Christiana Subaar

Research Centre
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RESEARCH

Interests	Medical Physics Health and Radiation Physics
Areas	Radiology, Nuclear Medicine and Imaging · Artificial Intelligence · Pulmonary and Respiratory Medicine · Biomedical Engineering · Radiological and Ultrasound Technology · Atomic and Molecular Physics, and Optics

RESEARCH SUMMARY

21	37	3	1	0.48	8%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 21 publications listed below, 2014–2026. Field-weighted impact is the mean over the 13 works scored for it; 1.00 is the world average for works of the same field, type and year. 1 of the 13 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Senior Lecturer 2020–present
Department of Physics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Senior Tutor 2010–2020
Science Department, St. John Bosco's College of Education, Navrongo, Ghana

Teaching Assistant 2010–2011
Department of Physics, University for Development Studies, Navrongo, Ghana

Teacher 2001–2010
Science Department, Ghana Education Service, Techiman, Ghana

EDUCATION AND QUALIFICATIONS

Ph.D. 2015–2018
Department of Physics, University of Coast, Cape Coast, Ghana

MPHIL. 2012–2014
Medical Physics Department, University of Ghana, Legon, Accra, Ghana

BSc. Applied Physics 2006–2010
Department of Physics, University for Development Studies, Tamale, Ghana

Certificate 'A' (3-Year Post Secondary) 1998–2001
Science, Bagabaga Teacher Training College, Tamale, Ghana

PUBLICATIONS

Journal articles 20

1. **christiana subaar** (2026). Empirical Relation between Specific Absorption Rate and Distance from Mobile Phones: SAR and phone distance relation. *Journal of Science and Technology (Ghana)*. https://www.ajol.info/index.php/just/article/view/335199
2. Evans Asamoah, **Christiana Subaar**, Joseph Amanfo Ofori, Ezekiel Amarh Ashai, Eric Clement Desmond Kotei Addison, David Dotse Wemegah, Francis Kofi Ampong, Eric Kwabena Kyeh Abavare (2026). Evaluation of Natural Radionuclide Content in Potable Water in some Communities in Abuakwa South Municipality, Ghana. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v44i3.4
3. Humphrey Darkeh Assem, Kofi Nyantakyi Appiah, **Christiana Subaar** (2026). Net force analysis of the B3LYP-D3BJ/DZVP subset of the SPICE dataset: A diagnostic tool for machine learning force fields. *Journal of Molecular Graphics and Modelling*. https://doi.org/10.1016/j.jmgm.2026.109522
4. **Subaar, Christiana**, Aanoneda, Ziem Samuel, Boateng, Sylivia, Amaniampong, Emmanuella Konadu, Adjei, Philimon (2026). Radiation Shielding Performance of Different Concrete Materials: A Systematic Review. *arXiv (Cornell University)*.
5. Samuel Osei, Abdul-Razak Fuseini, Emmanuel Quarshie, Collins Kafui Azah, Richard Dogbey, Philip Deatanyah, **Christiana Subaar**, Frederick Sam, Joseph Kwabena Amoako (2026). Radiofrequency Baseline Assessment of a Large Mining Concession Enclave and Affected Communities. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v44i1.8
6. **christiana subaar**, Frederick Sam (2025). Determination of Ambient Dose Equivalent Using a Microprocessor-Controlled Universal Reference-Class Dosemeter. *Journal of Science and Technology*. https://journal.knust.edu.gh/index.php/just/article/view/1765
7. **christiana subaar**, Frederick Sam (2025). Stability of Calibration Factors of Survey Meters: A Five-Year Comparative Study. *Iranian Journal of Medical Physics/Majallah-I Fīzīk-I Pizishkī-i Īrān*. https://www.researchgate.net/profile/Christiana-Subaar-2/publication/395938917_Stability_of_Calibration_Factors_of_Survey_Meters_A_Five-Year_Comparative_Study/links/68d96576d221a404b2a31e03/Stability-of-Calibration-Factors-of-Survey-Meters-A-Five-Year-Comparative-Study.pdf
8. Joseph Amanfo Ofori, E. C. K. Addison, **Christiana Subaar**, Ezekiel A. Ashai, Evans Asamoah (2025). The impact of radionuclides on water consumption in some water samples in the Ashanti Region, Ghana. *Journal of Water and Health*. https://doi.org/10.2166/wh.2025.200
9. **Christiana Subaar**, Prince Eduboah, Emmanuel Gyan, Kingsley Akosah, Collins Kafui Azah, Mercy Agyei, Samuel Nyarko Osei, Emmanuella Amaniampong Konadu (2024). Assessment of Photon Beam Parameters of the Varian Clinac IX Linear Accelerator. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v42i4.6
10. **Christiana Subaar**, Emmanuel Gyan, Samuel Nyarko Osei, Emmanuella Konadu Amaniampong, Alfred Kwame Agyare, Prince Eduboah, Nelson Appiah-Agyei, MacCharthy Alale (2024). Development of Breast Phantom for Clinical Simulation and Educational Purposes. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v42i4.4
11. **Christiana Subaar**, Fosberg Tweneboah Addai, Eric Clement Kotei Addison, Olivia Christos, Joseph Adom, Martin Owusu-Mensah, Nelson Appiah-Agyei, Shadrack Abbey (2024). Investigating the detection of breast cancer with deep transfer learning using ResNet18 and ResNet34. *Biomedical Physics & Engineering Express*. https://doi.org/10.1088/2057-1976/ad3cdf
12. **Christiana Subaar**, Emmanuel Gyan, Kwadwo A Dompreh, Joseph K Amoako, George Edusei, Alfred Owusu (2024). Numerical simulation in magnetic resonance imaging radiofrequency dosimetry. *Biomedical Physics & Engineering Express*. https://doi.org/10.1088/2057-1976/ad6a68
13. Emmanuel Gyan, **Christiana Subaar**, George Edusei, Linda Antwi Nyarko (2024). Paediatric computed tomography diagnostic reference levels in Africa: A systematic review. *Journal of Medical Radiation*

Sciences. https://doi.org/10.1002/jmrs.824

14. **S Christiana**, K Preko, SK Danuor (2023). Estimation of temperature change in the human brain during magnetic resonance imaging procedure. *Journal of Science and Technology*. https://journal.knust.edu.gh/index.php/just/article/view/1471
15. Emmanuel Gyan, George Amoako, Stephen Inkoom, **Christiana Subaar**, Barry Rahman Maamah (2023). Proposed Institutional Diagnostic Reference Levels in Computed and Direct Digital Radiography Examinations in Two Teaching Hospitals. *Journal of Radiation Protection and Research*. https://doi.org/10.14407/jrpr.2021.00367
16. **Christiana Subaar**, Emmanuel Gyan, Jonathan Osei -Owusu, Raymond Edziah, Aboagye.K Dofuor, Joseph. B. Tandoh, Ralph Kwakye, Edward Ntim (2022). Determination of Heavy Metals Pollution in Soil and Tree Rings along Haatso- Atomic Road in Ghana. *Pollution and Effects on Community Health*. https://doi.org/10.58489/2836-3590/002
17. **C Subaar** (2022). Teaching of Construction of Common Angles in the Junior High School: An Interventional Study. *Science Journal of Applied Mathematics and Statistics*.
18. **Christiana Subaar**, Ntiforo Apori, Justice John Fletcher, Raymond Galyuon, George Edusei, Veronica Wewora Adayira (2018). Time Series Analysis for Prediction of Meteorological Data from Wa, Upper West Region of Ghana. *Journal of Climatology & Weather Forecasting*. https://doi.org/10.4172/2332-2594.1000237
19. **C Subaar** (2018). Towards the Solution of Abysmal Performance of Fraction in Navrongo Presbyterian Primary School: Comparing the Sets of Objects and Paper Folding Designed Interventions. *education*.
20. **C Subaar** (2014). Finite difference time domain appraoch of thermal effect on peadiatric patients undergoing magnetic resonance imaging in Ghana. *Research Journal in Engineering and Applied Sciences*.

Theses 1

1. **C Subaar** (2019). Numerical studies of temperature changes in adult and paediatric patients in brain magnetic resonance imaging. *University of Cape Coast*. https://ir.ucc.edu.gh/server/api/core/bitstreams/e5ed77c3-15e2-4d18-b469-5ef1f399d0f2/content