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RESEARCH

Interests	Condensed Matter Physics
Areas	Materials Chemistry · Atomic and Molecular Physics, and Optics · Civil and Structural Engineering · Biomedical Engineering · Electrical and Electronic Engineering · Radiological and Ultrasound Technology

RESEARCH SUMMARY

34	88	6	1	0.53	4%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 34 publications listed below, 1995–2026. Field-weighted impact is the mean over the 24 works scored for it; 1.00 is the world average for works of the same field, type and year. 1 of the 24 papers scored for it are among the world's most cited tenth for their field, type and year.

PUBLICATIONS

Journal articles 30

1. Yusif Owusu, Komlan Agbéko Kpogo-Nuwoklo, **Anthony Twum**, Bapentire Donatus Angnuureng (2026). Assessment of Wave Data in West Africa for the Estimation of Wave Climate. *Coasts*. https://doi.org/10.3390/coasts6010008
2. Yusif Owusu, Bapentire Donatus Angnuureng, Komlan Agbéko Kpogo-Nuwoklo, **Anthony Twum**, Francis Nkrumah, Blessing Nwanosike (2026). Comprehensive analysis of extreme wave events along the West African Coast: a study using WAVERYS data and peak over threshold (pot) method. *African Geographical Review*. https://doi.org/10.1080/19376812.2025.2611302
3. A.S.K. Amable, F. Otoo, P.K. Buah-Bassuah, **A. Twum**, E.N. Manso, J.P. Adeti, E. Ahiave (2025). Assessment of indoor radon, radon exhalation rate, and radium levels within Kpando Municipality, Volta Region, Ghana. *International Journal of Radiation Research*. https://doi.org/10.61186/ijrr.23.1.53
4. Issah Sumaila, Mubarick Nungbaso Asumah, Mustapha Hallidu, Abraham Ndekudugu, Shaibu Issifu, **Anthony Twum**, Collins Boateng Danquah, Helen Agodzo, Paulina Clara Appiah, Fred Adomako Boateng (2025). Determinants of adverse birth outcomes among pregnant women in Kintampo municipal hospital, Ghana. *Frontiers in Global Women s Health*. https://doi.org/10.3389/fgwh.2025.1444566
5. Shaibu Issifu, Lydia Sarponmaa Asante, Issah Sumaila, Debora Awuah Appietuah, **Anthony Twum**, Helen Agodzo, Michael Opoku-Mireku (2025). The role of hormonal contraceptive use in mediating sociodemographic predictors of overweight/obesity among women of reproductive age in Ghana. *PLOS Global Public Health*. https://doi.org/10.1371/journal.pgph.0004823
6. Anthony Selorm Kwesi Amable, Francis Otoo, Paul Kingsley Buah-Bassuah, **Anthony Kwabena Twum** (2024). Assessment of indoor radon distribution and seasonal variation within the Kpando Municipality of Volta Region, Ghana. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0299072
7. Raymond Edziah, Samuel S. Bentsiefi, Kwadwo Dompreh, **Anthony Twum**, Emmanuel Kofi Amewode, Patrick Mensah-Amoah, Ebenezer T. Tatchie, Cynthia Jebuni-Adanu, Samuel Y. Mensah (2024). Investigation of Acoustomagnetoelectric Effect in Bandgap Graphene by the Boltzmann Transport Equation. *World Journal of Condensed Matter Physics*. https://doi.org/10.4236/wjcmp.2024.141002

8. Anthony Selorm Kwesi Amable, Francis Otoo, Paul Kingsley Buah-Bassuah, **Anthony Kwabena Twum** (2023). Assessment of natural radioactivity, radon gas and soil characteristics along the Volta Lake in the Kpando municipality of Volta region, Ghana. *Radiation Protection Dosimetry*. https://doi.org/10.1093/rpd/ncad255

9. **Anthony Twum**, Samuel Y. Mensah, Raymond Edziah, Natalia G. Mensah, S.S. Abukari, K.A. Dompreh, G. Nkrumah-Buandoh, Augustine Arthur (2022). Investigation of laser modulated thermoelectric power of chiral carbon nanotubes. *Physica E Low-dimensional Systems and Nanostructures*. https://doi.org/10.1016/j.physe.2022.115304

10. Michael Mireku Opoku, Kwaku Poku Asante, Stephaney Gyaase, Emmanuel A.A. Teviu, Kingsley Amponsah, **Anthony Twum**, Kwabena Fosuhene Kusi, Alfred Kwadwo Ampofo, Fred Adomako-Boateng (2022). Risk factors for COVID-19 virus infection among health workers: A case-control study in the Bono East Region of Ghana. *American Journal of Infection Control*. https://doi.org/10.1016/j.ajic.2022.08.008

11. K. A. Dompreh, K. W. Adu, D. Sakyi-Arthur, N. G. Mensah, S. Y. Mensah, **A. Twum**, M. Amekpewu (2021). Acoustoelectric current in graphene nanoribbon due to Landau damping. *Scientific Reports*. https://doi.org/10.1038/s41598-021-95896-6

12. **Anthony Twum**, Raymond Edziah, Samuel Yeboah Mensah, Kwadwo Dompreh, Patrick Mensah-Amoah, Augustine Arthur, Natalia G. Mensah, Kofi Adu, George Nkrumah-Buandoh (2021). Temperature Dependent Resistivity of Chiral Single-Walled Carbon Nanotubes in the Presence of Coherent Light Source. *World Journal of Condensed Matter Physics*. https://doi.org/10.4236/wjcmp.2021.114006

13. **Anthony Twum**, Samuel Yeboah Mensah, Raymond Edziah, Augustine Arthur (2020). Laser induced resistivity of chiral single wall carbon nanotubes. *Journal of Physics Communications*. https://doi.org/10.1088/2399-6528/aba1d4

14. **A Twum** (2019). Analysis of Electric Field Strengths and Power Densities of 4G LTE Base Stations in the Greater Accra Region of Ghana. *International Journal of Research in Science and Technology (IJRST)*.

15. Frederick Sam, George Amoako, Baah Sefa-Ntiri, **Anthony Twum**, P. Mensah-Amoah, John Tellam (2018). Characterization of Potential Direct Recharge in the Gold Mining District of South-Western Ghana Using the Hydrus-1D Computer Code. *Journal of Geography and Geology*. https://doi.org/10.5539/jgg.v10n3p1

16. Sulemana S. Abukari, Frederick Sam, Samuel Y. Mensah, Natalia G. Mensah, Rabiu Musah, **Anthony Twum**, Patrick M. Amoah, Alfred Owusu (2016). Direct Current Generation in Carbon Nanotubes by Terahertz Field. *World Journal of Condensed Matter Physics*. https://doi.org/10.4236/wjcmp.2016.61008

17. George Amoako, Zhou Ming, Ye Rian, Patrick Mensah Amoah, **Anthony Twum**, Frederick Sam (2015). Connecting DNA origami structures using the biotin-streptavidin specific binding. *AFRICAN JOURNAL OF BIOTECHNOLOGY*. https://doi.org/10.5897/ajb2015.14697

18. Sulemana S. Abukari, Samuel Y. Mensah, Musah Rabiu, Kofi W. Adu, Natalia G. Mensah, **Anthony Twum**, Alfred Owusu, Kwadwo A. Dompreh, Patrick Mensah-Amoah, Matthew Amekpewu (2015). High-Frequency Electric Field Induced Nonlinear Electron Transport in Chiral Carbon Nanotubes. *World Journal of Condensed Matter Physics*. https://doi.org/10.4236/wjcmp.2015.54030

19. Sulemana S. Abukari, Kofi W. Adu, Samuel Y. Mensah, Natalia G. Mensah, Kwadwo A. Dompreh, **Anthony Twum**, Musah Rabiu (2013). Amplification of terahertz radiation in carbon nanotubes. *The European Physical Journal B*. https://doi.org/10.1140/epjb/e2013-30771-6

20. Sulemana S. Abukari, Samuel Y. Mensah, Musah Rabiu, Kofi W. Adu, Natalia G. Mensah, Kwadwo A. Dompreh, **Anthony Twum**, Matthew Amekpewu (2013). External Electric Field Effect on Electrons Transport in Carbon Nanotubes. *World Journal of Condensed Matter Physics*. https://doi.org/10.4236/wjcmp.2013.34027

21. Musah Rabiu, Samuel Y. Mensah, Sulemana S. Abukari, Matthew Amekpewu, Baah Sefa-Ntiri, **Anthony Twum** (2013). Generation and Propagation of Ultrasonic Waves in Piezoelectric Graphene Nanoribbon. *Open Journal of Acoustics*. https://doi.org/10.4236/oja.2013.33a007

22. Sulemana S. Abukari, Kofi W. Adu, Samuel Y. Mensah, Natalia G. Mensah, Musah Rabiu, **Anthony Twum**, Mathew Amekpewu, Kwadwo A. Dompreh (2013). Rectification due to harmonic mixing of two coherent electromagnetic waves with commensurate frequencies in carbon nanotubes. *The European Physical*

Journal B. https://doi.org/10.1140/epjb/e2013-30011-3

23. SS Abukari, SY Mensah, NG Mensah, KA Dompreh, **A Twum** (2012). Appearance of Large Amplitude Current Dynamics as a Result of Bragg Reflection in Carbon Nanotubes. *arXiv preprint arXiv:1207.3111*. https://arxiv.org/abs/1207.3111
24. Sulemana S. Abukari, Samuel Y. Mensah, Kofi W. Adu, Natalia G. Mensah, Kwadwo A. Dompreh, **Anthony Twum**, Chales L. Y. Amuah, Matthew Amekpewu, Musah Rabiu (2012). Domain Suppression in the Negative Differential Conductivity Region of Carbon Nanotubes by Applied AC Electric Field. *World Journal of Condensed Matter Physics*. https://doi.org/10.4236/wjcmp.2012.24045
25. NATALIA G. MENSAH, Samuel Y Mensah, **A Twum** (2012). External electric field effect on electron transport in carbon nanotubes. *arXiv preprint arXiv:1207.3117*. https://arxiv.org/abs/1207.3117
26. Sulemana S Abukari, NG Mensah, **A. Twum** (2012). Generation and Amplification of Terahertz Radiation in Carbon Nanotubes. *University of Cape Coast*. https://arxiv.org/abs/1202.4618
27. S. S. Abukari, S. Y. Mensah, N. G. Mensah, K. A. Adu, M. Rabiu, **A. Twum** (2012). High frequency conductivity in carbon nanotubes. *AIP Advances*. https://doi.org/10.1063/1.4771677
28. **A. Twum**, SY Mensah, NG Mensah, KA Dompreh, SS Abukari (2012). Laser stimulated thermal conductivity in chiral carbon nanotube. *arXiv preprint arXiv:1207.6527*. https://arxiv.org/abs/1207.6527
29. G Amoako, SY Mensah, **A Twum** (2011). Stability of Gold Thin Films on Polyimide. *International Review of Physics*. https://www.researchgate.net/profile/George-Amoako-2/publication/325996198_Stability_of_Gold_Thin_Films_on_Polyimide/links/5b3b9238a6fdcc8506ee9c1e/Stability-of-Gold-Thin-Films-on-Polyimide.pdf
30. S.Y. Mensah, N.G. Mensah, V.W. Elloh, **AK Twum**, Frederick Sam, F.K.A. Allotey (2005). Propagation of ultrasonic waves in bulk gallium nitride (GaN) semiconductor in the presence of high-frequency electric field. *Physica E Low-dimensional Systems and Nanostructures*. https://doi.org/10.1016/j.physe.2005.05.050

Conference papers 1

1. **ANTHONY KWABENA TWUM** (2016). Nanotechnology Application for drinking water treatment, assisted by light transmission experiment. *Refereed papers from the 3rd University of Cape Coast and University of Ilorin joint international conference*.

Reports 1

1. SY Mensah, NG Mensah, **AK Twum** (1995). Soliton excitation in superlattice. *University of Cape Coast*. https://inis.iaea.org/records/0ffsj-b4163

Theses 2

1. **Anthony Twum** (2015). The mediating effect of employee commitment on service quality and client satisfaction among selected hospitals in Ghana. *KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY*. https://scholar.google.com/scholar?cluster=11306766183039671272&hl=en&oi=scholarr
2. **Anthony Kwabena Twum** (2010). Laser Induced Thermoelectric Properties of Chiral Carbon Nanotubes. *University of Cape Coast*. https://ir.ucc.edu.gh/items/9546c9d8-b312-4839-81df-de80167a8442