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RESEARCH

Interests	Biogas and Solar Technologies · Wastewater Treatment · Sanitary Engineering · Solid Waste Management
Areas	Building and Construction · Pollution · Waste Management and Disposal · Biomedical Engineering · Environmental Chemistry · Molecular Biology

RESEARCH SUMMARY

41	438	10	12	1.06	8%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 41 publications listed below, 2010–2026. 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. 2 of the 24 papers scored for it are among the world's most cited tenth for their field, type and year.

PUBLICATIONS

Journal articles 38

1. Richard Arthur, Samuel Nketia Boateng, **Isaac Mbir Bryant**, Martina Francisca Baidoo, Paul A. Scherer (2026). Analytical Techniques for Heavy Metal Monitoring in Environmental Samples Related to Biogas Producing Systems: A Multi-Criteria Review. *Critical Reviews in Analytical Chemistry*. https://doi.org/10.1080/10408347.2026.2684627
2. Samuel Nketia Boateng, Richard Arthur, **Isaac Mbir Bryant**, Martina Francisca Baidoo, Joshua Hayford Nyarko (2026). Biogas Production from Mechanically Pretreated Rice Husk and Cow Paunch Content – Part 1: Experimental Performance of Co-Digestion System. *Waste Management & Research The Journal for a Sustainable Circular Economy*. https://doi.org/10.1177/0734242x261472601
3. **Isaac Mbir Bryant**, Samuel Nketia Boateng, Richard Arthur, Martina Francisca Baidoo (2026). Characterization and gaussian process modelling of cow paunch content and mechanically pretreated rice husk co-substrates for enhanced biogas production. *Journal of Material Cycles and Waste Management*. https://doi.org/10.1007/s10163-026-02567-7
4. Samuel Nketia Boateng, Emmanuel Cobbinah, Gertrude Oboh, Samuel Asiamah Obiri, Obed Adarkwah-Yiadom, **Isaac Mbir Bryant** (2026). In silico investigation of pretreatment-derived inhibitors on multiple methanogenic enzymes in anaerobic digestion: Molecular-level insights. *Cleaner Chemical Engineering*. https://doi.org/10.1016/j.clce.2026.100230
5. Raymond Kingsford Sam, **Isaac Mbir Bryant**, Emmanuel Tetteh Sampeney, Geoffrey Saah Botchway, Prince Kwesi Yeboah-Danso, Philip Dotsey (2026). Steroid hormones in Ghana's wastewater: A comprehensive review of levels, occurrence, fate, and control strategies. *Desalination and Water Treatment*. https://doi.org/10.1016/j.dwt.2026.101681
6. **Isaac Mbir Bryant**, Francis Kumi, Christina Fobir (2025). Assessment of performance mesophilic single-stage biogas digester for treating agricultural wastes. *Journal of the Ghana Institution of Engineering (JGhIE)*. https://doi.org/10.56049/jghie.v25i3.356
7. Felicia Takyi, **Isaac Mbir Bryant**, Lily Ama Appiagyei (2025). Assessment of some selected pathogenic microbes of selected soft drinks sold on the markets in Cape Coast Metropolis, Ghana. *Journal of Food Safety and Hygiene*. https://doi.org/10.18502/jfsh.v10i3.18360

8. PK Yeboah-Danso, **Isaac Mbir Bryant**, RK Sam, ET Sampeney (2025). Emerging Contaminants in Ghana's Wastewater Streams: A Review. *International Journal of Agriculture Environment and Biotechnology*. https://indianjournals.com/article/ijaeb-18-3-007

9. Emmanuel Tetteh Sampeney, **Isaac Mbir Bryant**, Raymond Kingsford Sam, Geoffrey Saah Botchway, Prince Kwesi Yeboah-Danso, Philip Dotsey, Ishmael Yaala, Diana Owusua Agyei (2025). Revolutionizing industrial wastewater management in Ghana: Sustainable innovations for a cleaner future. *Desalination and Water Treatment*. https://doi.org/10.1016/j.dwt.2025.101589

10. **Isaac Mbir Bryant**, Francis Kumi, Richard Arthur, Christina Fobir, Nancy Baka, Adwoba Edjah, Ernest Kofi Amankwa Afrifa (2025). The use of solar-heated biogas digester for treating agricultural wastes: a review. *Journal of the Ghana Institution of Engineering (JGhIE)*. https://doi.org/10.56049/jghie.v25i3.354

11. Naveed Ahmed, Marion Martienssen, **Isaac Mbir Bryant**, Davide Vione, Maria Concetta Bruzzoniti, Ramona Riedel (2024). Investigation on UV Degradation and Mechanism of 6:2 Fluorotelomer Sulfonamide Alkyl Betaine, Based on Model Compound Perfluorooctanoic Acid. *ChemEngineering*. https://doi.org/10.3390/chemengineering8020032

12. **Isaac Mbir Bryant**, Daniel Akpah, Mary Aku Ogum, Emmanuella Ernestina Gyamfi, Nancy Baka (2024). Treatment of greywater using a non-aerated combined horizontal and vertical flow constructed wetland. *Water Reuse*. https://doi.org/10.2166/wrd.2024.042

13. Emmanuel Amankwah, Prince Antwi-Agyei, Emmanuel Nyantakyi, Napoleon Mensah, Godfred Sebiawu, Samuel Akomeah, **Isaac Bryant** (2023). Assessment of irrigation water quality for vegetable production in the Bono and Bono East regions. *Journal of the Ghana Institution of Engineering (JGhIE)*. https://doi.org/10.56049/jghie.v23i3.51

14. Paul Kwame Essandoh, Gertrude Lucky Aku Dali, **Isaac Mbir Bryant** (2023). Medicinal plant use and integration of traditional healers into health care system: A case study at Ankasa Forest Reserve and catchment communities in Ghana. *Ethnobotany Research and Applications*. https://doi.org/10.32859/era.26.15.1-24

15. Mohammed Takase, **Isaac Mbir Bryant**, Paul Kwame Essandoh, Afrifa Ernest Kofi Amankwa (2022). A comparative study on performance of KOH and 32%KOH/ZrO 2-7 catalysts for biodiesel via transesterification of waste Adansonia digitata oil. *Green Technologies and Sustainability*. https://doi.org/10.1016/j.grets.2022.100004

16. Ramona Kuhn, **Isaac Mbir Bryant**, Robert Jensch, Jörg Böllmann (2022). Applications of Environmental Nanotechnologies in Remediation, Wastewater Treatment, Drinking Water Treatment, and Agriculture. *Applied Nano*. https://doi.org/10.3390/applnano3010005

17. **Isaac Mbir Bryant**, Paul Kwame Essandoh (2022). Archives of Ecotoxicology. *Archives of Ecotoxicology*. https://www.academia.edu/download/104352401/194.pdf

18. **Isaac Mbir Bryant**, Christina Fobir, Paul Kwame Essandoh, Paul Arkoful (2022). Assessment of Microbial Content in some Selected Cooked Foods Sold in UCC Science Market and Amamoma Community and their Negative Health Effect on Humans. *Archives of Ecotoxicology*. https://doi.org/10.36547/ae.2022.4.1.8-16

19. Paul K. Essandoh, **Isaac Mbir Bryant**, Mohammed Takase (2022). Natural plant revegetation on three reclaimed gold mined sites in South Western Ghana. *Green Technologies and Sustainability*. https://doi.org/10.1016/j.grets.2022.100003

20. Ramona Kuhn, Robert Jensch, Thomas Fischer, Klaus Keuler, **Isaac Mbir Bryant**, Marion Martienssen (2022). Sunlight Degradation of the Aminophosphonate Diethylenetriamine Penta-(Methylenephosphonic Acid). *Solar*. https://doi.org/10.3390/solar2020009

21. Ramona Kuhn, Carsten Vornholt, Volker Preuß, **Isaac Mbir Bryant**, Marion Martienssen (2021). Aminophosphonates in Nanofiltration and Reverse Osmosis Permeates. *Membranes*. https://doi.org/10.3390/membranes11060446

22. **Isaac Mbir Bryant**, Abdul-Rahaman Afitiri (2021). Household willingness to adopt a single-stage solar-supported hyper-thermophilic anaerobic biogas digester in Ghana. *Energy Sustainability and Society*. https://doi.org/10.1186/s13705-021-00293-6

23. Paul K. Essandoh, Mohammed Takase, **Isaac Mbir Bryant** (2021). Impact of Small-Scale Mining Activities on Physicochemical Properties of Soils in Dunkwa East Municipality of Ghana. *The Scientific World JOURNAL*. https://doi.org/10.1155/2021/9915117
24. **Isaac Mbir Bryant** (2020). Photodegradation of ethylenediaminetetra (methylenephosphonic acid)–The effect of the system configuration. *Journal of Photochemistry and Photobiology A: Chemistry*. https://www.sciencedirect.com/science/article/pii/S1010603019305052
25. **Isaac Mbir Bryant** (2020). Rapid sample clean-up procedure for aminophosphonate determination by LC/MS analysis. *Talanta*. https://www.sciencedirect.com/science/article/pii/S0039914019310872
26. **Isaac Mbir Bryant** (2020). Supplementary data on rapid sample clean-up procedure of aminophosphonates for LC/MS analysis. *MethodsX*. https://www.sciencedirect.com/science/article/pii/S2215016120301539
27. Paul K. Essandoh, Edward A. Ampofo, Daniel Okae-Anti, **Isaac M. Bryant** (2019). Comparison of Flora of Small-Scale Mined and Unmined-Sites in Dunkwa-East Municipality, Ghana. *Environment and Natural Resources Research*. https://doi.org/10.5539/enrr.v9n3p86
28. **Isaac Mbir Bryant** (2019). Comparison of performance of three different seeding sludge under three different hyper-thermophilic temperatures. *Int. J. Environmental Engineering*. https://doi.org/10.1504/ijee.2019.099979
29. Ramona Kuhn, **Isaac Mbir Bryant**, Robert Jensch, Stephan Liebsch, Marion Martienssen (2019). Photolysis of hexamethylenediaminetetra(methylenephosphonic acid) (HDTMP) using manganese and hydrogen peroxide. *Emerging contaminants*. https://doi.org/10.1016/j.emcon.2019.11.003
30. **Isaac Mbir Bryant** (2018). DNA-Extraktion aus mikrobiellen Umweltproben. *BIOspektrum*. https://doi.org/10.1007/s12268-018-0963-0
31. **Isaac Mbir Bryant** (2018). The influence of selected bivalent metal ions on the photolysis of diethylenetriamine penta (methylenephosphonic acid). *Chemosphere*. https://www.sciencedirect.com/science/article/pii/S0045653518312918
32. **Isaac Mbir Bryant** (2017). Comparison of ten different DNA extraction procedures with respect to their suitability for environmental samples. *Journal of Microbiological Methods*. https://www.sciencedirect.com/science/article/pii/S0167701217302725
33. **Isaac Mbir Bryant** (2017). Data on DNA gel sample load, gel electrophoresis, PCR and cost analysis. *Data in Brief*.
34. **Isaac Mbir Bryant** (2017). The Wastewater Nutrient Removal Efficiences of Chlorella sorokiniana and Scenedesmus obtusiusculus. *Bioprocess Engineering*. https://www.researchgate.net/profile/Isaac-Bryant/publication/320585203_The_Wastewater_Nutrient_Removal_Efficiences_of_Chlorella_sorokiniana_and_Scenedesmus_obtusiusculus/links/59ef10480f7e9b0f76a983cd/The-Wastewater-Nutrient-Removal-Efficiences-of-Chlorella-sorokiniana-and-Scenedesmus-obtusiusculus.pdf
35. **Isaac Mbir Bryant** (2016). MILLENNIUM DEVELOPMENT GOAL ON SUSTAINABLE SANITATION IN GHANA: A REALITY OR A MIRAGE? A REVIEW. *African Journal of Science and Research*. https://doi.org/10.5555/20163284209
36. **Isaac Mbir Bryant** (2015). Using Slow Sand Filtration System with Activated Charcoal Layer to Treat Salon Waste Water in a Selected Community in Cape Coast, Ghana. *Advanced Chemical Engineering*. https://scholar.google.com/scholar?cluster=10859064095247119094&hl=en&oi=scholarr
37. **Isaac Mbir Bryant** (2014). Improved Energy Recovery by Anaerobic Grey Water Sludge Treatment with Black Water. *Water*. https://www.mdpi.com/2073-4441/6/8/2436
38. **IM Bryant**, Frederick A Armah, ANM Pappoe (2010). Source specific quantification and characterisation of solid waste along a sandy beach in Cape coast, Ghana. *Theoretical and Empirical Researches in Urban Management*. https://www.jstor.org/stable/24872609

Book chapters 2

1. **Isaac Mbir Bryant** (2026). Abiotic and biological degradation of industrially relevant phosphonates. *Phosphonate Chemistry, Technology and Applications*. https://www.sciencedirect.com/science/chapter/edited-volume/pii/B9780443444470000051
2. **Isaac Mbir Bryant**, Martha Osei-Marfo (2021). Innovative Designs in Household Biogas Digester in Built Neighbourhoods. *IntechOpen eBooks*. https://doi.org/10.5772/intechopen.97210

Theses 1

1. **Isaac Mbir Bryant** (2012). Maximum carbon recovery from source-separated domestic wastewater. *Wageningen University and Research Centre*. https://scholar.google.com/scholar?cluster=12061312741295516319&hl=en&oi=scholarr