

Lewis Brew

University of Mines and Technology

ORCID [0000-0002-4820-7241](https://orcid.org/0000-0002-4820-7241) · Profile peerford.com/scholars/4124

RESEARCH

Areas Management Science and Operations Research · Economics and Econometrics · Mechanical Engineering · Modeling and Simulation · Statistics and Probability · Applied Mathematics

RESEARCH SUMMARY

30	72	4	1	0.70	10%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 30 publications listed below, 2017–2026. Field-weighted impact is the mean over the 30 works scored for it; 1.00 is the world average for works of the same field, type and year. 3 of the 30 papers scored for it are among the world's most cited tenth for their field, type and year.

PUBLICATIONS

Journal articles 29

1. Cynthia Ama Mensah, Lewis Brew, Monica Veronica Crankson (2026). A Linear Ordinary Differential Equation Model of Assets and Loan Liquidity Management of Credit Unions: A Two-state Dynamic Model. *Asian Research Journal of Mathematics*. <https://doi.org/10.9734/arjom/2026/v22i81135>
2. Esi Ahema Aboagye, Prof.Lewis Brew, Dr. Benjamin Odoi (2026). Modelling of Extreme Rainfall Patterns in Accra. *International Journal of Basic and Applied Sciences*. <https://doi.org/10.14419/0c9qv646>
3. Pearl Asieduwaa Osei, Lewis Brew, Richard Kwasi Amankwah, Yao Yevenyo Ziggah, Clement Owusu (2026). Predicting gold cyanide leaching recovery in carbon-in-leach circuit for a gold mine in Ghana: A focus on predictive performance of machine learning techniques. *Journal of African Earth Sciences*. <https://doi.org/10.1016/j.jafrearsci.2026.106143>
4. Isaac Ampofi, Lewis Brew, Eric Wiah (2025). Experimental XGBoost Method for Predicting the Ghana Cedi Exchange Rate Against Major Developed Currencies. *International Journal of Economics Finance and Management Sciences*. <https://doi.org/10.11648/j.ijefm.20251305.13>
5. Henry Otoo, Lewis Brew, Benjamin Dadzie-Mensah (2024). Epidemiological Modelling of Yellow Fever Dynamics. *Asian Research Journal of Mathematics*. <https://doi.org/10.9734/arjom/2024/v20i8821>
6. Henry Otoo, Benjamin Dadzie Mensah, Lewis Brew (2024). Existence of Solutions of a Convolution Integral Equation. *Journal of Applied Mathematics and Physics*. <https://doi.org/10.4236/jamp.2024.125114>
7. Pearl Asieduwaa Osei, Lewis Brew, Richard Kwasi Amankwah, Yao Yevenyo Ziggah, Clement Owusu (2024). Gold cyanide leaching recovery prediction model based on neighbourhood component analysis and artificial intelligence technique. *Modeling Earth Systems and Environment*. <https://doi.org/10.1007/s40808-024-01970-z>
8. Barikisu Ankrah, Lewis Brew, Joseph Acquah (2024). Multi-Class Classification of Genetic Mutation Using Machine Learning Models. *Computational Journal of Mathematical and statistical Sciences*. <https://doi.org/10.21608/cjmss.2024.267064.1040>
9. Samuel Kwaku Obeng, Christiana C. Nyarko, Lewis Brew, Kaku Sagary Nokoe (2023). Appropriateness of Reduced Modified Three-Parameter Weibull Distribution Function for Predicting Gold Production in Ghana. *Open Journal of Statistics*. <https://doi.org/10.4236/ojs.2023.134027>
10. Samuel Kwaku Obeng, Christiana C. Nyarko, Lewis Brew, K. Sagary Nokoe (2023). Fitness of Four-Parameter Beta Distribution Function for Forecasting Gold Reserve and Its Production Lifespan in Ghana. *Open Journal of Statistics*. <https://doi.org/10.4236/ojs.2023.134028>

11. SELASI OCLOO, LEWIS BREW, SULEMAN NASIRU, BENJAMIN ODOI (2023). On the Extension of the Burr XII Distribution: Applications and Regression. *Computational Journal of Mathematical and statistical Sciences*. <https://doi.org/10.21608/cjmss.2023.181739.1000>
12. Henry Otoo, William Obeng-Denteh, Lewis Brew (2023). Oscillatory Solution of a Convolutional Volterra Integral Equation. *Asian Research Journal of Mathematics*. <https://doi.org/10.9734/arjom/2023/v19i12772>
13. B. S. Borbor, L. Brew (2022). Forecast Analysis of Ghana's Gross Domestic Product in Economic Growth using Time Series ARIMA. *Asian Research Journal of Mathematics*. <https://doi.org/10.9734/arjom/2022/v18i230359>
14. Selasi Kwaku Ocloo, Lewis Brew, Suleman Nasiru, Benjamin Odoi (2022). Harmonic Mixture Fréchet Distribution: Properties and Applications to Lifetime Data. *International Journal of Mathematics and Mathematical Sciences*. <https://doi.org/10.1155/2022/6460362>
15. Bridget Sena Borbor, Lewis Brew, Joseph Acquah (2022). Mathematical Model for the Control of Unemployment on Ghana's Labour Market. *Earthline Journal of Mathematical Sciences*. <https://doi.org/10.34198/ejms.11223.211228>
16. C. C. Nyarko, K. Agyarko, P. K. Nyarko, L. Brew (2021). Determinants of Chronic Illness Among Aged Population in Ghana: A Multinomial Logit Approach. *Ghana Mining Journal*. <https://doi.org/10.4314/gm.v21i1.7>
17. David Delali Zigli, Lewis Brew, William Obeng-Denteh, S. Kwofie (2021). On the Application of Homeomorphism on Amoeba Proteus.
18. Abdulzeid Yen Anafo, Lewis Brew, Suleman Nasiru (2021). The Equilibrium Renewal Burr XII Distribution: Properties and Applications. *Asian Journal of Probability and Statistics*. <https://doi.org/10.9734/ajpas/2021/v15i230349>
19. Zigli David Delali, Obeng-Denteh William, Brew Lewis, Ansah Richard Kwame (2021). The Homotopical Proof of $\Pi_1(S, x_0)$ as a Fundamental Group in a General Interval. *Advances in Pure Mathematics*. <https://doi.org/10.4236/apm.2021.115024>
20. Benjamin Odoi, Lewis Brew, Christopher Attafuah (2021). The use of Principal Component Regression and Time Series Analysis to Predict Nitrous Oxide Emissions in Ghana. *Energy Research Journal*. <https://doi.org/10.3844/erjsp.2021.1.12>
21. Frank B. K. Twenefour, Emmanuel Ayitey, Justice Kangah, Lewis Brew (2021). Time Series Analysis of Road Traffic Accidents in Ghana. *Asian Journal of Probability and Statistics*. <https://doi.org/10.9734/ajpas/2021/v11i230262>
22. Brew Lewis, Boahene Boahemaa Martha, Brew Ebella Candy (2020). Analytical Approximation of Advertising Impact on Sale of Products Using Differential Equation Model. *American Journal of Applied Mathematics*. <https://doi.org/10.11648/j.ajam.20200804.11>
23. Lewis Brew, William Obeng-Denteh, Fred Asante-Mensa (2020). Analytical Consideration of Growth in Population via Homological Invariant in Algebraic Topology. *Journal of Mathematics*. <https://doi.org/10.1155/2020/4948304>
24. Lewis Brew, Belinda Koasiba Ettih, Eric Neebo Wiah (2020). Cointegration Analysis of the Relationship between the Prices of Crude Oil and Its Petroleum Products in Ghana. *Journal of Mathematical Finance*. <https://doi.org/10.4236/jmf.2020.104042>
25. Lewis Brew, William Obeng-Denteh, David Delali Zigli (2019). Application of Homotopy to the Ageing Process of Human Body Within the Framework of Algebraic Topology. *Journal of Mathematics Research*. <https://doi.org/10.5539/jmr.v11n4p21>
26. Brew Lewis (2019). Effects of Gross Domestic Product and Inflation Rate on Unemployment Rate in Ghana: Comparative Analysis of Multiple Regression and Covariance Matrix Models. *American Journal of Applied Mathematics*. <https://doi.org/10.11648/j.ajam.20190701.12>
27. Joseph Acquah, Albert Buabeng, Lewis Brew (2018). Comparative Study of Mathematical Models for Population Growth in Ghana Prisons.
28. Lewis Brew (2018). Matrix Dynamics of Migration Trends of Rural-Urban Population in Ghana. *Science*

Journal of Applied Mathematics and Statistics. <https://doi.org/10.11648/j.sjams.20180602.12>

29. **Lewis Brew**, Joseph Acquah, Newton Amegbey (2017). Extension of 2-Dimensional Planar Systems from Homological Algebra Perspective.

Books 1

1. Mensah, Sarah-Lynn, Odoi, Benjamin, **Brew, Lewis** (2026). An Empirical Evaluation of First-Order Noisy Input Gaussian Process Regression under Increasing Input Uncertainty. *Zenodo (CERN European Organization for Nuclear Research)*. <https://doi.org/10.5281/zenodo.22795295>