Samuel Sonko Sackey

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RESEARCH

Interests: Applied Spectroscopy · Atmospheric Trace Gas Emission · Qualitative and Quantitative investigations on

Areas: Biomedical Engineering · Analytical Chemistry · Molecular Biology · Radiation · Artificial Intelligence · Atomic and Molecular Physics, and Optics

RESEARCH SUMMARY

31	153	8	5	0.75	4%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 31 publications listed below, 2004–2026. 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.

POSITIONS

Coordinator of LAFOC, Lecturer, Department of Physics 2007–present
Laser and Fibre Optics Centre (LAFOC), Department of Physics, University of Cape Coast, Cape Coast, Ghana

EDUCATION AND QUALIFICATIONS

PhD 2007–present
Laser and Fibre Optics Centre, Department of Physics, University of Cape Coast, Cape Coast, Ghana

PUBLICATIONS

Journal articles 29

1. Charles Lloyd Yeboah Amuah, Francis Padi Lamptey, Vida Gyimah Boadu, Jerry Opoku-Ansah, Elliot Kwaku Anyidoho, Haruna Gado Yakubu, Olivia Dzifa Peace Vordoagu, **Samuel Sonko Sackey**, Ernest Teye (2026). Detection of defective cocoa beans using machine learning techniques and NIR spectral data fusion. *Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy*. https://doi.org/10.1016/j.saa.2026.127792
2. **Samuel Sonko Sackey**, CLY Amuah, J Opoku-Ansah, POW Adueming (2025). Classification of organic and conventional cocoa beans using laser-induced fluorescence spectroscopy combined with chemometric techniques. *Journal of Fluorescence*.
3. Sylvia Owusua Donkor, **Samuel Sonko Sackey**, Michael Kwame Vowotor, Charles Lloyd Yeboah Amuah, Rabbi Boateng, Ebenezer Teye Tatchie, Jerry Opoku-Ansah, Peter Osei-Wusu Adueming (2024). Analysis of Colorfastness in Metallic Prints Using Absorption Spectroscopy. *Journal of Spectroscopy*. https://doi.org/10.1155/jspe/2632412
4. Peter Osei-Wusu Adueming, Jerry Opoku-Ansah, Andrew Atiogbe Huzortey, Charles Lloyd Yeboah Amuah, Kwasi Nyandey, Moses Jojo Eghan, Benjamin Anderson, **Samuel Sonko Sackey** (2023). A Feasibility Study on Monitoring Shelf Life of Bottled Natural Fruit Juice Using Laser-Induced Autofluorescence. *International Journal of Optics*. https://doi.org/10.1155/2023/7458190

5. Michael K. Vowotor, **Samuel S. Sackey**, Charles L. Y. Amuah, Andrew Huzortey, Irene K. Aboh, Andrews A. Druye (2023). Analysis of seven micronutrients in breast milk of lactating mothers from the Central Region of Ghana using epithermal neutron activation. *Integrated Health Research Journal*. https://doi.org/10.47963/ihrj.v1i1.1180

6. Justice Allotey Pappoe, Jerry Opoku-Ansah, Charles Lloyd Yeboah Amuah, Peter Osei-Wusu Adueming, **Samuel Sonko Sackey**, Rabbi Boateng, Justice Kwaku Addo, Moses Jojo Eghan, Patrick Mensah-Amoah, Benjamin Anderson (2023). Automatic Classification of Antimalarial Herbal Drugs Exposed to Ultraviolet Radiation from Unexposed Ones Using Laser-Induced Autofluorescence with Chemometric Techniques. *Journal of Fluorescence*. https://doi.org/10.1007/s10895-023-03281-5

7. Justice Allotey Pappoe, Olivia Mongson, Charles Lloyd Yeboah Amuah, Jerry Opoku-Ansah, Peter Osei-Wusu Adueming, Rabbi Boateng, Moses Jojo Eghan, **Samuel Sonko Sackey**, Elliot Kwaku Anyidoho, Andrew Atiogbe Huzortey, Benjamin Anderson, Michael Kwame Vowotor, Ernest Teye (2023). Classification of Organic and Conventional Cocoa Beans Using Laser-Induced Fluorescence Spectroscopy Combined with Chemometric Techniques. *Journal of Fluorescence*. https://doi.org/10.1007/s10895-023-03499-3

8. E.K. Amewode, B. Sefa-Ntiri, A. Owusu, M. K. Vowotor, **S. S. Sackey**, F. Kumi, C. L. Y Amuah (2023). Investigation of Amended Sandy Soil's Water Retention Characteristics. *African Journal Of Applied Research*. https://doi.org/10.26437/ajar.v9i2.563

9. Patrick Essien, Cosme Alexandre Oliveira Barros Figueiredo, Hisao Takahashi, Nana Ama Browne Klutse, Cristiano Max Wrasse, João Maria de Sousa Afonso, David Pareja Quispe, Solomon Otoo Lomotey, Tunde Toyese Ayorinde, José H. A. Sobral, Moses Jojo Eghan, **Samuel Sanko Sackey**, Diego Barros, Anderson V. Bilibio, Francis Nkrumah, Kwesi Akumenyi Quagraine (2022). Intertropical Convergence Zone as the Possible Source Mechanism for Southward Propagating Medium-Scale Traveling Ionospheric Disturbances over South American Low-Latitude and Equatorial Region. *Atmosphere*. https://doi.org/10.3390/atmos13111836

10. Andrew Atiogbe Huzortey, Abbas Arefi, Benjamin Anderson, Hossein Khadem, **Samuel Sonko Sackey**, Elaheh Mahmoodi-Khaledi, Seyed Hassan Tavassoli (2021). 532-nm Laser-Excited Raman Spectroscopic Evaluation of Iranian Honey. *Food Analytical Methods*. https://doi.org/10.1007/s12161-021-02164-4

11. Michael Kwame Vowotor, Raymond Edziah, **Samuel Sonko Sackey**, Emmanuel Kofi Amewode, Sandra Baaba Frempong (2021). Assessment of Arsenic and Copper Pollution of the Benya Lagoon, Ghana By Neutron Activation Analysis. *Journal of Engineering Advancements*. https://doi.org/10.38032/jea.2021.04.004

12. Michael Kwame Vowotor, George Amoako, Baah Sefa-Ntiri, Samuel Amoah, **Samuel Sonko Sackey**, Charles Lloyd Yeboah Amuah (2020). Assessment of Nine Micronutrients in Jasmine 85 Rice Grown in Ghana Using Neutron Activation Analysis. *Environment and Pollution*. https://doi.org/10.5539/ep.v9n2p29

13. B. Sefa-Ntiri, B. Kwakye-Awuah, R. Edziah, B. Anderson, F. A. Armah, P. Mensah-Amoah, **S. S. Sackey**, F. Sam, A. G. Akyea, S. Yunus, E. Tatchie, B. K. Nkansah, F. Kumi (2020). Dissolved organic matter in hand-dug well water as groundwater quality indicator: assessment using laser-induced fluorescence spectroscopy and multivariate statistical techniques. *SN Applied Sciences*. https://doi.org/10.1007/s42452-020-2446-4

14. MK Vowotor, **SS Sackey**, G Amoako, B Sefa-Ntiri, CLY Amuah, KK Mireku (2020). Epithermal Instrumental Neutron Activation Analysis Technique in Determining Bromine, Chlorine, and Iodine in Sarotherodon Melanotheron from the Benya Lagoon, Ghana. *International Journal of Science and Engineering Investigations*. https://ir.ucc.edu.gh/server/api/core/bitstreams/f2fc889d-3b53-48ec-b59e-10db1248d6bd/content

15. Michael K. Vowotor, **Samuel S. Sackey**, Charles L. Y. Amuah, Andrew Huzortey, Dennis M. Ahorlu, Godwin Kortey, Dickson Kuvedzi (2019). Neutron Activation Analysis as a tool to Determine Concentration of Selected Metals in Table Salt Mined from Benya Lagoon, Ghana. *chemistry and materials research*. https://doi.org/10.7176/cmr/11-8-06

16. **SS Sackey**, P Mensah-Amoah, G Amoako, Michael Kwame Vowotor, B Sefa-Ntiri (2019). Photo-Degradation of Microbes in Hand-Dug Well-Water Using Different Radiation Sources. *International Journal of Science and Engineering Investigations (IJSEI)*. https://ir.ucc.edu.gh/server/api/core/bitstreams/

10ce3736-bbe7-47a1-8b50-bfa55fb2a873/content

17. Shemmira Yunus, Baah Sefa-Ntiri, Benjamin Anderson, Francis Kumi, Patrick Mensah-Amoah, **Samuel Sonko Sackey** (2019). Quantitative Pore Characterization of Polyurethane Foam with Cost-Effective Imaging Tools and Image Analysis: A Proof-Of-Principle Study. *Polymers*. https://doi.org/10.3390/polym11111879
18. M. K. Vowotor, **SS Sackey** (2019). Use of Geo-Accumulation Index and Enrichment Factor in Assessing Pollution of Some Heavy Metals in KEEA, Ghana Tidal Flat. *International Journal of Science and Engineering Investigations (IJSEI)*. https://ir.ucc.edu.gh/server/api/core/bitstreams/ef2fe9ec-3792-4bed-96c7-8e4e2da99933/content
19. George Amoako, Patrick Mensah-Amoah, Frederick Sam, **Samuel S Sackey** (2018). Some Mechanical Properties of Coconut Fiber Reinforced Polyethylene Composite to Control Environmental Waste in Ghana. *Energy and Environment Research*. https://doi.org/10.5539/eer.v8n1p1
20. Jerry Opoku-Ansah, Benjamin Anderson, Moses J. Eghan, Peter Osei-Wusu Adueming, Charles L.Y. Amuah, **Samuel S. Sackey** (2017). A Retrofitted Metallurgical Microscope Using Light Emitting Diodes for Multi-Spectral Imaging. *Modern Applied Science*. https://doi.org/10.5539/mas.v11n9p30
21. George Amoako, Zhou Ming, Moses Jojo Eghan, **Samuel Sonko Sackey** (2017). DNA Origami as a Tool to Design Asymmetric Gold Nanostructures. *Journal of Materials Science Research*. https://doi.org/10.5539/jmsr.v7n1p1
22. **Samuel Sonko Sackey**, Baah Sefa-Ntiri, Patrick Mensah-Amoah, Jonathan Ntow, Michael Kwame Vowotor, Andrew Huzortey, Angela Akyea (2017). Microbial Purification in Well-Water Using UV-Vis LEDs and Monitoring Using Laser-Induced Fluorescence. *Applied Physics Research*. https://doi.org/10.5539/apr.v9n6p36
23. Peter Osei-Wusu Adueming, Moses Jojo Eghan, Benjamin Anderson, Samuel Kyei, Jerry Opoku-Ansah, Charles L. Y. Amuah, **Samuel Sonko Sackey**, Paul Kingsley Buah-Bassuah (2017). Multispectral Imaging in Combination with Multivariate Analysis Discriminates Selenite Induced Cataractous Lenses from Healthy Lenses of Sprague-Dawley Rats. *Open Journal of Biophysics*. https://doi.org/10.4236/ojbiphy.2017.73011
24. G. Amoako, W. Zhang, M. Zhou, **S. S. Sackey**, P. Mensah-Amoah (2017). Rapid Laser Direct Writing of Plasmonic Components. *Applied Physics Research*. https://doi.org/10.5539/apr.v9n6p19
25. MK Vowotor, **Samuel Sonko Sackey**, Christiana Odumah Hood, E Tatchie, DC Adukpo, KK Mireku, S Nyarko (2015). Daily Intake and Sources of Trace Elements in Sarotherodon melanotheron from the Benya Lagoon, KEEA, Ghana, Using Instrumental Neutron Activation Analysis. *Journal of Basic & Applied Sciences*. https://www.researchgate.net/profile/Samuel-Sackey-2/publication/301201935_Daily_Intake_and_Sources_of_Trace_Elements_in_Sarotherodon_melanotheron_from_the_Benya_Lagoon_KEEA_Ghana_Using_Instrumental_Neutron_Activation_Analysis/links/570bfc1a08aee0660351a954/Daily-Intake-and-Sources-of-Trace-Elements-in-Sarotherodon-melanotheron-from-the-Benya-Lagoon-KEEA-Ghana-Using-Instrumental-Neutron-Activation-Analysis.pdf
26. **Samuel S. Sackey**, Michael K. Vowotor, Afred Owusu, Patrick Mensah-Amoah, Ebenezer T. Tatchie, Baah Sefa-Ntiri, Christiana O. Hood, Sampson M. Atiemo (2015). Spectroscopic Study of UV Transparency of Some Materials. *Environment and Pollution*. https://doi.org/10.5539/ep.v4n4p1
27. Michael Kwame Vowotor, Christiana Odumah Hood, **Samuel Sonko Sackey**, Alfred Owusu, Ebenezer Tatchie, Savanna Nyarko, Daniel Manu Osei, Kwadwo Kesse Mireku, Crystal Bubune Letsa, Sampson M. Atieomo (2014). An Assessment of Heavy Metal Pollution in Sediments of a Tropical Lagoon: A Case Study of the Benya Lagoon, Komenda Edina Eguafo Abrem Municipality (KEEA) — Ghana. *Journal of Health and Pollution*. https://doi.org/10.5696/2156-9614-4-6.26
28. E. Palazzi, A. Petritoli, G. Giovanelli, I. Kostadinov, D. Bortoli, F. Ravegnani, **S.S. Sackey** (2005). PROMSAR: A backward Monte Carlo spherical RTM for the analysis of DOAS remote sensing measurements. *Advances in Space Research*. https://doi.org/10.1016/j.asr.2005.05.017
29. **S Sackey** (2004). Ghanaian miners risk lives for gold. *Washington Times*. https://scholar.google.com/scholar?cluster=10503965792785649091&hl=en&oi=scholarr

Conference papers 1

1. Andrew Atiogbe Huzortey, Benjamin Anderson, Jonathan Ntow, **Samuel Sonko Sackey**, Rofela Combey, Joseph Kwasi Adu, Charles Lloyd Yeboah Amuah, Peter Kofi Kwapong, Alfred Owusu (2022). 445 nm Laser-Induced Fluorescence monitoring of 5-Hydroxymethylfurfural in Honey. *Conference on Lasers and Electro-Optics*. https://doi.org/10.1364/cleo_at.2022.am2m.5

Theses 1

1. **SAMUEL SONKO Sackey** (2012). Development of DOAS remote sensing system for ground-based measurements of trace gas emissions in an industrial area. *Ph. D. thesis (University of Cape Coast, 2012)*. https://ir.ucc.edu.gh/server/api/core/bitstreams/53f638f5-3d64-4798-92b8-dd6a986e81d2/content