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**PERSONAL:**

Birth Date: 14th September, 1957.

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**EDUCATION:**

BSc. Hons (Industrial Chemistry) 1982, University of Nigeria, Nsukka.

M.Eng (Fuel & Energy Engineering) 1991, University of Port Harcourt, Rivers State.

Ph.D ( Heat & Power)2005, University of Nigeria, Nsukka.

Certificate on Energy Management and Cleaner Production in Small and Medium Scale Industries; University of Twente Enschede- The Netherlands 2006.

Certificate on Energy Efficiency in Industry, Commerce and Buildings- Renewables Academy, Berlin Germany.

Certificate on Financing Renewable Energy Projects- Institute of Distance Learning, Beuth University of Applied Sciences/ Renewables Academy Berlin Germany

Certificate on International Energy Policy-Institute of Distance Learning, Beuth University of Applied Sciences/ Renewables Academy Berlin Germany,

Certificate on “Train the Trainers”-Capacity Building for Energy Auditing, UNIDO/ECN 2003 and 2004.

**PROFESSIONAL SOCIETIES:**

**OTHER SCHOLARLY ACHIEVEMENTS:**

**WORK EXPERIENCE:**

**Wages clerk** –George Wimpey International Company Port Harcourt – 1978.

**Teacher 11**- (Physics & Chemistry) NYSC Alari High School Ifekuwajo LGA, Ogun State- 1983.

**Teacher 11**- (Physics , Chemistry & Mathematics)Imo State School Board, Girls Secondary School Amakohia Ikeduru- 1983-1985.

**Research Officer 11** on Coal Technology - Projects Development Institute (PRODA)Enugu, Federal Ministry of Science and Technology- 1985-1988.

**Part-time Lecturer** -Department of Chemical Engr’g, Institute of Management & Technology Enugu- 1987.

**Research Officer 1** on Coal Technology - Projects Development Institute (PRODA)Enugu, Federal Ministry of Science and Technology- 1988-1991.

**Senior Research Officer on Coal Technology**- Projects Development Institute (PRODA)Enugu, Federal Ministry of Science and Technology, 1991-1994.

**Research Fellow 1/ Lecturer 1**, National Centre for Energy Research and Development/Mechanical Engineering Dept, University of Nigeria, Nsukka- 1994-2000.

**Senior Research Fellow/ Senior Lecturer** - National Centre for Energy Research and Development/Department of Mechanical Engineering Dept, University of Nigeria, Nsukka- 2000-date.

**SERVICE TO GOVERNMENT AND OTHER PUBLIC BODIES:**

**Ag Director**- National Centre for Energy Research and Development, University of Nigeria, Nsukka Oct 4. 2009-November 2011

**Publications**

1. [**Godwin Ogechi Unachukwu** “Energy Savings Opportunities at the University of Nigeria, Nsukka. Journal of Energy in Southern Africa Volume 21, Number 1- 2010](http://www.scielo.org.za/scielo.php?pid=S1021-447X2010000100001&script=sci_arttext&tlng=en)
2. [F I Abam, **G O Unachukwu** “Vehicular Emissions and Air Quality Standards in Nigeria” European Journal of Scientific Research ISSN 1450-216 vol. 34 No 4 pp 550-560;](http://oer-crutech.net/oer/Journals/General/Vehicular%20Emissions%20and%20Air%20Quality%20Standards%20in%20Nigeria.By%20F.%20I.%20Abam%20and%20G.%20O.%20Unachukwu.pdf) [http://www.eurojournals.com/ejsr.htm 2009](http://www.eurojournals.com/ejsr.htm%202009)
3. [**G O Unachukwu** and C N Anyanwu “Small-Scale Incinerator for Domestic Hot Water Generation from Municipal Solid Wastes” European Journal of Scientific Research ISSN 1450-216 X Vol. 39 Issue 33 pp 430-439, 2010](https://www.researchgate.net/profile/Cosmas_Anyanwu2/publication/242492012_Small-Scale_Incinerator_for_Domestic_Hot_Water_Generation_from_Municipal_Solid_Wastes/links/54f4c6370cf2eed5d7357829.pdf) http:www.eurojournals.com/ejsr/htm
4. [F. I Abam, D C Onyejekwe and **G O Unachukwu** “The effect of Ambient Temperature on Components Performance of an In-Service Gas Turbine Plant Using Exergy Method” Singapore Journal of Scientific Research ISSN 2010-006X/DO1:10.3923/sjsr @ 2010 Science Alert.](https://scialert.net/fulltextmobile/?doi=sjsres.2011.23.37)
5. [**Godwin Ogechi Unachukwu,** “Potential Economic and Social Benefits of Promoting Energy Efficiency Measures in Nigeria” DOI: 10.1007/s 12053.011-9126-6 2011 Energy Efficiency, Springer.com Netherlands. (2011)](https://link.springer.com/article/10.1007/s12053-011-9126-6)
6. [P.N. Nwosu, O U Oparaku, W.I Okonkwo, **G O Unachukwu** and D. Agbiogwu “Experimental Study of a Thermosyphon Solar Water Heater Coupled to a Fibre-Reinforced Plastic (FRP) Storage Tank ISSN 0003-701X, Applied Solar Energy 2011 Vol 47, No 3 pp 207-212 C Allerton Press, Inc](https://link.springer.com/article/10.3103/S0003701X11030157)
7. [Nwaoga, J A, Okonkwo, W I and **Unachukwu, G O** “Exploring the Photo-Sensitivities of Mimosa Pudica for Solar Cell Production” Proc. 26th European Photovoltaic Solar Energy Conference and Exhibition Germany 2011](https://www.researchgate.net/profile/Wilfred_Okonkwo/publication/278038301_Exploring_the_Photo_sensitivity_of_Mimosa_Pudica_for_Solar_cell_Production/links/558b246708ae48b7b56daa05.pdf)
8. F. I Abam, D C Onyejekwe and **G O Unachukwu** “ Effect of Operating Parameters and Compressor Inlet Temperature on Exergetic Performance of an In-Service Gas Turbine Plant” International Journal of Applied Engineering Research ISSN 0973-4562 volume 5 Number 16 pp 2775-2784.
9. [S N Agbo; **G O Unachukwu** “Design and Performance Features of a Domestic Thermosyphon Solar Water heater for an Average-sized Family in Nsukka Urban” Trends in Applied Sciences Research 2 (3): 224-230, ISSN 1819-3579© Academic Journals.](http://docsdrive.com/pdfs/academicjournals/tasr/2007/224-230.pdf)
10. **G O Unachukwu** “Energy Efficiency Measures Investigation in Cement Company: BCC Case Study” Nigerian Journal of Renewable Energy vol. 10 Nos1&2 pp 85-92 2002
11. H C Okolo; **G O Unachukwu**; P C Oragwu “Production of Smokeless Solid Fuel and Chemicals through Low Temperature Carbonization: PRODA’s Experience” Chapter viii in “Nigerian Coal: A Resource for Energy and Investments”, Mufadenic Ltd Lagos publishers, pp 156-173. 1996
12. **Unachukwu G O**; N.C Onyemelukwe “Devolatization Studies of Nigeria Coal by Thermogravimetric Analysis” Nigerian Journal of Renewable Energy vol.7 Nos 1 & 2 pp 55-61.1999
13. **G O Unachukwu** “Energy Efficiency: Key to Sustainable Industrial Development in Africa” Nigerian Journal of Solar Energy vol. 19.2, pp. 54-59.
14. [Mkpadi M C; **G O Unachukwu** “Biofuel Development in Nigeria” Energy and Environment; Proc. 1st Renewable Energy Congress, Reading U K 1990; P.2057](https://inis.iaea.org/search/search.aspx?orig_q=RN:23068544)
15. [Ofoefule A. U, **Unachukwu G O** and Oparaku O U “Comparative Performance Evaluation of Charcaol Cookstoves” Nigerian Journal of Solar Energy vol 16 pp 187-194.](http://scholar.google.com/scholar?cluster=9851871257323256551&hl=en&oi=scholarr)
16. **G O Unachukwu**; S O Onyegegbu “Electrical Energy Consumption Pattern of a Cement Company in Nigeria” Proc. 4th International Conference on Power Systems Operations and Planning (ICPSOP2000) pp 243-247
17. [N.F Oparaku; **G O Unachukwu**; C. E Okeke “Design, Construction and Performance Evaluation of Solar Cabinet drier with an Auxiliary Heater” Nigerian Journal of Solar Energy vol. 14 pp 41-50.2003](http://scholar.google.com/scholar?cluster=7262488326640454204&hl=en&oi=scholarr)
18. [S N Agbo; **G O Unachukwu** “Performance Evaluation and Optimization of the NCERD Thermosyphon Solar Water Heater” Proc. World Renewable Energy Congress, August 19-25, Florence Italy ix Elsevier Pub.UK ISBN 00844671X.2006](http://scholar.google.com/scholar?cluster=7963952459574094940&hl=en&oi=scholarr)
19. **G O Unachukwu**” Entrenching the Culture of Energy Management and Efficiency Measures for Sustainable Industrial Development in Africa” Proc. Int’l W/shop on Renewable Energy for Sustainable Development in Africa Nsukka 2007, pp 193-199.
20. [Agbo S N; **Unachukwu G O**; Okeke, C E ; Enibe, S O “Solar Water Heating for Resident University Students” Nigerian Journal of Solar Energy vol. 15 pp 85-92.2005](http://scholar.google.com/scholar?cluster=11486345036107906417&hl=en&oi=scholarr)
21. Nnaji, M and **Unachukwu G O** “Energy Efficiency and the Nigerian Economy: The Need for an Integrated Approach” Journal of Solar Energy Vol. 21 pp179-181 2010
22. [I F Okafor and **G O Unachukwu** “Renewable Energy and Energy Efficiency for Sustainable Agricultural Development in Nigeria” Nigeria Journal of Solar Energy. Vol 21 ISSN 0794-9537 pp 173-178 2010](http://www.academia.edu/download/44628753/vol_21_173_178.pdf)
23. Nnaji, M Nnaji, C. E and **Unachukwu G O** “Solar Water Pumping for Sustainable Agricultural Development in Nigeria” Nigerian Journal of Solar Energy vol 21, pp 169-172 2010
24. [Chigasa C Uzoma, Cynthia N. Ibeto, Chidinma G Okpara, Okala O Nwoke, Innocent O Obi, Chibueze E Nnaji, Ogbonna U Oparaku and **Godwin O Unachukwu** “Level of Awareness and Utilization of Biogas Technology in South-Eastern Zone of Nigeria” International Journal of Applied Agricultural Research ISSN 0973-2683 vol.5 Number 5, pp 569-574](https://www.researchgate.net/profile/Chibueze_Nnaji/publication/232282865_Level_of_Awareness_and_Utilization_of_Biogas_Technology_in_South-Eastern_Zone_of_Nigeria/links/00b7d514aca2a5232f000000.pdf) http:// [www.ripublication.com/ijaar.htm](http://www.ripublication.com/ijaar.htm)
25. Nnaji, M and **Unachukwu, G O** “A Review of Energy Efficiency Measures in Agro Based Industries” Nigerian Journal of Solar Energy. Vol. 19.pp. 74-79 2008
26. I.F Okafor and **G. O Unachukwu** “The Power Reform Agenda: The Role of Energy Efficiency and Demand-Side Management in the Improvement of Current Electricity Situation in Nigeria” Journal of Engineering Science and Technology, vol. 4 Number 3, 2009 Duncan Science
27. Engr. I Yusuf; A A Mati; **G O Unachukwu** “Monitoring Energy Use in Small and Medium Scale Industries” proc. NSE Electrical Division Conference pp 31-33. 2003
28. [I. F Okafor, **G O Unachukwu** and O.A Odukwe “Measuring Energy Efficiency of Public Passenger Road Transport Vehicles in Nigeria” Journal of Engineering Research, University of Lagos, (2014).](https://www.sciencedirect.com/science/article/pii/S0967070X14001139)
29. I.F Okafor and **G O Unachukwu** “Need for Climate Change Mitigation in Nigeria through Energy Efficiency Practices in Industrial Sector”- Proc. National Conference on Climate Change and Nigerian Environment (NCCCNE) UNN 29th-2nd July 2009’
30. [Uzoma, C C; Nnaji, C E; Ibeto C N; Okpara C G; Nwoke, O O; Obi I O; **Unachukwu G O** and Oparaku O U Renewable Energy Penetration in Nigeria: A case study of the South –East Zone “Continental Journal of Environmental Sciences 5(1):1-5 ISSN: 2141-4084](https://www.researchgate.net/profile/Chibueze_Nnaji/publication/215909831_Renewable_energy_penetration_in_Nigeria_A_study_of_the_South-East_Zone/links/02e7e514acc6a44ac5000000.pdf) <http://www.wiloludjournal.com>
31. [Edmund C Okoroigwe, Zhenglong Li, **Godwin Unachukwu,** Thomas Stuecken and Christopher Saffron “Thermochemical Conversion of Palm Kernel Shell (PKS) to Bio-Energy” Proceedings of the ASME 2011 5th International Conference on Energy Sustainability Washington DC USA](http://proceedings.asmedigitalcollection.asme.org/proceeding.aspx?articleid=1636688)
32. C. N Ibeto, C.N Anyanwu, C.G Okpara, I.S Eze and G O Unachukwu “Distribution of Heavy Metals in some Sub-bituminous Coals from Nigeria “ J. Chem. Soc. Nigeria. Vol. 36. No.2 pp95-101
33. C. N Ibeto, C.N Anyanwu, C. G Okpara, I.S Eze and G O Unachukwu “Assessment of Heavy Metals Concentration of Petrol Samples Utilized in Nigeria” Conf. Proc. Chem. Soc. of Nigeria.,
34. Prof S.O Onyegegbu, Dr D C Onyejekwe, Dr O V Ekechukwu, Dr S O Enibe, Dr O U Oparaku, Dr (Mrs) R U Osuji, **& G O Unachukwu** “ Environmental Benefits of Using Renewable Energy Sources in Nigeria “ Technical Report Submitted to UNESCO, June 1997.
35. [IF Okafor, **G O Unachukwu**, “Performance evaluation of nozzle type improved wood cook stove”. American-Eurasian Journal of Sustainable Agriculture 6 (3), 195-203 (2012).](http://www.aensiweb.net/AENSIWEB/aejsa/aejsa/2012/195-203.pdf)
36. [EC Okoroigwe, AC Ofomatah, NF Oparaku, **G O Unachukwu**, “Production and evaluation of activated carbon from palm kernel shells (PKS) for economic and environmental sustainability”, International Journal of Physical Sciences 8 (19), 1036-1041 (2013).](https://pdfs.semanticscholar.org/c0f2/b6c694439aa81bde5b4017666f4cb6cded00.pdf)
37. [**G O Unachukwu**, IH Zarma, AS Sambo, “Energy Efficiency and Barriers towards Meeting Energy Demand in Industries in Nigeria”, India Energy Congress, (2015).](https://www.researchgate.net/profile/Ismaila_Zarma/publication/312039397_ENERGY_EFFICIENCY_AND_BARRIERS_TOWARDS_MEETING_ENERGY_DEMAND_IN_INDUSTRIES_IN_NIGERIA/links/586bb2c908ae8fce4919dade/ENERGY-EFFICIENCY-AND-BARRIERS-TOWARDS-MEETING-ENERGY-DEMAND-IN-INDUSTRIES-IN-NIGERIA.pdf)
38. [O.E Onuk, U.B Akuru, A.O.E Animalu, **G O Unachukwu**, O U Oparaku, “Utility interactive solar PV energy demonstration project at the University of Nigeria, Nsukka”,. African Journal of Physics Vol 3, 104-111, (2011).](https://www.researchgate.net/profile/Alexander_Animalu/publication/237074615_Utility_Interactive_Solar_PV_Energy_Demonstration_Project_at_the_University_of_Nigeria_Nsukka/links/56abb57808ae43a39809bb21.pdf)
39. **[G O Unachukwu](http://ncerd-unn.gov.ng/joraet/index.php/JRAET/article/download/17/11)**[, G Chinda, U Abada, O Nwoke, “Benchmarking energy consumption of common domestic cookstoves available in Nigeria”, Journal of Renewable & Alternative Energy Technologies 2 (1), (2017).](http://ncerd-unn.gov.ng/joraet/index.php/JRAET/article/download/17/11)
40. [M NNAJI, C.C Uzoma, C E Nnaji, **G O Unachukwu**, “Energy Savings Potential in The Domestic Economy”, Nigerian Journal of Solar Energy 24, 126-131, (2013).](https://www.researchgate.net/profile/Chibueze_Nnaji/publication/263113728_ENERGY_SAVINGS_POTENTIAL_IN_THE_DOMESTIC_ECONOMY/links/551183680cf21209d528c558/ENERGY-SAVINGS-POTENTIAL-IN-THE-DOMESTIC-ECONOMY.pdf)
41. [CC Uzoma, CN Ibeto, CG Okpara, OO Nwoke, IO Obi, CE Nnaji, OU Oparaku, **G O Unachukwu**, ”National Centre for Energy Research and Development (NCERD) University of Nigeria, Nsukka. E-mail: chigasauzoma@ yahoo. ca”.](https://www.researchgate.net/profile/Chibueze_Nnaji/publication/236879682_Social_Impacts_of_Renewable_Energy_on_the_South-East_Zone_of_Nigeria/links/551171fc0cf29a3bb71dda00.pdf)