John Essandoh

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University of Cape Coast

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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	1,343	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 Mahrad, 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 Pirimiphos-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 Mahrad, 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. Kétoh 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 Mahrad, 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 Mahrad, 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, Arjèn 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 pirimiphos-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=scholarr
2. Lucas Amenga-Etego, Samuel Dadzie, **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