

John Essandoh

Lecturer · Department of Wildlife and Entomology
University of Cape Coast

ORCID [0000-0001-6864-2075](https://orcid.org/0000-0001-6864-2075) · Google Scholar scholar.google.com/citations?user=MOMEulAAAAAJ&hl=en · Profile scholar.ucc.edu.gh/staff/eb10d875-5a59-4fd2-bde5-04ad3653546f

RESEARCH

Interests Molecular population genetics and evolution · Medical Entomology and Ecology
Areas Public Health, Environmental and Occupational Health · Molecular Biology · Management, Monitoring, Policy and Law · Parasitology · Plant Science · Ecology

RESEARCH SUMMARY

23	1,340	15	16	8.01	71%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 23 publications listed below, 2013–2025. Field-weighted impact is the mean over the 17 works scored for it; 1.00 is the world average for works of the same field, type and year. 12 of the 17 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Research Fellow/Lecturer 2010–present
Entomology, University of Cape Coast, Cape Coast, Ghana

EDUCATION AND QUALIFICATIONS

PhD in Tropical Medicine	2016–2020
Vector Genetics, Liverpool School of Tropical Medicine, Liverpool, United Kingdom	
PhD in Tropical Medicine	2016–2020
Vector Genetics, Liverpool School of Tropical Medicine, Liverpool, United Kingdom	
BSC in Entomology	2014–2018
Biological Sciences, University of Cape Coast, Cape Coast, Ghana	

PUBLICATIONS

Journal articles 20

1. Eddiebright Joseph Buadu, Emmanuel Arthur-Nyarko, John Essandoh (2025). STUDENTS PERCEPTION OF SANITATION IN THE CAPE COAST MUNICIPALITY. *International Journal of Advanced Research*. <https://doi.org/10.21474/ijar01/22346>
2. Richard Takyi, Francis Kofi Ewusie Nunoo, Badr El Mahrar, Cynthia Addo, John Essandoh (2024). Charting sustainable waters: Governance challenges and opportunities for fisheries and coastal beach resources in a West African country. *Marine Policy*. <https://doi.org/10.1016/j.marpol.2024.106398>
3. Eric R. Lucas, Sanjay C. Nagi, Bilali Kabula, Bernard Batengana, William Kisinza, Alexander Egyir-Yawson, John Essandoh, Sam Dadzie, Joseph Chabi, Arjen E. Van't Hof, Emily J. Rippon, Dimitra Pipini, Nicholas J. Harding, Naomi A. Dyer, Chris S. Clarkson, Alistair Miles, David Weetman, Martin J. Donnelly (2024). Copy number variants underlie major selective sweeps in insecticide resistance genes in *Anopheles arabiensis*. *PLoS Biology*. <https://doi.org/10.1371/journal.pbio.3002898>
4. Sanjay C Nagi, Eric R Lucas, Alexander Egyir-Yawson, John Essandoh, Samuel Dadzie, Joseph Chabi, Luc S Djogbénou, Adandé A Medjigbodo, Constant V Edi, Guillaume K Ketoh, Benjamin G Koudou, Faisal Ashraf, Chris S Clarkson, Alistair Miles, David Weetman, Martin J Donnelly (2024). Parallel Evolution in Mosquito

Vectors—A Duplicated Esterase Locus is Associated With Resistance to Pirmiphos-methyl in *Anopheles gambiae*. *Molecular Biology and Evolution*. <https://doi.org/10.1093/molbev/msae140>

5. Tristan P. W. Dennis, John Essandoh, Barbara K. Mable, Mafalda S. Viana, Alexander E. Yawson, David. Weetman (2024). Signatures of adaptation at key insecticide resistance loci in *Anopheles gambiae* in Southern Ghana revealed by reduced-coverage WGS. *Scientific Reports*. <https://doi.org/10.1038/s41598-024-58906-x>
6. Richard Takyi, Badr El Mahrar, Cynthia Addo, John Essandoh, Mohamed ElHadary, Richard Adade, Eddiebright Joseph Buadi, Benjamin Osei Botwe, Francis Kofi Ewusie Nunoo (2023). Assessment of coastal and marine ecosystems in West Africa: The case of Ghana. *Marine Pollution Bulletin*. <https://doi.org/10.1016/j.marpolbul.2023.115735>
7. Eric R. Lucas, Sanjay C. Nagi, Alexander Egyir-Yawson, John Essandoh, Samuel Dadzie, Joseph Chabi, Luc S. Djogbénou, Adandé A. Medjigbodo, Constant V. Edi, Guillaume K. Kétouh and 12 others (2023). Genome-wide association studies reveal novel loci associated with pyrethroid and organophosphate resistance in *Anopheles gambiae* and *Anopheles coluzzii*. *Nature Communications*. <https://doi.org/10.1038/s41467-023-40693-0>
8. Richard Takyi, Cynthia Addo, Badr El Mahrar, Richard Adade, Mohamed ElHadary, Francis Kofi Ewusie Nunoo, John Essandoh, Ernest Obeng Chuku, Federico Iriarte-Ahon (2023). Marine fisheries management in the Eastern Central Atlantic Ocean. *Ocean & Coastal Management*. <https://doi.org/10.1016/j.ocecoaman.2023.106784>
9. Richard Takyi, Badr El Mahrar, Francis Kofi Ewusie Nunoo, Richard Adade, Mohamed ElHadary, John Essandoh (2022). Adaptive management of environmental challenges in West African coastal lagoons. *The Science of The Total Environment*. <https://doi.org/10.1016/j.scitotenv.2022.156234>
10. Penelope A. Hancock, Amy Lynd, Antoinette Wiebe, Maria Devine, John Essandoh, Francis Wat'senga, Emile Z. Manzambi, Fiacre Agossa, Martin J. Donnelly, David Weetman, Catherine L. Moyes (2022). Modelling spatiotemporal trends in the frequency of genetic mutations conferring insecticide target-site resistance in African mosquito malaria vector species. *BMC Biology*. <https://doi.org/10.1186/s12915-022-01242-1>
11. John Essandoh (2021). Discovery of Ongoing Selective Sweeps within *Anopheles* Mosquito Populations Using Deep Learning. *Molecular biology and evolution*. <https://academic.oup.com/mbe/article-abstract/38/3/1168/5918472>
12. Xavier Grau-Bové, Eric Lucas, Dimitra Pipini, Emily Rippon, Arjen E. van 't Hof, Edi Constant, Samuel Dadzie, Alexander Egyir-Yawson, John Essandoh, Joseph Chabi, Luc Djogbénou, Nicholas J. Harding, Alistair Miles, Dominic Kwiatkowski, Martin J. Donnelly, David Weetman (2021). Resistance to pirmiphos-methyl in West African *Anopheles* is spreading via duplication and introgression of the *Ace1* locus. *PLoS Genetics*. <https://doi.org/10.1371/journal.pgen.1009253>
13. John Essandoh (2021). Review and meta-analysis of the evidence for choosing between specific pyrethroids for programmatic purposes. *Insects*. <https://www.mdpi.com/2075-4450/12/9/826>
14. Eric R. Lucas, Kirk A. Rockett, Amy Lynd, John Essandoh, Nelson Grisales, Brigid Kemei, Harun Njoroge, Christina Hubbart, Emily J. Rippon, John Morgan, Arjen E. Van't Hof, Eric O. Ochomo, Dominic P. Kwiatkowski, David Weetman, Martin J. Donnelly (2019). A high throughput multi-locus insecticide resistance marker panel for tracking resistance emergence and spread in *Anopheles gambiae*. *Scientific Reports*. <https://doi.org/10.1038/s41598-019-49892-6>
15. J Essandoh (2017). ESTIMATION OF ALLELE-SPECIFIC ACE-1 DUPLICATION IN INSECTICIDE-RESISTANT ANOPHELES MOSQUITOES FROM WEST AFRICA. *AMERICAN JOURNAL OF TROPICAL MEDICINE AND HYGIENE*.
16. David Weetman, Sara N. Mitchell, Craig S. Wilding, Daniel P. Birks, Alexander E. Yawson, John Essandoh, Henry D. Mawejje, Luc S. Djogbenou, Keith Steen, Emily J. Rippon, Christopher S. Clarkson, Stuart G. Field, Daniel J. Rigden, Martin J. Donnelly (2015). Contemporary evolution of resistance at the major insecticide target site gene *Ace-1* by mutation and copy number variation in the malaria mosquito *Anopheles gambiae*. *Molecular Ecology*. <https://doi.org/10.1111/mec.13197>
17. Luc S. Djogbénou, Benoît Assogba, John Essandoh, Edi A. V. Constant, Michel Makoutodé, Martin

Akogbéto, Martin J. Donnelly, David Weetman (2015). Estimation of allele-specific Ace-1 duplication in insecticide-resistant *Anopheles* mosquitoes from West Africa. *Malaria Journal*. <https://doi.org/10.1186/s12936-015-1026-3>

18. Chris S. Clarkson, David Weetman, John Essandoh, Alexander E. Yawson, Gareth Maslen, Magnus Manske, Stuart G. Field, Mark Webster, Tiago Antão, Bronwyn MacInnis, Dominic Kwiatkowski, Martin J. Donnelly (2014). Adaptive introgression between *Anopheles* sibling species eliminates a major genomic island but not reproductive isolation. *Nature Communications*. <https://doi.org/10.1038/ncomms5248>
19. Constant V. Edi, Luc Djogbénou, Adam M. Jenkins, Kimberly Regna, Marc A. T. Muskavitch, Rodolphe Poupardin, Christopher M. Jones, John Essandoh, Guillaume K. Kétoh, Mark J. I. Paine, Benjamin G. Koudou, Martin J. Donnelly, Hilary Ranson, David Weetman (2014). CYP6 P450 Enzymes and ACE-1 Duplication Produce Extreme and Multiple Insecticide Resistance in the Malaria Mosquito *Anopheles gambiae*. *PLoS Genetics*. <https://doi.org/10.1371/journal.pgen.1004236>
20. John Essandoh, Alexander E Yawson, David Weetman (2013). Acetylcholinesterase (Ace-1) target site mutation 119S is strongly diagnostic of carbamate and organophosphate resistance in *Anopheles gambiae* s.s. and *Anopheles coluzzii* across southern Ghana. *Malaria Journal*. <https://doi.org/10.1186/1475-2875-12-404>

Conference papers 2

1. John Essandoh (2025). SPATIALLY-EXPLICIT SAMPLING OF ANOPHELES GAMBIAE S.L REVEALS FINE-SCALE POPULATION STRUCTURE AND MECHANISMS OF INSECTICIDE *AMERICAN JOURNAL OF TROPICAL MEDICINE AND HYGIENE*. <https://scholar.google.com/scholar?cluster=15535266594710997431&hl=en&oi=scholar>
2. John Essandoh (2018). The malariagen vector observatory: a network for the genomic surveillance of malaria vectors in Africa and southeast Asia. *AMERICAN JOURNAL OF TROPICAL MEDICINE AND HYGIENE*. <https://www.documentation.ird.fr/hor/PAR00019142>

Theses 1

1. John Essandoh (2020). Landscape genetics of *Anopheles gambiae* in southern Ghana. *PQDT-Global*. <https://search.proquest.com/openview/80ff54b1b78b2399b655314f6bc2b955/1?pq-origsite=gscholar&cbl=2026366&diss=y>