Michael Konney Laryea

Department of Chemistry
Kwame Nkrumah University of Science and Technology

ORCID 0000-0002-9321-8898 · Google Scholar scholar.google.com/citations?user=zODHFd4AAAAJ&hl=en · Profile knust.peerford.com/staff/3ac31cc6-94ce-42fb-bb26-44365bf299d2

RESEARCH

Interests	Natural products Isolation
Areas	Plant Science · Molecular Biology · Public Health, Environmental and Occupational Health · Food Science · Pollution · Biochemistry

RESEARCH SUMMARY

40	301	8	8	1.53	21%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 40 publications listed below, 2017–2026. Field-weighted impact is the mean over the 33 works scored for it; 1.00 is the world average for works of the same field, type and year. 7 of the 33 papers scored for it are among the world's most cited tenth for their field, type and year.

EDUCATION AND QUALIFICATIONS

MPhil Organic and Natural Products Chemistry 2010–present
Chemistry, Kwame Nkrumah University of Science and Technology College of Science, Kumasi, Ghana

PUBLICATIONS

Journal articles 40

1. **MK Laryea**, KMW Abotsi, RA Dickson, E Ekuadzi (2026). Antiplasmodial and anti-trypanosomial monoterpene indole alkaloids from Picralima nitida. *Natural Product Research*.
2. Stephenson Obeng Owusu, Sharifa Fatao, **Michael Konney Laryea**, Cedric Dzidzor Kodjo Amengor, Lawrence Sheringham Borquaye (2026). Computational engineering of the scorpion venom peptide Ttap3 enhances membrane selectivity and antimicrobial potential. *In Silico Pharmacology*. https://doi.org/10.1007/s40203-026-00742-0
3. Francis Nyarkoh, Evans Barimah, Godfred Darko, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2026). Hydrochemical evolution and spatial variability of groundwater in a peri-urban basement aquifer, Kumasi, Ghana. *Total Environment Advances*. https://doi.org/10.1016/j.teadva.2026.200170
4. Kwadwo Owusu, Sharifa Fatao, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2026). In vitro and in silico helminthicidal efficacy of Vitex grandifolia and Parinari congensis leaf and stem bark extracts. *Biocatalysis and Agricultural Biotechnology*. https://doi.org/10.1016/j.bcab.2026.103998
5. Akua Gyamfi, De-youngster Wereko Brobbey, **Michael Konney Laryea**, Mercy Badu, Isaac Asiamah, Lawrence Sheringham Borquaye (2026). Nanoemulsification of Cleistopholis patens and Vitex simplicifolia essential oils enhances antimicrobial action and ciprofloxacin synergy. *Pharmacological Research - Natural Products*. https://doi.org/10.1016/j.prenap.2026.100555
6. P Acheampong, **MK Laryea**, LS Borquaye (2026). Salacia debilis-Derived Compounds Attenuate Biofilm Formation and Virulence-Associated Phenotypes in Pseudomonas aeruginosa and Staphylococcus aureus. *Pharmacological Research-Reports*. https://www.sciencedirect.com/science/article/pii/S2950200426000303

7. Jennifer Amo-Mensah, Abdul Nasir Abdullah, **Micheal Konney Laryea**, Lawrence Sheringham Borquaye (2026). Wound Healing Potential of Guibourtia copallifera Benn., Tylophora conspicua N.E.Br., Crotalaria goreensis Guill & Perr, and Phaulopsis ciliata (Willd.) Hepper. *ChemistrySelect*. https://doi.org/10.1002/slct.202506246

8. Caleb Nketia Mensah, Prince Manu, Randolf Benle, Emmanuella Aba Antwi, **Michael Konney Laryea**, Godfred Darko, Cedric Dzidzor Amengor, Lawrence Sheringham Borquaye (2025). Antifungal potential of Salacia debilis extracts and compounds against Candida albicans: Biofilm inhibition, synergistic effects and computational studies. *Pharmacological Research - Natural Products*. https://doi.org/10.1016/j.prenap.2025.100448

9. Hilda Amoakoa, Daniel Owusu Apraku, Prince Asamoah Boateng, Emmanuel Kofi Adjei, Justice Addo, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2025). Chemical characterization, biological activities, and molecular docking studies of essential oils from Annona reticulata L (Annonaceae). *Essential Chem*. https://doi.org/10.1080/28378083.2025.2540327

10. Prince Manu, Muntawakilu Padiga Seidu, Alice Adomako, Caleb Kusi Asamoah, Ophelia Duodu, Akyana Britwum, **Michael Konney Laryea**, Godfred Darko, Lawrence Sheringham Borquaye (2025). Computational elucidation of Plasmodium falciparum enoyl-ACP reductase inhibition by Salacia debilis compounds: adaptive ligand binding drives antimalarial activity. *In Silico Pharmacology*. https://doi.org/10.1007/s40203-025-00413-6

11. Rita Opoku, Emmanuel Amponsah, **Michael Konney Laryea**, Godfred Darko, Lawrence Sheringham Borquaye (2025). Descriptive analysis of pharmaceutical disposal practices in Sekondi-Takoradi: implications for environmental and public health safety in Ghana. *Discover Public Health*. https://doi.org/10.1186/s12982-025-00962-3

12. Akua Gyamfi, Randolf Benle, **Michael Konney Laryea**, M Badu, Lawrence Sheringham Borquaye (2025). Essential Oil Emulsions from Xylopia Villosa and Hyparrhena Rufa as Potent Antimicrobial and Antibiofilm Agents. *Chemistry Africa*. https://doi.org/10.1007/s42250-025-01459-x

13. JO Mensah, **M Laryea**, LS Borquaye (2025). Molecular insights into the differential membrane targeting of maximin 1 in prokaryotic and eukaryotic cells. *Journal of Biomolecular Structure and Dynamics*.

14. Rebecca Akuffo Boafoa Addo, Akua Gyamfi, Nathaniel Owusu Boadi, **Michael Konney Laryea**, Mercy Badu, Lawrence Sheringham Borquaye (2025). Nanoemulsion encapsulation improves the stability and antibacterial efficacy of orange (Citrus x sinensis) peel essential oil. *Discover Chemistry.*. https://doi.org/10.1007/s44371-025-00383-w

15. Seidu Atta Ishmael, Rita Opoku, **Michael Konney Laryea**, Edward Ebo Kwaansa-Ansah, Godfred Darko, Lawrence Sheringham Borquaye (2025). Occurrence and ecological risk assessment of commonly used pharmaceuticals in water and soil of Sefwi Wiawso, Ghana. *Discover Chemistry.*. https://doi.org/10.1007/s44371-025-00146-7

16. **MK Laryea**, G Darko, LS Borquaye (2025). Peptide Extract from Hexaplex trunculus: A Promising Antimicrobial Agent with Inhibitory Effects on Quorum Sensing and Biofilm Formation. *Pharmacological Research-Natural Products*. https://www.sciencedirect.com/science/article/pii/S2950199725001752

17. Seidu Atta Ishmael, Rita Opoku, **Michael Konney Laryea**, Emmanuel Amponsah, Godfred Darko, Enoch Jones Borketey, Lawrence Sheringham Borquaye (2025). Pharmaceutical Waste Disposal: A Cross-Sectional Survey of Disposal Practices and Awareness in Sefwi Wiawso Municipality, Ghana. *Health Science Reports*. https://doi.org/10.1002/hsr2.71320

18. R. Opoku, **M. K. Laryea**, G. Darko, L. S. Borquaye (2025). Pharmaceutical residues in environment matrices in the Sekondi-Takoradi metropolis of Ghana present potential ecotoxicological risks. *International Journal of Environmental Science and Technology*. https://doi.org/10.1007/s13762-025-06471-9

19. Caleb Kusi Asamoah, Vincent Amankwah, Keziah Sefah, Jehoshaphat Oppong Mensah, Philipina Acheampong, **Michael Konney Laryea**, Placide Mahougnan Toklo, Lawrence Sheringham Borquaye (2025). Phytochemical and Mechanistic Insights Into the Anthelmintic Activities of Salacia debilis Extracts. *ChemistrySelect*. https://doi.org/10.1002/slct.202504568

20. Kwadwo Owusu, Stephenson Obeng Owusu, Jehoshaphat Oppong Mensah, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2025). Synergistic action of phytoconstituents drives the anthelmintic potential of Croton penduliflorus stem bark extracts. *Discover Chemistry*.. https://doi.org/10.1007/s44371-025-00265-1

21. LS Borquaye, P Manu, **M Laryea** (2024). Abstract 2266 Amaryllidaceae Alkaloids as Potential Inhibitors of the Trypanosoma cruzi Trans-sialidase Enzyme: Unique Insights from Computational Studies. *Journal of Biological Chemistry*. https://www.jbc.org/article/S0021-9258(24)00608-2/fulltext

22. **Michael Konney Laryea**, Kofi Mensah Wonder Abotsi, Eric Woode, Rita Akosua Dickson, Lauren Webster, Edmund Ekuadzi (2024). Antiplasmodial and anti-trypanosomial monoterpene indole alkaloids from Picralima nitida. *Natural Product Research*. https://doi.org/10.1080/14786419.2024.2434710

23. Benjamin Effah Dankwa, Bismark Anabila Nyaaba, Gershon Amenuvor, Seth Obiri-Yeboah, Godfred Darko, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2024). Ecological risk assessment of selected pharmaceuticals in major rivers within Kumasi, Ghana. *Essential Chem*. https://doi.org/10.1080/28378083.2024.2421861

24. Benjamin Effah Dankwa, Joseph Nana Gyesi, Bismark Anabila Nyaaba, Matilda Abena Ampah, Christian Kankam Boadu, **Michael Konney Laryea**, Godfred Darko, Lawrence Sheringham Borquaye (2024). Environmental impact of pharmaceutical contaminants in dumpsites: a study from Ejisu-Juaben municipality, Ghana. *Discover Soil*.. https://doi.org/10.1007/s44378-024-00007-2

25. Aaron Boakye, Muntawakilu Padiga Seidu, Alice Adomako, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2024). Marine-Derived Furanones Targeting Quorum-Sensing Receptors in Pseudomonas aeruginosa : Molecular Insights and Potential Mechanisms of Inhibition. *Bioinformatics and Biology Insights*. https://doi.org/10.1177/11779322241275843

26. **MK Laryea**, LS Borquaye (2024). Marine-Derived Furanones Targeting Quorum-Sensing Receptors in: Molecular Insights and Potential Mechanisms of Inhibition. *Bioinformatics and Biology Insights*. https://scholar.google.com/scholar?cluster=16179485521136505738&hl=en&oi=scholarr

27. Aaron Boakye, Courage Yaw Okose, Isaac Heneampong, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2024). Molecular insights into the inhibition of Leishmania donovani O-acetylserine sulfhydrylase by cyclopropane carboxylic acid derivatives: a computational study. *Discover Chemistry*.. https://doi.org/10.1007/s44371-024-00032-8

28. Jennifer Tetteh, De-Youngster Wereko Brobbey, Kofi Junior Osei, Azumah Ayamah, **Michael Konney Laryea**, Godfred Darko, Lawrence Sheringham Borquaye (2024). Peptide Extract from Red Kidney Beans, Phaseolus vulgaris (Fabaceae), Shows Promising Antimicrobial, Antibiofilm, and Quorum Sensing Inhibitory Effects. *Biochemistry Research International*. https://doi.org/10.1155/2024/4667379

29. Muntawakilu Padiga Seidu, Alice Adomako, Aaron Boakye, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2024). Targeting Quorum Sensing in Pseudomonas aeruginosa Using Marine-Derived Metabolites—An In Silico Approach. *Journal of Chemistry*. https://doi.org/10.1155/joch/2172452

30. **Michael Konney Laryea**, Gilbert Boadu Ampomah, Edmund Ekuadzi, Rita Akosua Dickson, Lawrence Sheringham Borquaye (2023). Antimalarial compounds from the climbing stems of salacia debilis. *Natural Product Research*. https://doi.org/10.1080/14786419.2023.2272288

31. Gertrude Adomaa Asante Ampadu, Jehoshaphat Oppong Mensah, Aaron Boakye, Philipina Acheampong, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2023). Antioxidant, antimicrobial, and antibiofilm properties of essential oils extracted from Dialium guineense. *International Journal of Food Properties*. https://doi.org/10.1080/10942912.2023.2236322

32. Margaret Amerley Amarh, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2023). De novo peptides as potential antimicrobial agents. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e19641

33. Jehoshaphat Oppong Mensah, Aaron Boakye, **Michael Laryea**, Edward Ntim Gasu, Lawrence Sheringham Borquaye (2023). Molecular insights into the differential membrane targeting of maximin 1 in prokaryotic and eukaryotic cells. *Journal of Biomolecular Structure and Dynamics*. https://doi.org/10.1080/07391102.2023.2292297

34. **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2021). Antimalarial, Antioxidant, and

Toxicological Evaluation of Extracts of Celtis africana, Grosseria vignei, Physalis micrantha, and Stachytarpheta angustifolia. *Biochemistry Research International*. https://doi.org/10.1155/2021/9971857

35. **MK Laryea** (2020). Anti-inflammatory and antioxidant activities of extracts of Reissantia indica, Cissus cornifolia and Grosseria vignei, Cogent Biology, vol. 6, no. 1, article 1785755, 2020. *DOI: https://doi. org/ 10.1080/23312025.2020*. https://scholar.google.com/scholar?cluster=5954861220184618678&hl=en&oi=scholarr

36. Lawrence Sheringham Borquaye, **Michael Konney Laryea**, Edward Ntim Gasu, Mimi Antwiwaa Boateng, Prince Kyei Baffour, Abigail Kyerematen, Gloria Doh (2020). Anti-inflammatory and antioxidant activities of extracts ofReissantia indica, Cissus cornifoliaandGrosseria vignei. *Cogent Biology*. https://doi.org/10.1080/23312025.2020.1785755

37. Gameli Afu, **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2020). Biological Efficacy and Toxicological Evaluation of Ethanolic Extract of Cassia nodosa Buch.-Ham. (Leguminosae). *Journal of Chemistry*. https://doi.org/10.1155/2020/3983491

38. **Michael Konney Laryea**, Lawrence Sheringham Borquaye (2019). Antimalarial Efficacy and Toxicological Assessment of Extracts of Some Ghanaian Medicinal Plants. *Journal of Parasitology Research*. https://doi.org/10.1155/2019/1630405

39. Lawrence Sheringham Borquaye, Godfred Darko, **Michael Konney Laryea**, Victor Roberts, Richmond Boateng, Edward Ntim Gasu (2017). Anti-inflammatory activities of extracts fromOliva sp., Patella rustica, andLittorina littoreacollected from Ghana's coastal shorelines. *Cogent Biology*. https://doi.org/10.1080/23312025.2017.1364063

40. Lawrence Sheringham Borquaye, Godfred Darko, **Michael Konney Laryea**, Edward Ntim Gasu, Nana Afia Abrafi Amponsah, Eunice Nyarkoah Appiah (2017). Nutritional and anti-nutrient profiles of some Ghanaian spices. *Cogent Food & Agriculture*. https://doi.org/10.1080/23311932.2017.1348185