2011-2014

NIDSA (Vice-Principal Administration) 2014

Laboratory Assistant 2014-2017

Lecturer III 2018-2022

Assistant Lecturer 2022-Till Date

**ACADEMIC POSITION HELD WITH DATES:**

Physics Tutorial Master 2009-2011

Physics/Mathematics Instructor 2011-2014

Physics (SSS Class) Fine Art (JSS) Teacher 2012

Physics Practical Technologist 2014-2017

Physics Lecturer 2018-Till Date

**COURSES TAUGHT:**

Physics (PHY 101, PHY 102, PHY 113, PHY 107, PHY 108, PHY 205, PHY 201, PHY 212, PHY 213, PHY 315, PHT 312, PHY 301, PHY 306, PYE 327, PYE 326, PYE 416, BPH 111, BPH 112, PYE 312, GLT 311, GLT 312)

**HONOURS, SCHOLARSHIP FELLOWSHIPS, PRIZES/AWARDS:**

Ife Young Scholars (Late Oba Sijuade Okunade Olubuse II, Ooni of Ife {Feb, 2015}2nd Position)

**RESEARCH INTERESTS AND ACTIVITIES:**

Radiation Measurement, Protection and Detection

**CONFERENCE/PAPER SUBMITTED:**

1. Innovations and Developments in Medical Physics (The Conference and Workshop of Medical Physics CWNAMP 2017 by Nigerian Association of Medical Physics)

Paper Presented: Measurement of Natural Radionuclides Concentration and Radiological Impact Assessment of Fish Samples from Dadin Kowa Dam, Gombe State Nigeria

2. “Advances in Science and Technology for Sustainable Development” (4th International Conference on Science and Sustainable Development ICSSD2019, Department of Physics, College of Science and Technology, Covenant University.edu.ng, Covenant University, Ota, Nigeria)

Paper Presented: Investigation on the Effect of Exposure Parameters on the Scattered Radiation for Several Tube Potentials with an Overcouch Tube Geometry

3. “Engineering for a Sustainable World” (3rd International Conference on Engineering for a sustainable world ICESW 2019, Covenant University.edu.ng, Department of Mechanical Engineering, Covenant University, Ota NIgeria)

4. Science and Technology: Nexus for sustainable national development in Nigeria (1st Annual Conference, FPASc 2019 by Faculty of Pure and Applied Sciences, Osun State College of Technology, Esa-Oke, Osun-State)

5. Securing the Nigerian Environment through Science, Technology and Innovation (STI) (54th Annual {Hybrid} Conference and 60th Anniversary Celebration of the Science Association of Nigeria “Oluyole 2021” by Faculty of Science, University of Ibadan, Nigerian)

Paper Presented: Evaluation of Radiation Doses delivered to Patients during Conventional Pelvis Radiographic Imaging in Selected Nigerian Hospitals

**PROFESSIONAL ACCOMPLISHMENT:**

Estimation of Scattered X-ray Radiation during Diagnostic X-ray Examination at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife. 2017

Educationist as Education Minister in Nigeria: What Impacts on Educational Development? 2011

**PROFESSIONAL ACCADEMIC BODY:**

Nigerian Association of Medical Physicists NAMP (Member)

The Science Association of Nigeria SAN (Member)

**PUBLICATIONS WITH DATE:**

Measurement of Natural Radionuclides Concentration and Radiological Impact Assessment of Fish Samples from Dadin Kowa Dam, Gombe State Nigeria

*African Journal of Medical Physics* 2018, *Vol. 1, Number 1 2018*

Natural Radionuclide Concentration and Radiological Impact Assessment of soil and water from Dadinkowa Dam, Northest Nigeria

*Journal of Nigerian Association of Mathematical Physics Vol. 42 pp307-316 July, 2017*

A Study of Natural Radioactivity and Gamma Radiation Hazard in Tobacco Leaves and Cigarettes in Oyo State, Nigeria *Manila Journal of Science Vol.* ***11*** *pp104-114 March,* 2018

Scattered X-radiation Dose Rate from Body Regions during Diagnostic Examination in a Nigerian University Teaching Hospital *African Journal of Medical Physics 2020; 3(1): 14-22. doi: 10*

**SERVICE TO NATIONAL BODY:**

National Youth Service Corps (NYSC), Enugu State

ICPC (Anti-Corruption Campaign), Nsukka

**EXTRA CURRICULAR ACTIVITIES:**

Reading, Counseling and Researching

**NAMES AND ADDRESSES OF REFREES:**

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**A Study of Natural Radioactivity and Gamma Radiation Hazard in Tobacco Leaves and Cigarettes in Oyo State, Nigeria**

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**ABSTRACT**

A study of natural radioactivity on tobacco was studied in order to assess the natural radioactivity content and the gamma radiation hazard in locally produced tobacco leaves and cigarette product in Oyo State, Nigeria, using a well-calibrated Canberra NaI(Tl. The leaves were gotten from two farms known to be two of the major suppliers of the leaves to the dominant tobacco company in Nigeria, and the products were gotten from the market. The radionuclides detected and quantified in this study came from the naturally occurring 238U and 232Th decay series, as well as nonseries 40K. The overall average values of the activity concentration due to 40K, 238U, and 232Th were 57.51, 24.03, and 14.57 Bq kg−,1 respectively, for tobacco leaves and 48.37, 17.52, and 12.39 Bq kg−1, respectively, for cigarette products. Also, the mean external radiation hazard index (Hext) was 0.13 and 0.11 for leaves and cigarette samples, respectively, while the mean internal radiation hazard index (Hint) was 0.20 and 0.15 for the two samples. The estimated values of these radiation indices were less than unity, and this implies that the health risk due to these radionuclides and their short-lived progenies are negligible.

**Keywords**: Radioactivity, Tobacco, Cigarette, Gamma Spectrometry, Radiation Hazard Indices

**Measurement of Natural Radionuclides Concentration and Radiological Impact Assessment of Fish Samples from Dadin Kowa Dam, Gombe State Nigeria**

Orosun M. Michael1\*, Adisa A. Adewale1, Akinyose F. Cornelius2, Amaechi E. Charles 3, Ige O. Simon 1,

Ibrahim B. Mark2, Martins Gbenga2, Adebanjo G. Debo1, Oduh O. Victoria4, Ademola O. John3

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**Abstract**

Radioactivity concentrations of 40K, 232Th and 238U in two majorly consumed fish samples from the Dadin Kowa-dam in Yamaltu-Deba local government area of Gombe State, North-east Nigeria had been determined by Gamma-ray spectrometry. Some radiological impacts were estimated from the gamma results in order to deduce the radiation hazard posed by consumption of the fish in the study area. The mean estimated average dose rate for Catfish and Tilapia was 0.34 and 0.25 nGyh-1 while the average value of annual effective doses for the ingested radionuclide in Catfish for 5 years, 10 years, 15 years, Adults and Fishermen were66.29, 52.92, 44.89, 39.46 and 367.21μSvy-1, respectively and that of Tilapia were 53.07, 42.48, 36.09, 31.81 and 295.87μSvy-1, respectively. These values were less than the acceptable limits of 1000 μSvy-1 for the general populace which implies that all are within the safe limit.

The estimated average values of the excess lifetime cancer risk (x 10-3) for 5 years, 10 years, 15 years, adults and fishermen in Catfish were 0.23, 0.19, 0.16, 0.14 and 1.29 while that of Tilapia were 0.19, 0.15, 0.13, 0.11 and 1.04 respectively which implies that the estimated values for 10 years, 15 years and adults are less than 0.2 x 10-3 which is the world average value. Similarly, the average value of annual gonadal effective dose for the Catfish and Tilapia was 88.96 and 70.49 μSvy-1, respectively while that of gamma index was 0.20 and 0.16, respectively. Furthermore, the average value of the external hazard index for the Catfish and Tilapia was 0.07, 0.06, respectively while the internal hazard index was 0.11 and 0.08, respectively. The results show trends that are generally low for most of the radiological impact parameters estimated as recommended by UNSCEAR (United Nations Scientific Committee on the Effects of Atomic Radiation) thresholds. Therefore, there may be no serious immediate radiological effects to the general populace in this area. It should be noted that for all the radiological health parameters estimated, the mean values for Catfish is higher than that of Tilapia. So for this reason, Catfish pose more radiological health effects than Tilapia, thus, it is safer consuming Tilapia than Catfish.

Key words: Radioactivity, Gamma spectrometry, radiation hazard, fish

**Investigation on the effect of exposure parameters on the scattered radiation for several tube potentials with an overcouch tube geometry**

**Martins G1.,Tchokossa P1., Famurewa O. C1., Orosun M. M2., Akinyose F. C1., and Ochommadu K. K1.**

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**Abstract**

**Introduction:** Radiation exposures from diagnostic medical examinations are generally low and are almost always justified by the benefits of accurate diagnosis of possible disease conditions. The aims of the research are to measure the geometries by placing the detector at 90 degrees to the incident x-ray beam and to investigate the effect of exposure parameters on the scattered radiation for several tube potentials with an overcouch tube geometry.

**Materials and Methods:** The research was carried out using Gamma Scout software installation on Computer system (Laptop) to record the radiation counts, pulse rate and dose rate. The measurement geometry was employed by placing the detector at 90 degrees to the incident x-ray beam. Proforma was used for the collection of patients’ data such as age, sex, examination type and initial diagnosis. Data such as focus skin distance (FSD), body mass index (BMI), body thickness of the patients, the beam output (kVp) and total scattered were collected in University Hospitals, Obafemi Awolowo University, Ile-Ife, Western Nigeria and were estimated accordingly. Total numbers of 136 patients were considered during this research.

**Results:** The research findings showed that the exposure rate for male ranges between 0.920 and 8.204 μSv/hr for Hand, 2.608 and 7.27 μSv/hr for Pelvis, 0.568 and 8.763 μSv/hr for Leg, 3.079 and 17.357 μSv/hr for Lumbosacral, 2.842 and 17.357 μSv/hr for Plain abdominal. Also for female, the exposure rate ranges between 0.612 and 5.997 μSv/hr for Hand, 1.094 and 4.158 μSv/hr for Pelvis, 0.648 and 4.423 μSv/hr for Leg, 1.590 and 15.679 μSv/hr for Lumbosacral, 4.410 and 15.836 μSv/hr for Plain abdominal. The lowest exposure rate was recorded in the leg region between the range of 0.568 and 0.612 μSv/hr and the highest exposure rate was recorded between the range of 15.836 and 17.357 μSv/hr in the region of plain abdominal for both male and female.

**Conclusion:** The results of this study were compared with those of other studies carried out in other countries. As the findings of this study indicated that the amount of tube potentials selected for each diagnostic examination contributed to scattered radiation. Therefore, these results call for quality assurance program (QAP) in diagnostic X-ray units in Nigeria hospitals.

**Keywords:** X-radiation, Tube Potentials, Scattered Radiation, Diagnostic Examination, Dose Rate, Overcouch tube geometry

**Scattered X-radiation Dose Rate from Body Regions during Diagnostic Examination in a Nigerian University Teaching Hospital**

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Abstract

The measurement and prediction of scattered radiation dose in diagnostic radiology is particularly important, owing to the increased use and complexity of X-radiation. It is known that patients treated with ionizing radiation carry a risk of developing cancer in their lifetime. This study measures the exposure rate of patients due to scattered X-rays at an angle of 90O, estimates the dose rate received due to scattered X-ray and aims to provide an understanding of the possibility of minimizing the amount of scattered radiation in diagnostic examination at the Teaching Hospital Complex of Obafemi Awolowo University, Ile-Ife. The X-ray machine used was Varian Medical System Rad 12 X-ray tube with serial number 2226680. Gamma-Scout with serial number 038339 calibrated across a wide scale (0.01 up to 5,000 μSv/hr for easy reading of X-radiation) connected to computer system at a long distance (7 m) from X-ray source to display number of counts, pulse and dose rate in μSv/hr. The results revealed that scattered mean dose rate for skull is 5.93 μSv/hr, neck is 3.99 μSv/hr, chest is 10.42 μSv/hr, shoulder is 4.24 μSv/hr, forearm is 3.32 μSv/hr, wrist and hand is 2.06 μSv/hr, plain abdomen is 9.06 μSv/hr, lumbosacral is 8.67 μSv/hr, pelvis and thigh is 8.67μSv/hr, knee and leg is 2.26 μSv/hr, and the foot is 3.20 μSv/hr. The results of this study fall within the dose level limits recommended by the International Commissions on Radiological Protection (ICRP)on exposure dose which should not exceed <50 μSv annually or 100 μSv every 5 years. Radiation should be thoroughly blocked by the apron to protect the radiological technologist from radiation exposure. Finally, the exposure dose and working environment should be regularly assessed to help decrease the exposure dose of the radiologist in accordance with the ICRP recommendation.

 Keywords: X-ray Radiation; Scattered Radiation; Diagnostic Examination; Dose Rate

**Evaluation of Radiation Doses delivered to Patients during Conventional Pelvis Radiographic Imaging in selected Nigerian Hospitals**

 **1** Bamidele Lateef, 2Olowookere Christopher. J, 1Olatunji Kehinde. O. 1Gbenga Martins

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2 Department of Physics, University of Medical Sciences, Ondo, Nigeria.

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**Abstract**

Diagnostic X-ray procedures remain the largest contributor to the population dose from man-made radiation sources; therefore, there is need for evaluation of the risks associated with the use of ionizing radiation in X-ray examinations. The aim of this study is to evaluate radiation dose in pelvis imaging procedures in some diagnostic centers in South-Western part of Nigeria. Pro-Forma was used to collect patient’s parameters. ESAK formula was used to evaluate Entrance Surface Air Kerma (ESAK) in ten (10) X-ray hospitals. The mean of the ESAK calculated ranges between 1.08 to 16.16 mGy for pelvis AP and pelvis LAT ranges between 1.15 to 10.06 mGy. Wide variations were found among the X-ray units of the study area, even within the same center. The doses estimated in this study were found to be lower than the NRPB-HPA 2010 review for UK.

Keywords: X- ray procedures, Entrance surface air kerma, Dose optimization