Carl Halladay Abraham

Lecturer · Optometry
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RESEARCH

Interests: Low Vision · Refrative Error · Vision Impairment

Areas: Epidemiology · Ophthalmology · Radiology, Nuclear Medicine and Imaging · Cognitive Neuroscience · Social Psychology · Public Health, Environmental and Occupational Health

RESEARCH SUMMARY

48	460	12	16	1.61	10%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 48 publications listed below, 2012–2026. Field-weighted impact is the mean over the 42 works scored for it; 1.00 is the world average for works of the same field, type and year. 4 of the 42 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecturer 2018–present
School of Optometry and Vision Science, University of Cape Coast, Cape Coast, Ghana

Head of Department 2014–2018
Optometry Department, Malawi College of Health Sciences, LILONGWE, Malawi

Principal Research Assistant 2013–2014
Department of Optometry, University of Cape Coast, Cape Coast, Ghana

EDUCATION AND QUALIFICATIONS

MSc Clinical Optometry 2013–2017
School of Optometry and Vision Science (WOPEC), Cardiff University, Cardiff, United Kingdom

Professional Certificate in Low Vision 2013–2015
School of Optometry and Vision Science (WOPEC), Cardiff University, Cardiff, United Kingdom

Doctor of Optometry 2005–2011
Department of Optometry, University of Cape Coast, Cape Coast, Ghana

DISTINCTIONS, MEMBERSHIPS AND SERVICE

Member 2012–present
Allied Health Professions Council, Accra, Ghana

Member 2011–present
Ghana Optometric Association, Accra, Ghana

PUBLICATIONS

Journal articles 48

1. **Carl Halladay Abraham**, Emmanuel Kwasi Abu, Paul Owusu, Thomas Osei Mensah, Ebenezer Botchway, Philip Abakah Mensah, Albert Kofi Dadzie, Samuel Kyei (2026). Disease-specific data augmentation enhances deep learning classification of age-related macular degeneration, diabetic retinopathy, and glaucoma. *Digital Health*. https://doi.org/10.1177/20552076261461391
2. Frank Adusei-Mensah, Charity Owusu, Albert Ofori, Samuel Kyei, **Carl Halladay Abraham**, Sunday Olaleye, Samson Oluwafemi Balogun, Richard Osei Agjei, David K. Essumang (2026). Knowledge, Attitudes, Practice and the Prevalence of Eye Conditions Among Commercial Fish Smokers in Abuesi, Ghana: A Cross-Sectional Study. *Health Science Reports*. https://doi.org/10.1002/hsr2.72493
3. Stephen Ocansey, Emmanuella Adjei Baffour, Ebenezer Oduro Antiri, Fuseina Safianu, **Carl Haladay Abraham**, Emmanuel Kwasi Abu, John Siderov (2026). Measuring contrast sensitivity in school children and young adults: a comparison between Pelli-Robson and SpotChecks charts. *Clinical and Experimental Optometry*. https://doi.org/10.1080/08164622.2026.2686762
4. Charles Darko-Takyi, Ebenezer Manu, Victoria Yirrah, Sandra Owusu, Kumi Owusu Boakye, **Carl Halladay Abraham**, Kwame Okyere Osei (2026). Normative data for accommodative facility and vergence facility in a sample of African school children aged 8–17 years. *Frontiers in Neuroscience*. https://doi.org/10.3389/fnins.2026.1742375
5. Enyam K.A. Morny, Emmanuel Adator, **Carl Halladay Abraham**, Dillys A.D. Amega, Solomon Edziah, Fidelis Kuebutornye, Kojo Essel-Amoah, Stephen Ocansey, Charles Darko-Takyi, Michael Ntodie, Selina Holdbrook, Obed Amoah-Smith, Stephen Moore, Louise Terry (2026). Profiling visual health of young adults in Ghana: a university-based eye screening survey. *Data in Brief*. https://doi.org/10.1016/j.dib.2026.113202
6. **Carl Halladay Abraham**, Alhassan Osman, Godfred Sakyi-Badu, Charles Darko-Takyi, Emmanuel Addai, Fusiena Safianu, Emmanuella Nyarkoa Opoku, Asantewaa Aboagye-MacCarthy, Emmanuel Adator, Enyam Komla Amewuho Morny (2026). Smartphone Near-Viewing Demands Differ in Corrected Presbyopes: Implication for Presbyopic Correction. *Ophthalmic and Physiological Optics*. https://doi.org/10.1007/s44402-026-00168-3
7. **Carl Halladay Abraham**, Diane van Staden, Nishanee Rampersad (2025). A Qualitative Assessment of Low Vision Care Among Optometric Practitioners in Sub-Saharan Africa Using a Health Systems Framework. *Health Services Insights*. https://doi.org/10.1177/11786329251399779
8. Charles Darko-Takyi, Thomas Welbeck Mills, Samuel Bert Boadi-Kusi, Michael Ntodie, **Carl Halladay Abraham**, Emmanuel Kwasi Abu, Sedinam Amewuzah, Emmanuel Essien, Bright Osei Wiafe, Stephen Ocansey (2025). Association between near visual display device usage and the eye's accommodation and vergence parameters: a cross-sectional study of high school children in Cape Coast, Ghana. *BMJ Public Health*. https://doi.org/10.1136/bmjph-2025-003041
9. Michael Ntodie, Enoch Eduaful, **Carl H. Abraham**, Osbert D. Antwi, Khathutshelo P. Mashige (2025). Baseline pupil size predicts dilation rate with 1% tropicamide in a young African population. *African vision and eye health*. https://doi.org/10.4102/aveh.v84i1.1002
10. **Carl Halladay Abraham**, Diane van Staden, Nishanee Rampersad (2025). Exploring governance challenges in low vision care and rehabilitation in sub-Saharan Africa. *International Journal of Health Governance*. https://doi.org/10.1108/ijhg-05-2025-0052
11. Charles Darko-Takyi, Sandra Owusu, Emmanuel K. Abu, **Carl H. Abraham**, Michael Ntodie, Ebenezer Manu, Kumi O. Boakye, Victoria Yirrah, Emmanuel Essien, Kwame O. Osei, Stephen Ocansey (2025). Exploring reduction of prolonged binocular vision testing time: the agreement between the first and second thirty seconds within one minute of accommodative and vergence facility tests. *Strabismus*. https://doi.org/10.1080/09273972.2024.2449178
12. Charles Darko-Takyi, Selasie A. Ahlijah, Emmanuel K. Abu, Michael Ntodie, **Carl H. Abraham**, Franklin L. Otoo, Stephen Ocansey (2025). Exploring the association between asthenopia, vergence measures and

the interpupillary distance. *African vision and eye health*. https://doi.org/10.4102/aveh.v84i1.1054

13. **Carl H. Abraham**, Diane van Staden, Nishanee Rampersad (2025). Optometry faculty perspectives on low vision care and rehabilitation education in sub-Saharan Africa. *African vision and eye health*. https://doi.org/10.4102/aveh.v84i1.1070
14. Charity Owusu, Albert Ofori, Frank Adusei-Mensah, **Carl Halladay Abraham**, Samuel Kyei, Reginald Quansah, David Kofi Essumang (2025). The Association Between Occupational Smoke Exposures and the Prevalence of Eye and Respiratory Health Conditions Among Commercial Fish Smokers in Abuesi, Ghana: A Cross-Sectional Self-Reported Study. *Environmental Health Insights*. https://doi.org/10.1177/11786302251317056
15. Michael Ntodie, **Carl H Abraham** (2024). African Vision and Eye Health. *Liver*. https://doi.org/10.4102/aveh
16. Kingsley Ekemiri, Chioma Ekemiri, Ngozika Ezinne, Victor Virginia, Osaze Okoendo, Robin Seemongal-Dass, Diane Van Staden, **Carl Abraham** (2024). Global burden of fall and associated factors among individual with low vision: A systematic-review and meta-analysis. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0302428
17. Charles Darko-Takyi, Kumi Owusu Boakye, Stephen Ocansey, **Carl Halladay Abraham**, Edward Okyere Kyeretwie, Sandra Owusu, Ebenezer Manu, Victoria Yirrah, Enyam Komla Morny, Emmanuel Essien, Kwame Okyere Osei (2024). No agreement between expected phoropter Risley prism and prism bar fusional vergences in a prospective cross-sectional study of African school children. *Strabismus*. https://doi.org/10.1080/09273972.2024.2419004
18. **Carl Halladay Abraham**, Godfred Sakyi-Badu, Samuel Bert Boadi-Kusi, Enyam Morny, Charles Darko-Takyi, Stephen Ocansey, Paa Kwesi Fynn Hope, Albert Kofi Dadzie, Asantewaa Aboagye MacCarthy, Kingsford Osei-Frimpong, Emmanuella Nyarkoa Opoku, Emmanuel Kwasi Abu (2024). Simulation of visual impairment in persons with normal vision for scientific research. *Ophthalmic and Physiological Optics*. https://doi.org/10.1111/opo.13268
19. **Carl Halladay Abraham**, Godfred Sakyi-Badu, Samuel Bert Boadi-Kusi, Charles Darko-Takyi, Stephen Ocansey, Emmanuel Kwasi Abu, Paa Kwesi Fynn Hope, Albert Kofi Dadzie, Asantewaa Aboagye MacCarthy, Kingsford Osei Frimpong, Emmanuella Nyarkoa Opoku (2024). The comparative benefits of text and page modification on the reading rates between sighted and moderate to severe visually impaired eyes. *British Journal of Visual Impairment*. https://doi.org/10.1177/02646196231225080
20. Samuel Bert Boadi-Kusi, Regina Obilie Amoako-Sakyi, **Carl Halladay Abraham**, Naa Adjeley Addo, Asantewaa Aboagye-McCarthy, Bright Opoku Gyan (2023). Access to public transport to persons with visual disability: A scoping review. *British Journal of Visual Impairment*. https://doi.org/10.1177/02646196231167072
21. **Carl Halladay Abraham**, Diane van Staden, Nishanee Rampersad (2023). Barriers and enablers to low vision care and rehabilitation in sub-Saharan Africa within a global context. *Clinical and Experimental Optometry*. https://doi.org/10.1080/08164622.2023.2254766
22. Emmanuel Kwasi Abu, **Carl Halladay Abraham**, Albert Kofi Dadzie, Enyam Amewuho Morny, Michael Ntodie, Stephen Ocansey, Samuel Abokyi, Andrew Owusu-Ansah, Naa Adjeley Addo, Michael Williams, Asantewaa Aboagye-McCarthy, Godfred Sakyi-Badu, Paa Kwesi Fynn Hope, Peter Osei-Wusu Adueming (2023). Central contrast sensitivity perimetry discriminates between glaucomatous and non-glaucomatous eyes. *Therapeutic Advances in Ophthalmology*. https://doi.org/10.1177/25158414231208284
23. Stephen Ocansey, Ebenezer Oduro Antiri, **Carl Haladay Abraham**, Emmanuel Kwasi Abu (2023). Dry eye symptom questionnaires show adequate measurement precision and psychometric validity for clinical assessment of vision-related quality of life in glaucoma patients. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0283597
24. **CH Abraham** (2023). Knowledge and practice of drivers on the provision of service to persons with visual disability: A survey of public transport drivers in a tertiary inclusion school in West Africa. *British Journal of Visual Impairment*.
25. Stephen Ocansey, Rufaida Amuda, **Carl Halladay Abraham**, Emmanuel Kwasi Abu (2023). Refractive error

correction among urban and rural school children using two self-adjustable spectacles. *BMJ Open Ophthalmology*. https://doi.org/10.1136/bmjophth-2022-001202

26. **Carl Halladay Abraham**, Enyam Morny, Asantewaa Aboagye-MacCarthy, Stephen Ocansey, Michael Ntodie, Godfred Sakyi-Badu, Albert Kofi Dadzie, Naa Adjeley Addo, Selina Holdbrook, Emmanuel Kwasi Abu (2023). The effect of filters and varying illumination on contrast sensitivity in eyes with moderate to severe visual impairment. *International Ophthalmology*. https://doi.org/10.1007/s10792-023-02738-7
27. Alex Ilechie, Thomas Mensah, **Carl Halladay Abraham**, Naa Adjeley Addo, Michael Ntodie, Stephen Ocansey, Samuel Bert Boadi-Kusi, Andrew Owusu-Ansah, Ngozi Ezinne (2022). Assessment of four validated questionnaires for screening of dry eye disease in an African cohort. *PubMed*. https://doi.org/10.1016/j.clae.2021.101468
28. Emmanuel K Abu, Ebenezer O Antiri, Stephen Ocansey, Michael Ntodie, Samuel Abokyi, **Carl Halladay Abraham** (2022). Associations between personality traits and adherence to treatment in patients with primary open–angle glaucoma in an African population. *Clinical and Experimental Optometry*. https://doi.org/10.1080/08164622.2022.2075253
29. Asantewaa Aboagye-MacCarthy, **Carl Halladay Abraham** (2022). Case Series: Avoidable Blindness after Inappropriate Ophthalmic Self-medication in Ghana. *Optometry and Vision Science*. https://doi.org/10.1097/opx.0000000000001984
30. Jacqueline Ramke, Jennifer R Evans, Esmael Habtamu, Nyawira Mwangi, Juan Carlos Silva, Bonnielin K Swenor, Nathan Congdon, Hannah B Faal, Allen Foster, David S Friedman, ... **Carl H Abraham** and 89 others (2022). Grand Challenges in global eye health: a global prioritisation process using Delphi method. *The Lancet Healthy Longevity*. https://doi.org/10.1016/s2666-7568(21)00302-0
31. Alex Azuka Ilechie, Naa Adjeley Addo, **Carl Halladay Abraham**, Andrew Owusu-Ansah, Alex Annan-Prah (2021). Accuracy of Noncycloplegic Refraction for Detecting Refractive Errors in School-aged African Children. *Optometry and Vision Science*. https://doi.org/10.1097/opx.0000000000001742
32. **Carl Halladay Abraham**, Stephen Ocansey, Samuel Bert Boadi-Kusi, Fateena Faheem, Bright Opoku Gyan, Yaa Agyewuo Nti, Mercy Berchie, Emmanuel Kwasi Abu (2021). Knowledge and practice of drivers on the provision of service to persons with visual disability: A survey of public transport drivers in a tertiary inclusion school in West Africa. *British Journal of Visual Impairment*. https://doi.org/10.1177/02646196211044969
33. **Carl Halladay Abraham**, Bert Boadi-Kusi, Enyam Komla Amewuho Morny, Prince Agyekum (2021). Smartphone usage among people living with severe visual impairment and blindness. *Assistive Technology*. https://doi.org/10.1080/10400435.2021.1907485
34. Stephen Ocansey, Emmanuel K. Abu, **Carl Halladay Abraham**, Andrews Owusu-Ansah, Caleb Acheampong, Frederick Mensah, Charles Darko-Takyi, Alex Ilechie (2021). Socio-demographic factors modify awareness, knowledge, and perceived risk of glaucoma in rural and urban residents in Ghana: a population-based survey. *Therapeutic Advances in Ophthalmology*. https://doi.org/10.1177/2515841421998099
35. Eleanor Dooley, Obaid Kousha, Joseph Msosa, Eric Ndaule, **Carl Abraham**, Jennifer Parr, Bernadette O'Hare, Andrew Blaikie (2020). Comparative evaluation of a low cost direct ophthalmoscope (Arclight) for red reflex assessment among healthcare workers in Malawi. *BMJ Innovations*. https://doi.org/10.1136/bmjinnov-2019-000361
36. **Carl Abraham** (2020). Comparative evaluation of a low cost ophthalmoscope (Arclight) for red reflex assessment among health care workers in Malawi. *BMJ Innovations*. https://research-portal.st-andrews.ac.uk/en/publications/comparative-evaluation-of-a-low-cost-ophthalmoscope-arclight-for-/
37. Alex Ilechie, Seth Wanye, **Carl H Abraham**, Josiah B Sarpong, Emmanuel Abu, Samuel Abokyi, Enyam Morny, Bismark Mensah, Maclean O Amoako, Simon Fosu-gyeabour (2020). Inter-regional trends in causes of childhood blindness and low vision in Ghana. *Clinical and Experimental Optometry*. https://doi.org/10.1111/cxo.13041
38. SAMUEL BERT BOADI-KUSI OD, Emmanuel Kwasi Abu, Andrew Owusu-Ansah, Shadrack Mensah, John Oduro-Boateng, Rene Abalo Kojo, Samuel Kyei, Samuel Bert Boadi-Kusi, Obed Amoah-Smith, Enyam Komla Amewuho Morny, Charles Darko-Takyi, **Carl Halladay Abraham**, Benjamin Appiah Nyamekye, Alex

Azuka Ilechie (2020). Normative Values of Retinal Nerve Fibre Layer Thickness and Optic Nerve Head Parameters and Their Association with Visual Function in an African Population. *Journal of Ophthalmology*. https://doi.org/10.1155/2020/7150673

39. SAMUEL BERT BOADI-KUSI OD, Emmanuel Kwasi Abu, **Carl Halladay Abraham**, Andrew Owusu-Ansah, Samuel Bert Boadi-Kusi, Alex Azuka Ilechie, Desmond Omane Acheampong (2020). Ocular Symptoms of SARS-CoV-2: Indication of Possible Ocular Transmission or Viral Shedding. *Ocular Immunology and Inflammation*. https://doi.org/10.1080/09273948.2020.1799035
40. Alex A. Ilechie, Mohammed M. Jeduah, **Carl H. Abraham**, Stephen Ocansey, Emmanuel Abu, Theophilus Okyere, Obarijima Ngosaro (2020). Oral consumption ofGarcinia kola(Bitter kola) lowers intraocular pressure. *Acta Ophthalmologica*. https://doi.org/10.1111/aos.14440
41. **Abraham Carl Halladay**, Munthali Thandiwe, Patience Ayerakwah, Simango Dennis, Manjawira Joshua, Khakhande George (2019). Ophthalmic anthropometry of an urban malawian population. *Cogent Medicine*. https://doi.org/10.1080/2331205x.2019.1614287
42. Rebecca Blundell, David Roberts, Evridiki Fioratou, **Carl Abraham**, Joseph Msosa, Tamara Chirambo, Andrew Blaikie (2018). Comparative evaluation of a novel solar powered low-cost ophthalmoscope (Arclight) by eye healthcare workers in Malawi. *BMJ Innovations*. https://doi.org/10.1136/bmjinnov-2017-000225
43. Alex Azuka Ilechie, Samuel Abokyi, Andrew Owusu-Ansah, Samuel Bert Boadi-Kusi, Andrew Kofi Denkyira, **Carl Halladay Abraham** (2015). Self-refraction Accuracy with Adjustable Spectacles among Children in Ghana. *Optometry and Vision Science*. https://doi.org/10.1097/opx.0000000000000561
44. SAMUEL BERT BOADI-KUSI OD, Samuel Kyei, Khathutshelo P Mashige, Rekha Hansraj, **Carl Halladay Abraham**, Stephen Ocansey, Elvis L Agbedzie (2014). Awareness, knowledge and self-care practices toward glaucoma among final year health science university students in Ghana. *Clinical and Experimental Optometry*. https://doi.org/10.1111/cxo.12224
45. **Carl Halladay Abraham**, A Kumi-Kyereme (2014). Utilization of Eye Care Services among Ghanaian Elderly Population: Evidence from a Peri-Urban Community. *Ophthalmology Research An International Journal*. https://doi.org/10.9734/or/2013/5543
46. **Carl Halladay Abraham**, C Darko-Takyi (2013). Access to and utilization of eye care services in Ghana. *Int J Health Res*. https://www.academia.edu/download/40525446/Access_to_and_Utilization_of_eye_Care_Se20151130-12371-10zsdrh.pdf
47. Godwin Ovenseri-Ogbomo, **Carl Halladay Abraham**, Franklin E. Kio (2013). Visual Impairment and Ocular Findings among Deaf and Hearing Impaired School Children in Central Region, Ghana. *Journal of Medical and Biomedical Sciences*.
48. Samuel Kyei, **Carl Halladay Abraham** (2012). Dry Eyes: An Adverse Effect of Systemic Antihistamine Use In Allergic Conjuctivitis Management. *Research Journal of Pharmacology*.