Adu Sakyi

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RESEARCH

Interests	Numerical Methods and Analysis · Differential Equations · Hydrodynamic modeling · Mathematical Biology
Areas	Computational Theory and Mathematics · Computational Mechanics · Economics and Econometrics · Environmental Engineering · Infectious Diseases · Mechanical Engineering

RESEARCH SUMMARY

13	31	3	1	0.27	0%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 13 publications listed below, 2013–2026. Field-weighted impact is the mean over the 9 works scored for it; 1.00 is the world average for works of the same field, type and year. 0 of the 9 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecturer 2020–present
Mathematics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

EDUCATION AND QUALIFICATIONS

PhD Scientific Computing and Industrial Modeling 2014–2019
Mathematics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Mphil Applied Mathematics 2011–2013
Mathematics, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

PUBLICATIONS

Journal articles 12

1. Joshua Kiddy K. Asamoah, Isaac K. Adu, Fredrick A. Wireko, **Adu Sakyi** (2026). Mathematical Modeling of Giardiasis Transmission Dynamics Using Caputo Fractional Derivative. *Engineering Reports*. https://doi.org/10.1002/eng2.70664
2. Rebecca Awerigiya, Fredrick Asenso Wireko, Bernard Oduoku Bainson, **Adu Sakyi**, Isaac Kwasi Adu, Joshua Nii Martey, Joshua Kiddy K. Asamoah (2026). Modeling the impact of community information dissemination on the transmission dynamics of lymphatic filariasis. *Scientific Reports*. https://doi.org/10.1038/s41598-026-48000-9
3. Reindorf Nartey Borkor, **Adu Sakyi**, Nicholas Kwasi-Do Ohene Opoku, Rhydal Esi Eghan, John Amoah-Mensah, Ali Abubakar, Kwame Owusu Edusei, Peter Amoako-Yirenkyi (2025). Investigation of fractional compartmental models in pharmacokinetics with application to amiodarone drug diffusion. *Scientific African*. https://doi.org/10.1016/j.sciaf.2025.e02700
4. **A Sakyi**, RN Borkor (2025). Mathematical modelling of meningitis serogroups a and c transmission in sub-saharan africa: A case study in ghana. *Scientific African*. https://www.sciencedirect.com/science/article/

pii/S2468227625002273

5. **Adu Sakyi**, P Amoako-Yirenkyi, NK Frempong, AY Omari-Sasu (2025). Seemingly unrelated time series model for forecasting the peak and short-term electricity demand: Evidence from the Kalman filtered Monte Carlo method (vol 9, e18821, 2023). *HELIYON*. https://scholar.google.com/scholar?cluster=12714748659627117810&hl=en&oi=scholarr
6. Frank Kofi Owusu, Peter Amoako-Yirenkyi, Nana Kena Frempong, Akoto Yaw Omari-Sasu, Isaac Adjei Mensah, Henry Martin, **Adu Sakyi** (2023). Seemingly unrelated time series model for forecasting the peak and short-term electricity demand: Evidence from the Kalman filtered Monte Carlo method. *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e18821
7. Richard Owusu, **Adu Sakyi**, Peter Amoako-Yirenkyi, Isaac Kwame Dontwi (2022). A New Multicontinuum Model for Advection-Diffusion Process of Single-Phase Nonlinear Flow in a Multiscale Fractured Porous Media. *Journal of Applied Mathematics*. https://doi.org/10.1155/2022/5731988
8. Richard Owusu, **Adu Sakyi**, Isaac Kwame Dontwi, Peter Amoako-Yirenkyi (2022). A new macro-scale volume averaged transport model for diffusive dominated non-Darcian flow problem in multi-scaled naturally fractured reservoirs. *Journal of Petroleum Exploration and Production Technology*. https://doi.org/10.1007/s13202-022-01498-x
9. **Adu Sakyi**, Peter Amoako-Yirenkyi, Isaac Kwame Dontwi (2020). A Formal Homogenization Approach to Piping Flow Erosion with Deposition in a Spatially Heterogeneous Soil. *Journal of Advances in Mathematics and Computer Science*. https://doi.org/10.9734/jamcs/2020/v35i330257
10. **Adu Sakyi**, Peter Amoako-Yirenkyi, Isaac Kwame Dontwi (2020). A Rigorous Homogenization for a Two-Scale Convergence Approach to Piping Flow Erosion with Deposition in a Spatially Heterogeneous Soil. *Journal of Advances in Mathematics and Computer Science*. https://doi.org/10.9734/jamcs/2020/v35i330256
11. A.Y OMARI-SASU, REINDORF NARTEY BORKOR, **ADU SAKYI**, ISHMAEL JESSE NARH ADIKORLEY (2018). Modeling GHS-USD Exchange Rate in Ghana: Application of Stochastic Volatility Model. *International Review of Management and Business Research*. https://doi.org/10.30543/7-2(2018)-15
12. J Ackora-Prah, **A Sakyi**, YE Ayekple (2014). A bilayer feed-forward artificial neural network for exchange rate prediction. *AUS. J. Applied Math.*. https://www.researchgate.net/profile/Adu-Sakyi/publication/326238892_A_Bilayer_Feed-Forward_Artificial_Neural_Network_for_Exchange_Rate_Prediction/links/5d337ab34585153e5913ce1e/A-Bilayer-Feed-Forward-Artificial-Neural-Network-for-Exchange-Rate-Prediction.pdf

Theses 1

1. **A Sakyi** (2013). EXCHANGE RATE PREDICTION USING A MULTI LAYER FEED-FORWARD ARTIFICIAL NEURAL NETWORKS. *Department of Mathematics, Kwame Nkrumah University of Science and Technology*. https://scholar.google.com/scholar?cluster=14358149362951045197&hl=en&oi=scholarr