

CURRICULUM VITAE – Dr. EMMANUEL KWAKU ANTO

PERSONAL DETAILS:

Name	EMMANUEL KWAKU ANTO
Profession	Electrical Engineer / Lecturer
Rank & Position	Senior Lecturer & Former Head of Department
Address	Electrical & Electronic Engineering Department Kwame Nkrumah University of Science & Technology, Private Mail Bag, Kumasi, Ghana. P. O. Box KS 6786, Kumasi, Ghana
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Gender	Male
Place and date of Birth	Kumasi, Ghana / 23.04.1958
Nationality	Ghanaian
Other Languages	English (Very Fluent), German (Fluent)

EDUCATIONAL QUALIFICATIONS

<u>DATE</u>	<u>QUALIFICATION</u>	<u>INSTITUTION</u>
2017	PhD. Electrical Engineering	Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.
1997	Dipl. Ing. (MSc. Equivalent) Electrical Engineering	Technical University of Berlin (TU Berlin), Berlin, Germany
1985	BSc. (Hons.) Electrical Engineering	UST, Kumasi, Ghana.

MEMBERSHIP OF PROFESSIONAL ASSOCIATION:

1988 – 1994; 2012 – 2015 Member of the Institute of Electrical and Electronics Engineers (IEEE), U.S.A.

EMPLOYMENT RECORD:

Aug. 2016 – To Date	Senior Lecturer , Electrical & Electronic Engineering Department, KNUST, Kumasi, Ghana.
Oct. 2001 – July 2016	Lecturer , Electrical & Electronic Engineering Department, KNUST, Kumasi, Ghana (Current Rank is Senior Lecturer).
Oct. 2004 – Aug. 2019	Electrical Consultant, University Electrical Services, KNUST
July 2009 – July 2011	Head , Department of Electrical & Electronic Engineering, KNUST
Nov. 2000 – Sept. 2001	Senior Scientific Officer , Ghana Standards Board, Accra, Ghana
Apr. 2000 – Oct. 2000	Part-Time Lecturer , Dept. of Electrical & Electronic Engineering, KNUST, Kumasi, Ghana.
July 1997 – Dec. 1998	Administrative Manager of the Office of German-trained Experts (Kumasi), “Afro-Asiatische Studentenfoerderung (AASF)”, Goettingen, Germany.
Sep. 1985 – May 1986	Teaching Assistant , Dept. of Electrical & Electronic Engineering, UST, Kumasi, Ghana.

RELEVANT DUTIES/SERVICES:

Sept 2020 – To Date	Moderator , Akim State University, Akim Oda
Nov. 2018 – Aug. 2020	Moderator , Accra Institute of Technology (AIT), Accra
December 2015	Member , Stakeholders Consultative Meeting on the Local Content Policy for the Electricity Power Supply Industry organized by the Ministry of Power
December 2015	Reviewer , Kumasi Polytechnic organized International Conference on Applied Sciences and Technology (ICAST 2015) for articles titled: <i>Assessment of Electrical Energy Needs of the Beauty Salon Industry in Kumasi AND Sensitivity Analysis of a Mixed Integer Linear Programming Model for Optimal Hydrothermal Energy Generation in Ghana</i>
September 2015	Coordinator , Departmental Field Trips
October 29-30, 2014	Participant , African Union Research Grant Science Forum, Addis Ababa, Ethiopia
September 2014	Reviewer , Journal of Renewable & Sustainable Energy Reviews manuscript RSER-D-13-00389R3 titled “ <i>A Comprehensive Review of Maximum Power Point Tracking Algorithms for Photovoltaic System</i> ”
February 2014	Member , Affiliation Review Committee for WAMEC College of Engineering and Technology
February 2014	Chairman , Committee to Investigate State of Generators Supplied by Elkhart Enterprise to the University
October – November 2013	Member , Affiliation Review Committee for Akim State University College (ASUC)
Oct. 17, 2012–Apr.2013	Member , KAAF University College Affiliation Proposal Review Committee
October 5-Dec.10, 2012	Chairman , Committee to Investigate Allegation of Misconduct Against Mr. Robert Akabanga For Imitation of The Signature of Dr. Kofi Osei Akuoko
March 1, 2013 – 2018	Main Project Coordinator , African Union-funded GridSolar Project, “ <i>Potential of Distributed Grid-Connected Solar Photovoltaic Systems in Rural Electrification in Ghana and Botswana</i> ” Joint Research Project that sought an assessment of technical impact and economic sustainability of integration of a 30 kWp solar PV system in NEDCo network at Walewale, Ghana and 20 kWp system at Mmokolodi, Botswana
July 4, 2012 – Feb. 28, 2013	Associate Project Coordinator , AU GridSolar Project
2012 – 2016	Team Leader , Joint Solar PV Working Group, on NRW/GIZ Germany sponsored Cooperation/Joint Renewable Energy Research Project “ <i>Climate and Resource Protection in Ghana</i> ” between The Energy Center (TEC), KNUST and Technical University of Dortmund and University of Applied Sciences in Gelsenkirchen, Germany
June 4-15, 2012	Member , National Committee to Investigate Baba Yara Sports Stadium Floodlights Outage
October 2011	Member , AIT Affiliation Proposal Review Committee
September 2011	Coordinator , Departmental Postgraduate Programmes
September 2011	Coordinator , Energy Commission-sponsored research project “ <i>Electrical Impact Analysis of Grid-Connected Solar PV Systems on the Performance of Distribution Networks</i> ”
June 2011 – 2018	Member , Ghana National Electrotechnical Committee (GNEC)

January 2011 – 2018	Member , National Technical Committee on Energy Meters (TC 10)
March 2011	Member , Joint Committee on Proposal Between KNUST and ADMIN TELECOM GHANA LIMITED on Capacity Building and Training in the Telecom Sector,
April 2-16, 2010	Member of 3-member delegation led by VC to Chinese Universities to explore educational collaborations and co-operations
January 2010	Member of Working Group to draft the syllabus for the MSc Degree in Geo-information Science for Infrastructure Planning and Management (GIS4INFRA)
March 2009 – 2011	External Examiner for Sunyani Polytechnic
October 2008 – 2009	Member , Implementation Committee of KNUST-WAHOME MOU
August 2008-June 2009	Representative , Faculty of Electrical & Computer Engineering on the College of Engineering Board
January 2008-July 2009	Electrical Engineering Dept. Representative on the College of Engineering Physical Development and Maintenance Committee
Dec 2006 – Sept 2007	Member of Survey Team for Private Enterprise Foundation-Sponsored Studies on the topics – <i>Developments in the Power Sector in Ghana from 2004 to 2006, and Their Impact on Manufacturing Industries in Ghana AND Assessing the Effectiveness of Using the UN Global Compact Cities Program for the Development of Ghanaian Cities in Some Selected MMDAs with Focus on Services Delivery in the Power Sector</i>
April 2007 – Dec 2010	Part-Time Lecturer at the Takoradi Polytechnic
Sept 2006 – June 2009	Faculty Examinations Officer , Faculty of Electrical and Computer Engineering, KNUST
October 2005-Sept 2006	Examinations Officer for Electrical Engineering Dept
March 2005 – 2009	External Moderator and KNUST Electrical Coordinator for National Board for Professional and Technician Examinations (NABPTEX)
Dec 2004 – March 2005	Member of Survey Team for Private Enterprise Foundation-Sponsored Study on the topic – <i>The Impact of Power Outages on Manufacturing Industries in Ghana</i>
November 2004	Member , VRA/KNUST Coordinating Committee
July 2004 – 2006	Visiting Lecturer at the National University of Rwanda
June 2004	Coordinator and Leader of Project to Monitor and Assess Extent of Loading of the Distribution Power Transformers on KNUST Campus
2003-2006	Cognate Member of the Board of the Faculty of Agriculture
2003-2006	Industrial Attachment Training Officer for Department of Electrical and Electronic Engineering, KNUST
2002-2003	School of Engineering Representative on Board of Faculty of Agriculture

AWARDS

July 2015	KNUST Excellence Award Winner as Overall Best Senior Member, Services and Innovation
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IDL COURSE BOOKS

E. K. Anto:	EE 252: Electrical Engineering Machines
E. K. Anto:	EE 262: Synchronous Machines
E. K. Anto:	EE 362: Substation & Transmission Line Design
E. K. Anto:	EE 463: Special Electrical Machines

E. K. Anto:

EE 467: Power Systems Operation & Control

E. K. Anto:

EE 466: Power Systems Planning & Optimization

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED

August 17-20, 2019	5 th KNUST Summer School Workshop for Senior Members
December 2015	Stakeholders Consultative Meeting on the Local Content Policy for the Electricity Power Supply Industry
August 6-8, 2015	1 st Engineering, Science, Technology and Environment (ESTE) Conference at KNUST, Ghana, to present two (2) papers on topics: <i>Performance Appraisal of Deployed Solar PV Cell Technologies – A Case Study in Kumasi, Ghana, AND Improving the Conversion Efficiency of Standalone Solar PV System Using the P&O MPPT Algorithm – Case Study in Ghana,</i>
October 29-30, 2014	African Union Research Grant Science Forum at Addis Ababa, Ethiopia
June 24-26, 2014	5 th IEEE Conference on Power Electronics for Distributed Generation (PEDG 2014), at Galway, Ireland, to present paper on the topic: <i>Critical Sampling Period for an Open-Loop Perturb-and-Observe (P&O) Maximum Power Point Tracking (MPPT) Grid-Connected Solar Photovoltaic (PV) System,</i>
August 2013	College of Engineering Research Retreat (CERR) at Elmina, 2013, to make presentations on the topics: <i>Ensuring Fair Energy Billing for Compound Houses Having Shared Electricity Meter AND Effect of Prepayment Meters on Customers Energy Usage – Case Study: VRA/NEDCo Operational Area</i>
August 8-12, 2015	1 st KNUST Summer School Workshop for Senior Members
February 2-3, 2011	Ghana Institution of Engineers (GhIE) sponsored Seminar on Software Applications in Project Management-Foundation
June 2010	Workshop on Transmission Systems Master Plan for GRIDCo
March 2009	Presentations at REEP Workshop on Power Systems Operation & Control, and Power Systems Planning
August 2007	College of Engineering Research Retreat (CERR) at Ho, to make a presentation on the topic: <i>Impact of Power Outages on Some Selected Manufacturing Industries in Ghana.</i>
March 2007	IAEA/Energy Commission Workshop on Power System Planning using the WASP/MAED Model
Feb. 12-March 3, 2007	GTZ/IDS SAG (Germany) Training on Substation Automation Using the Hi-LEIT System
January 2005	Teaching And Learning Innovative Fund (TALIF) Workshop
April 2004	Quality Assurance Workshop on Multiple-Choice Testing and Grading
February 9-13, 2004	Quality Assurance Workshop on Improved Pedagogy and Research Proposal Writing for Academic Staff
August 2003	School of Engineering Research Retreat (SERR)
August 2002	School of Engineering Research Retreat (SERR) at Busua
May 2002	EPA-sponsored Workshop on Ghana Power Sector
June 2001	Conference on Electricity Metering in Africa
December 2000	Seminar on GARDY Switchgears/Circuit-Breakers in Low-Voltage Distribution Network

PUBLICATIONS

1. Ababio, A.O., Takyi, G. and **Anto, E.K.** (2021): *Optimum Sizing and Siting of an Embedded Solar Photovoltaic Generation: A Case Study of 33 kV Sub-Transmission Network at Tarkwa, Ghana*, Journal of Power and Energy Engineering (JPEE), Vol 9, No 3, pp 1-24, <https://doi.org/10.4236/jpee.2021.93001>, ISSN (Online):2327-5901, ISSN (Print): 2327-588X
2. Agbesi K. Moses, Sayawu Yakubu Diaba, Emmanuel A. Frimpong, **Emmanuel K. Anto**, Mohammed S. Elmustrati, (2020): *Impact of Photovoltaic System Integration on Low Voltage Network: A Case Study of East Legon Power Distribution Services M05/52 LV Network, Ghana*, International Journal of Emerging Technology and Advanced Engineering (IJETAEE). Website: www.ijetae.com, ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 10, Issue 10, October 2020, pp 90-95
3. Joe Oteng-Adjei, Abdul-Majid Issah Malori, **Emmanuel Kwaku Anto**, (2020): *Generating System Adequacy Assessment Using Analytical Technique*, 2020 IEEE PES/IAS Power Africa, Nairobi, Kenya, 2020, pp 1-5, doi: 10.1109/PowerAfrica49420.2020.9219789.
4. Joe Oteng-Adjei, Abdul-Majid Issah Malori, **Emmanuel Kwaku Anto**, (2020): *Generating System Expansion Planning Using Loss of Load Probability Criterion*, 2020 IEEE PES/IAS PowerAfrica, Nairobi, Kenya, 2020, pp. 1-5, doi: 10.1109/PowerAfrica49420.2020.9219822
5. Theophilus Frimpong Adu, **Emmanuel Kwaku Anto**, Emmanuel Ramde, Lena Dzifa Mensah, (2020): *Determination of Optimum Tilt Angle for Rooftop Solar Photovoltaic System Installation for KikuKinderhaus in Kumasi*, published in International Journal of Energy and Environmental Science (IJEES), Vol. 5 No. 1, pp. 7-13, Science PG, <http://www.sciencepublishinggroup.com/j/ijeess>, doi:10.11648/j.ijeess.20200501.12, ISSN:2579-9538; ISSN:2578-9546(online);
6. Theophilus Frimpong Adu, Emmanuel Ramde, **Emmanuel Kwaku Anto**, Lena Dzifa Mensah, (2020): *Economic Modeling of Rooftop Solar Photovoltaic Systems Installation in Ghana*, **in print**
7. N. Asiedu, P. Adu, **E. K. Anto**, A. Duodu (2019): *Energy economics and optimal generation mix of selected power plant technologies in Ghana*, Elsevier Scientific African 2 (2019) e00015, doi.org/10.1016/j.sciaf.2018.e00015, pp 2468-2276
8. Ekow A. Kwofie and **Emmanuel K. Anto** and Godfred Mensah (2017): “*Determination of the Optimal DG PV Interconnection Location Using Losses and Voltage Regulation as Assessment Indicators Case Study: ECG 33 kV Sub-Transmission Network*”, International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering (IJECEEECE), Vol: 11, No.1, 2017 (online), World Academy of Science, Engineering and Technology (WASET), International Science Index 121, 2017, pg. 12-22 ; Proceedings of 19th International Conference on Power Generation and Distribution Systems (ICPGDS), 2017, Zurich, Switzerland, January, 13-14, 2017, pg. 743-753;
9. Ekow A. Kwofie and **Emmanuel K. Anto** and Godfred Mensah (2017): “*Determination of the Optimal Power Factor at which DG PV should be Operated*”, 2017 IEEE PES-IAS Power Africa Conference, 27-30 June, 2017, Accra, Ghana, 978-1-5090-4746-8/17/\$31.00, pg 391-395
10. Ato-Quansah, D., Adaramola, Muiyiwa. S., **Anto, E. K.**, (2017): *Cost-competitiveness of distributed grid-connected solar photovoltaics in Ghana: case study of a 4 kWp polycrystalline system*, published online 05 October 2017 by Springer-Verlag GmbH, Germany, Clean Techn Environ Policy, 2017, DOI 10.1007/s10098-017-1432-z
11. David A. Quansah, Saviour K. Woangbah, **Emmanuel K. Anto**, Emmanuel K. Akowuah, Muiyiwa. S. Adaramola (2017): *Techno-Economics of Solar PV-Diesel Hybrid Power Systems for Off-Grid Outdoor Base Transceiver Stations in Ghana*, International Journal of Energy for a Clean Environment, Volume 18, Issue 1, page 61-78
12. James Okae, Juan Du, E. K. Akowuah, G. Appiah, **E. K. Anto** (2017): *The Design and Realization of Smart Energy Management for Buildings based on Supply-Demand Coordination*, at Conference on International Federation of Automation Control WC July 2017, Toulouse Convention Centre, Toulouse, France, DOI.10.1016/j.ifacol.2017.08.033

13. Ackora-Prah, J., **Anto, E. K.**, Osei, L. K., (2016): *Optimal Location of Electricity Vending Station*, International Journal of Computing and Optimization (IJCO), Vol. 3, 2016, no. 1, pg. 21-31, HIKARI Ltd., www.m-hikari.com, <http://dx.doi.org/10.12988/ijco.2016.510675>
14. **Anto, E. K.**, Frimpong E. A., Okyere, P. Y., (2015): *Impact Assessment of Increasing PV Penetration on Voltage and Total Harmonic Distortion of a Distribution Network*, Published in Journal of Multidisciplinary Engineering Science Studies (JMESSP13420027), Berlin, Germany, ISSN: 2912-1309, Vol.1 Issue 2, December 2015, pp 116-127
15. **Anto, E. K.**, J. A. Asumadu, P. Y. Okyere (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*, IEEE 40th Photovoltaic Specialist Conference (PVSC), 8-13 June, 2014, Denver, Colorado, INSPEC Accession Number: 1468399, DOI: 10.1109/PVSC.2014.6925299, pp 1912-1916
16. **Anto, E. K.**, J. A. Asumadu, P. Y. Okyere (2014): *Critical Sampling Period for An Open-Loop Perturb-and-Observe (P&O) Maximum Power Point Tracking (MPPT) Grid-Connected Solar Photovoltaic (PV) System*, IEEE 5th Power Electronics for Distributed Generation (PEDG), 24-27 June, 2014, Galway, Ireland, INSPEC Accession Number: 14528006, DOI: 10.1109/PEDG.2014.6878687, pp 1-5
17. Narh, E. N., **Anto, E. K.**, Kumi, N. E., (2014): *Potential of Distributed Grid-connected Solar Photovoltaic Systems in Rural Electrification in Africa: Case study of Walewale, Ghana*, Ostbayerisches Technologie-Transfer-Institut e.V. (OTTI) International Conference on Solar Energy in Technology Development Cooperation, 6th to 7th November, 2014, Frankfurt, 2014, pp. 95-100.
18. Eduful, G., Amoako, S., Okyere, P.Y., **Anto, E.K.**, Asante, K.N (2011): *Impact of Conductive Backfills On Resistivity of Non-Uniform Soil for Grounding Grid Design*, International Journal of Applied Engineering Research, ISSN 0973-4562 Volume 6, Number 1 (2011) pp. 17-26
19. Frimpong, E. A., Okyere P. Y., **Anto, E. K.** (2009): *Adaptive Single-Pole Auto-reclosure Scheme Based on Standard Deviation and Wave Energy*, Journal of Electrical Engineering, 9(4): 61-68.
20. Frimpong, E. A., Okyere P. Y., **Anto, E. K.** (2010): *Adaptive Single-Pole Auto-reclosure Scheme Based on wavelet Transform and Multilayer Perceptron*, Journal of Electrical Engineering
21. **Anto, E. K.**, Okyere, P. Y., Asumadu, J. A.,: *PID Control Strategy for Improving P&O MPPT Performance of a Grid-Connected Solar PV System With Ziegler-Nichols Tuning Method*, 11th IEEE Conference on Industrial Electronics and Applications (ICIEA), June 5-7, 2016, Hefei, China
22. **Anto, E. K.**, Frimpong E. A., Okyere, P. Y., (2015): *Performance Appraisal of Deployed Solar PV Cell Technologies – A Case Study in Kumasi, Ghana*, 1st Engineering, Science, Technology and Environment (ESTE) 2015 Conference, KNUST, Ghana, August 6-7, 2015
23. **Anto, E. K.**, Frimpong E. A., Okyere, P. Y., (2015): *Improving The Conversion Efficiency of Standalone Solar PV System Using The P&O MPPT Algorithm – Case Study in Ghana*, 1st Engineering, Science, Technology and Environment (ESTE) 2015 Conference, KNUST, Ghana, August 6-7, 2015
24. Addo, E. O. K., **Anto, E. K.**, Frimpong, E. A., Okyere, P. Y., *Optimal Design of Hybrid Renewable Energy Supply Systems For a Rural Community Using a Hybridized Particle Swarm Optimization and Numerical Algorithm Technique*, 1st Engineering, Science, Technology and Environment (ESTE) 2015 Conference, KNUST, Ghana, August 6-7, 2015
25. Addo, E. O. K., **Anto, E. K.**, Frimpong, E. A., Okyere, P. Y., *Optimal Design of Hybrid Off-Grid Supply System For a Village in Ghana Using a Hybridized Genetic Algorithm and Numerical Algorithm Technique*, 1st Engineering, Science, Technology and Environment (ESTE) 2015 Conference, KNUST, Ghana, August 6-7, 2015

REFEREES

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2. Prof. E. A. Frimpong
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SIGNED (Dr. E. K. Anto)