Philip Yaw Okyere

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PROFILE

Prof. Philip Yaw Okyere, Professor of Electrical Engineering, graduated with a B.Sc. (First Class Honours) degree in Electrical Engineering from KNUST in 1979. After a one-year national service in the Department of Electrical & Electronic Engineering as Teaching Assistant, he proceeded to L'Institut National Polytechnique de Grenoble (INPG), France to pursue postgraduate studies in electrical engineering on a scholarship from the French Government. He graduated with DEA ("Mention: Bien") and Docteur-Ingenieur degrees in 1982 and 1985 respectively. He returned to Ghana to join the Department of Electrical & Electronic Engineering of KNUST as a Lecturer in 1985.

Prof. Philip Yaw Okyere has taught courses in Electrical Machines, Electric Drives, Power Electronics and Power Systems. He has produced publications in diverse areas, including power system modelling, lightning protection, earth electrode resistance enhancement, application of artificial neural networks to power systems, and renewable energies. At the University he has held positions as Head of the Department of Electrical and Electronic Engineering, Vice-Dean and Dean of the Faculty of Electrical & Computer Engineering.

RESEARCH

Interests	Renewable Energy · Application of ANN to Power Systems
Areas	Electrical and Electronic Engineering · Control and Systems Engineering · Artificial Intelligence · Pollution · Renewable Energy, Sustainability and the Environment · Safety, Risk, Reliability and Quality

RESEARCH SUMMARY

55	404	12	16	1.12	13%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 55 publications listed below, 1993–2025. Field-weighted impact is the mean over the 31 works scored for it; 1.00 is the world average for works of the same field, type and year. 4 of the 31 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Associate Professor (Rtd) 1985–2023
Electrical and Electronic Engineering, KNUST, Kumasi, Ghana

PUBLICATIONS

Journal articles 43

1. Yaw O. M. Sekyere, Francis B. Effah, **Philip Y. Okyere** (2025). Fractional order ANFIS controllers for LFC in RES integrated three-area power system. *Journal of Electrical Systems and Information Technology*. https://doi.org/10.1186/s43067-025-00200-5
2. Emmanuel K. Effah, Francis B. Effah, **Philip Y. Okyere**, Emmanuel K. Anto (2025). Robust Adaptive Control of Dual Active Bridge DC-DC Converter with Constant Power Loading. *Power Electronics and Drives*. https://doi.org/10.2478/pead-2025-0004
3. Yaw Opoku Mensah Sekyere, Francis Boafo Effah, **Philip Yaw Okyere** (2024). A Novel ANFIS Controller

for LFC in RES Integrated Three-Area Power System. *Journal of Electronics and Electrical Engineering*. https://doi.org/10.37256/jeee.3220244886

4. Yaw O. M. Sekyere, Francis B. Effah, **Philip Y. Okyere** (2024). An Enhanced Particle Swarm Optimization Algorithm via Adaptive Dynamic Inertia Weight and Acceleration Coefficients. *Journal of Electronics and Electrical Engineering*. https://doi.org/10.37256/jeee.3120243868
5. Emmanuel K. Effah, Emmanuel K. Anto, **Philip Y. Okyere**, Francis B. Effah (2024). Model Reference Adaptive Control of SPS-Based Dual Active Bridge Converter with Constant Power Loading. *Power Electronics and Drives*. https://doi.org/10.2478/pead-2024-0022
6. Yaw O. M. Sekyere, Francis B. Effah, **Philip Y. Okyere** (2024). Optimal Tuning of PID Controllers for LFC in Renewable Energy Source Integrated Power Systems Using an Improved PSO. *Journal of Electronics and Electrical Engineering*. https://doi.org/10.37256/jeee.3120243869
7. Yaw O. M. Sekyere, Francis B. Effah, **Philip Y. Okyere** (2024). Optimally tuned cascaded FOPI-FOPIDN with improved PSO for load frequency control in interconnected power systems with RES. *Journal of Electrical Systems and Information Technology*. https://doi.org/10.1186/s43067-024-00149-x
8. Yaw Opoku Mensah Sekyere, Francis Boafo Effah, **Philip Yaw Okyere** (2023). Hyperbolic Tangent - Based Adaptive Inertia Weight Particle Swarm Optimization. *Jurnal Nasional Teknik Elektro*. https://doi.org/10.25077/jnte.v12n2.1095.2023
9. FB Effah, **PY Okyere** (2022). An Enhanced Jumping Spider Optimization Algorithm. *Carpathian Journal of Electrical Engineering*. https://www.researchgate.net/profile/Atanga-Betrand-N/publication/370415442_AN_ENHANCED_JUMPING_SPIDER_OPTIMIZATION_ALGORITHM/links/644efebf97449a0e1a6b225e/AN-ENHANCED-JUMPING-SPIDER-OPTIMIZATION-ALGORITHM.pdf
10. Okyere I, Singh S, Ameyaw E, **Okyere P**, Yeboah FA, Brenu SG, Tamatey M (2022). EMERGENCY THORACIC SURGERY IN CHEST TRAUMA AT THE KOMFO ANOKYE TEACHING HOSPITAL IN GHANA: THE ROLE OF STERNOTOMY AND THORACOTOMY. *Zenodo (CERN European Organization for Nuclear Research)*. https://doi.org/10.5281/zenodo.6817943
11. **Philip Y. Okyere**, K Daniel (2022). Optimal Tuning of PI-Controller of Shunt Active Power Filter for Harmonics mitigation using Enhanced Jumping Spider Algorithm. *Carpathian Journal of Electrical Engineering*. https://www.academia.edu/download/101676894/Atanga_Thesis.pdf
12. Francis Boafo Effah, Philip Gasu, **Philip Okyere**, Amevi Acakpovi (2020). Harmonics of CF and LED lamps - Maximum Penetration Perspective on Power Quality in Distribution Systems. *Jurnal Nasional Teknik Elektro*. https://doi.org/10.25077/jnte.v9n3.795.2020
13. **Philip Y. Okyere** (2020). Harmonics of CFL and LED lamps-Maximum Penetration Perspective on Power Quality in Distribution Systems. *Jurnal Nasional Teknik Elektro*. https://www.academia.edu/download/66157129/19_Harmonics_CFL.pdf
14. **Philip Yaw Okyere**, Johnson Asumadu (2020). WALSH-HADAMARD TRANSFORM AND SUPPORT VECTOR MACHINE BASED ROTOR ANGLE STABILITY STATUS PREDICTION.
15. EA Frimpong, **PY Okyere** (2020). WAVELET ANALYSIS AND NEURAL NETWORK TECHNIQUE FOR PREDICTING TRANSIENT STABILITY STATUS. *Carpathian Journal of Electrical Engineering*. https://openurl.ebsco.com/contentitem/gcd:150274329?sid=ebsco:plink:crawler-gcd&id=ebsco:gcd:150274329&crl=c&jrnl=18437583
16. Emmanuel Asuming Frimpong, **Philip Okyere**, Johnson Asumadu (2019). Average Voltage and Multilayer Perceptron Neural Network Based Scheme to Predict Transient Stability Status. *Jurnal Nasional Teknik Elektro*. https://doi.org/10.25077/jnte.v8n2.668.2019
17. FB Effah, **P Okyere** (2019). Optimized space-vector-modulated quasi Z-source NPC inverter for solar PV application. *Carpathian Journal of Electrical Engineering*. https://www.researchgate.net/profile/Francis-Effah/publication/344175863_OPTIMIZED_SPACE-VECTOR-MODULATED_QUASI_Z-SOURCE_NPC_INVERTER_FOR_SOLAR_PV_APPLICATION/links/5f58eb47a6fdcc1164045bc3/OPTIMIZED-SPACE-VECTOR-MODULATED-QUASI-Z-SOURCE-NPC-INVERTER-FOR-SOLAR-PV-APPLICATION.pdf

18. Francis Boafo EFFAH, **Philip OKYERE**, Mubarak Sani ELLIS, Patrick WHEELER, Alan WATSON, Jon CLARE, Joseph OJO (2019). THREE-LEVEL INDIRECT MATRIX CONVERTER WITH TWO SERIES Z-SOURCE NETWORKS. *DOAJ (DOAJ: Directory of Open Access Journals)*.

19. Francis EFFAH, **Philip OKYERE**, Patrick WHEELER, Alan WATSON, Jon CLARE (2018). A MODIFIED VIRTUAL SPACE VECTOR MODULATION TECHNIQUE FOR Z-SOURCE NPC INVERTERS. *Repository@Nottingham (University of Nottingham)*.

20. Emmanuel Asuming Frimpong, Elvis Twumasi, Francis Kemausuor, Divine Odame Appiah, **Philip Yaw Okyere** (2018). ENERGY EFFICIENCY AWARENESS AND PREPAREDNESS AMONG STUDENTS.

21. Emmanuel Asuming Frimpong, **Philip Yaw Okyere**, Johnson Asumadu (2018). On-line determination of transient stability status using multilayer perceptron neural network. *Journal of Electrical Engineering*. https://doi.org/10.1515/jee-2018-0008

22. Emmanuel Asuming FRIMPONG, **Philip Yaw OKYERE**, Johnson ASUMADU (2018). REAL-TIME TRANSIENT STABILITY STATUS PREDICTION SCHEME AND COMPARATIVE ANALYSIS OF THE PERFORMANCE OF SVM, MLPNN AND RBFNN. *DOAJ (DOAJ: Directory of Open Access Journals)*.

23. EA Frimpong, **PY Okyere** (2018). Walsh-Hadamard Transform and Support Vector Machine Based Rotor Angle Stability Status Prediction. *International Research Journal for Engineering and Technology*.

24. Emmanuel Asuming Frimpong, **Philip Yaw Okyere**, Johnson Asumadu (2018). Wavelet Analysis and Radial Basis Function Neural Network Based Stability Status Prediction Scheme. *Jurnal Nasional Teknik Elektro*. https://doi.org/10.25077/jnte.v7n3.559.2018

25. EA Frimpong, **PY Okyere** (2016). Assessment of Energy Wastage in Street lighting. *Journal of Multidisciplinary Engineering Science Studies*. http://www.jmess.org/wp-content/uploads/2016/07/JMESSP13420139.pdf

26. **PY Okyere** (2016). PID-basedP&O MPPT Controller for Offgrid Solar PV Systems Using Ziegler-Nichols Tuning Methodto Step, Ramp and Impulse Inputs. *Journal of Multidisciplinary Engineering Science Studies*. http://jmess.org/wp-content/uploads/2016/07/JMESSP13420145.pdf

27. EA Frimpong, **PY Okyere** (2016). Real time prediction of coherent generator groups. *Journal of Electrical Engineering*. http://jee.ro/index.php/jee/article/view/WD1448649431W5658a2d7c8a7d

28. EA Frimpong, **PY Okyere** (2015). Impact Assessment of Increasing Solar PV Penetrations on Voltage and Total Harmonic Distortion of a Distribution Network. *Journal of Multidisciplinary Engineering Science Studies*. http://jmess.org/wp-content/uploads/2015/12/JMESSP13420027.pdf

29. EA Frimpong, **PY Okyere** (2015). NEURAL NETWORK AND SPEED DEVIATION BASED GENERATOR OUT-OF-STEP PREDICTION. *Journal of Electrical Engineering*. http://www.jee.upt.ro/index.php/jee/article/view/WB1384950860W528cac4c5d704

30. EA Frimpong, **PY Okyere** (2015). Neural network and speed deviation based generator out-of-step prediction scheme. *Journal of Electrical Engineering*. https://www.researchgate.net/profile/Philip-Okyere/publication/279517059_Neural_Network_and_Speed_Deviation_Based_Generator_Out-of-Step_Prediction_Scheme/links/55952c3408ae793d1379cedc/Neural-Network-and-Speed-Deviation-Based-Generator-Out-of-Step-Prediction-Scheme.pdf

31. **PY Okyere**, EA Frimpong (2015). SPEED DEVIATION AND MULTILAYER PERCEPTRON NEURAL NETWORK BASED TRANSIENT STABILITY STATUS PREDICTION SCHEME. *Journal of Electrical Engineering*. http://new.jee.ro/index.php/jee/article/view/WP1385456855W529464d767fda

32. **PY Okyere** (2011). Development of bioenergy conversion alternatives for climate change mitigation. *International journal of energy and environment*. https://www.academia.edu/download/90859754/IJEE_11_v2n3.pdf

33. **Philip Y. Okyere** (2010). A review of adaptive autoreclosure techniques. *Indian Journal of Computer Science…*. https://www.academia.edu/download/93541761/IJCSE10-01-03-34.pdf

34. EA Frimpong, **PY Okyere** (2010). Forecasting Daily Peak Load of Ghana using Radial Basis Function Neural Network and Wavelet Transform. *Journal of Electrical Engineering*. http://jee.ro/index.php/jee/article/download/WV1247491223W4a5b3497e631f/312

35. EA Frimpong, **PY Okyere** (2010). MONTHLY ENERGY CONSUMPTION FORECASTING USING WAVELET ANALYSIS AND RADIAL BASIS FUNTION NEURAL NETWORK. *Journal of Science and Technology*. https://journal.knust.edu.gh/index.php/just/article/view/528

36. E.A Frimpong, **P.Y Okyere** (2010). Monthly Energy Consumption Forecasting Using Wavelet Analysis and Radial Basis Function Neural Network. *Journal of Science and Technology (Ghana)*. https://doi.org/10.4314/just.v30i2.60541

37. EA Frimpong, **PY Okyere** (2009). Adaptive Single-Pole Autoreclosure scheme based on Standard Deviation and Wave Energy. *journal of Electrical Engineering*. http://www.jee.upt.ro/index.php/jee/article/view/WL1242646508W4a1147ecb69ed

38. **PY Okyere** (2007). Lightning Protection of Structures and Electronic Equipment: A Case Study. *International Journal of Applied Engineering Research*. https://go.gale.com/ps/i.do?id=GALE%7CA172134707&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=09734562&p=AONE&sw=w

39. **PY Okyere** (2007). The potential of using wood residue for energy generation in Ghana. *International conference on wood-based bioenergy*. https://scholar.google.com/scholar?cluster=9921762595377425838&hl=en&oi=scholarr

40. **PY Okyere** (2006). Evaluation of rolling sphere method using leader potential concept: A case study. *IJME-Intertech*. https://www.academia.edu/download/68634149/Evaluation_of_Rolling_Sphere_Method_Usin20210806-24665-1clkwt5.pdf

41. **PY Okyere** (2006). Reducing earth electrode resistance by replacing soil in critical resistance area. *Journal of Modern Engineering*. https://www.researchgate.net/profile/Philip-Okyere/publication/277597858_Reducing_Earth_Electrode_Resistance_by_Replacing_Soil_in_Critical_Resistance_Area/links/556e2c7208aeab777226a233/Reducing-Earth-Electrode-Resistance-by-Replacing-Soil-in-Critical-Resistance-Area.pdf

42. **PY Okyere** (2004). The use of Wenner configuration to monitor soil water content. *Invited presentations. College on soil physics 2003*. https://inis.iaea.org/records/9q9sm-1qs43

43. **PY Okyere** (1993). Decomposition of interconnected power systems for dynamic studies. *Journal of Science and Technology*. https://journal.knust.edu.gh/index.php/just/article/view/1013

Conference papers 12

1. Francis Boafo Effah, Patrick Wheeler, **Philip Okyere**, Alan Watson, Joseph Ojo, Jon Clare (2020). Three-Level Indirect Matrix Converter With Series Z-source Networks. *2020 IEEE PES/IAS PowerAfrica*. https://doi.org/10.1109/powerafrica49420.2020.9219992

2. Emmanuel Asuming Frimpong, **Philip Yaw Okyere**, Johnson Akom Asumadu (2020). Wavelet Analysis and Neural Network Scheme for Predicting Transient Stability Status. *2020 IEEE PES/IAS PowerAfrica*. https://doi.org/10.1109/powerafrica49420.2020.9219977

3. Elvis Twumasi, Emmanuel Asuming Frimpong, Francis Kemausuor, Divine Odame Appiah, **Philip Yaw Okyere** (2017). Energy efficiency awareness and preparedness among students. https://doi.org/10.1109/powerafrica.2017.7991268

4. Emmanuel Asuming Frimpong, **Philip Yaw Okyere**, Johnson Asumadu (2017). On-line determination of transient stability status using MLPNN. https://doi.org/10.1109/powerafrica.2017.7991194

5. Emmanuel Asuming Frimpong, **Philip Yaw Okyere**, Johnson Asumadu (2017). Prediction of transient stability status using Walsh-Hadamard transform and support vector machine. https://doi.org/10.1109/powerafrica.2017.7991241

6. Emmanuel Kwaku Anto, Johnson A. Asumadu, **Philip Yaw Okyere** (2016). PID control for improving P&O-MPPT performance of a grid-connected solar PV system with Ziegler-Nichols tuning method. https://doi.org/10.1109/iciea.2016.7603888

7. Emmanuel K. Anto, **Philip Y. Okyere**, Johnson A. Asumadu (2014). Critical sampling period for an open-loop perturband-observe (P&O) maximum power point tracking (MPPT) grid-connected solar photovoltaic (PV) system. https://doi.org/10.1109/pedg.2014.6878687

8. Emmanuel K. Anto, **Philip Y. Okyere**, Johnson A. Asumadu (2014). Critical voltage perturbation size for an open-loop perturb-and-observe (P&O) maximum power point tracking (MPPT) grid-connected solar photovoltaic (PV) system. https://doi.org/10.1109/pvsc.2014.6925299
9. Emmanuel Obuobi Kwame Addo, Johnson Asumadu, **Philip Yaw Okyere** (2014). Optimal design of renewable hybrid energy system for a village in Ghana. https://doi.org/10.1109/iciea.2014.6931410
10. Emmanuel A. Frimpong, **Philip Y. Okyere**, Johnson A. Asumadu (2013). Generator out-of-step prediction using wavelet analysis. https://doi.org/10.1109/pedg.2013.6785647
11. George Eduful, Joseph Ekow Cole, **Philip Yaw Okyere**, Sio-Iong Ao (2010). Achieving a Low Ground Resistance using Critical Resistance Area Concept. *AIP conference proceedings*. https://doi.org/10.1063/1.3460224
12. George Eduful, Joseph Ekow Cole, **P.Y. Okyere** (2009). Optimum mix of ground electrodes and conductive backfills to achieve a low ground resistance. https://doi.org/10.1109/icastech.2009.5409734