

## CURRICULUM VITAE

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**Name: AJAYI OLUSEYI OLANREWAJU (MNSE; R. Engr.)**

**Qualifications: B. Sc; M. Eng.; Ph. D**

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Sex : Male

Marital Status : Married

Nationality : Nigerian

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Idiroko Road, P.M.B. 1023, 112101, Ota,  
Ogun State, Nigeria.

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### RESEARCH AREAS:

**1. Primary Research Area: Thermo-fluids and Renewable Energy Systems**

**2. Secondary Research Area: Design and Production Technology**

### INTERESTS:

1. Renewable energy resources and low carbon development
2. Machine design
3. Stress, Fatigue and Failure analyses
4. Surface engineering, anti-corrosion materials and Environment induced failure/Corrosion science and engineering
5. Vibration and Acoustics as a condition monitoring

### WORK EXPERIENCE

**1. Covenant University, Ota, Ogun State, Nigeria**

Date: August 2015 – Date

Position Held: **Head of Department and Member of University Senate**

Job Responsibility: University Administration

**2. Covenant University, Ota, Ogun State, Nigeria**

Date: October 2005 – Date

Position Held: **Associate Professor** (August 2014 – Date), Senior Lecturer (Aug. 2012 –

July 31, 2014), Lecturer I (Feb. 2009 – Aug. 2012),

Lecturer II (2007 – Feb. 2009), Assistant Lecturer (2005 -2007)

Job Responsibility: Teaching and Research

**3. University of Lagos, Akoka, Lagos, Nigeria**

Date: 2012 - 2014

Position Held: **Associate Lecturer**

Job Responsibility: Postgraduate Teaching and Supervision

**4. The City Waiters, Oshogbo, Osun State.**

Date: August 2003 - 2004

Position Held: Project Supervisor

Responsibility: Supervision of mechanical (building) services, Project management, Preparing and presenting project report.

**5. Ebonyi State Ministry of Education (Secondary Education Board)**

Date: May, 2000 -2003

Position Held: Tutorial Staff

Job responsibility: Teaching of Introductory Technology

**6. National Youth Service Corps**

Date: March 1999-February 2000

Position Held: National Youth Service Corps/Teacher

Job Responsibility: Physics and Biology Teacher.

**7. Industrial Training**

i. Maintenance Division, Obafemi Awolowo Univ., Ile-Ife.

Date: Nov. 1997-April 1998.

Position Held: Industrial Trainee

Job Responsibility: Service and Repairs of Peugeot Vehicles

ii Natony Limited, Km 3, Warri Port Expressway, Delta State.

Date: May 1997-July 1997

Position Held: Industrial Trainee

Job Responsibility: Material Fabrication

## PUBLICATIONS

### 1. Journal Articles

#### **A. Thermo Fluid and Energy Systems: Renewable energy resources and low carbon development**

##### **I. Renewable energy resources and low carbon Development**

1. Orhewere. B. Ayomide, **Oluseyi O. Ajayi**, Solomon O. Banjo, Adesola A. Ajayi, (2017). Data on the no-load performance analysis of a tomato postharvest storage system, *Data in Brief*, 13, 667-674
2. Opeyemi Akinyemi<sup>1</sup>, Philip O. Alege, **Oluseyi O. Ajayi**, Oluwasogo S. Adediran & Ese Urhie, (2017). A Simulation of the Removal of Fuel Subsidy and the Performance of the Agricultural Sector in Nigeria using a Dynamic Computable General Equilibrium Approach, *Covenant Journal of Business & Social Sciences*, 8(1), 60-70
3. Opeyemi Akinyemi, Philip. O. Alege, **Oluseyi. O. Ajayi**, Henry Okodua. (2017). Energy Pricing Policy and Environmental Quality in Nigeria: A Dynamic Computable General Equilibrium Approach, *International Journal of Energy Economics and Policy*, 7(1), 268-276
4. Obinna C. Nwinyi, **Oluseyi O. Ajayi**, Olukayode O. Amund. (2016). Degradation of polynuclear aromatic hydrocarbons by two strains of *Pseudomonas*, *Brazilian Journal of Microbiology*, 47, 551 – 562
5. Dunmade, I.S., Onawumi, A. and **Ajayi, O.** (2016). An Approach to Lifecycle Design and Sustainable Management of Nigerian Water Infrastructure, *Sustainability in Energy and Buildings: Research Advances*, 5(1), 11 – 20
6. **Ajayi, O.O.**, Ohiose, D.O., Ogbonnaya, M and Attabo, A. (2016). Wind power mapping and NPV of embedded generation systems in Nigeria, *International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering*, 10 (5), 394 – 405
7. Onawumi A. S., Dunmade I.S., **Ajayi O.O.**, Sangotayo E.O. and Oderinde M. O. (2016). Investigation into House-Hold Energy Consumption in Saki, Southwestern Nigeria, *International Journal of Scientific & Engineering Research*, 7 (3), 720 – 727

8. **Ajayi, Oluseyi. O**, Ohijeagbon O.D, Ogbonnaya Mercy, Attabo Ameh., 2016. Potential and econometrics analysis of standalone RE facility for rural community utilization and embedded generation in North-East, Nigeria, *Sustainable Cities and Society*, (Accepted for publication), DOI: 10.1016/j.scs.2016.01.003
9. **Ajayi, Oluseyi. O**, Ohijeagbon O.D, Ajanaku, K.O, Aasa, S.A and Omotosho, O.A, 2015. Techno-Economic Assessment of Renewable Hybrid Systems for Rural Electrification and Distributed Generation in Selected Sites across Nigeria, *Journal of African Research in Business & Technology*, Vol. 2015 (2015), Article ID 124767,1 – 31, DOI: 10.5171/2015.124767
10. **Ajayi, Oluseyi O**, Ohijeagbon O.D., 2015. Feasibility and techno-economic assessment of standalone and hybrid RE for rural electrification in selected sites of south eastern Nigeria, *International Journal of Ambient Energy*, (Taylor & Francis) DOI: 10.1080/01430750.2015.1035799
11. Opeyemi Akinyemi, Philip O. Alege, **Oluseyi Ajayi**, Lloyd Amaghionyeodiwe, Adeyemi A. Ogundipe, 2015. Fuel Subsidy Reform and Environmental Quality in Nigeria, *International Journal of Energy Economics and Policy*, 5(2), 540 – 549
12. Ohijeagbon, O.D. **Ajayi, O.O**, 2015. Solar regime and LVOE of PV embedded generation systems in Nigeria, *Renewable Energy*, 78, 226 - 235
13. **Oluseyi O. Ajayi** , Richard O. Fagbenle , James Katende , Julius M. Ndambuki , David O. Omole , and Adekunle A. Badejo. 2014. Wind energy study and energy cost of wind electricity generation in nigeria: past and recent results and a case study for South West Nigeria, *Energies*, 7 (12), 8508 - 8534
14. **Ajayi, O.O**. Ohijeagbon O.D. Nwadialo, C.E. Olasope, Olumide. 2014. New model to estimate daily global solar radiation over Nigeria, *Sustainable Energy Technologies and Assessments* 5, 28 – 36
15. Ohijeagbon O.D. **Ajayi, Oluseyi. O**. 2014. Potential and Economic viability of stand-alone hybrid systems for a rural community of Sokoto, North-West Nigeria, *Frontiers in Energy*, 8 (2), 145 – 159 (DOI: 10.1007/s11708-014-0304-z)
16. **Ajayi, O.O**. 2013. Sustainable energy development and environmental protection: implication for selected states in West Africa, *Renewable and Sustainable Energy Reviews* 26, 532 – 539

17. **Ajayi, O.O.**, Fagbenle, R.O, Katende, J, Aasa, S.A, Okeniyi, J.O. 2013. Wind profile characteristics and turbine performance analysis in Kano, North-Western Nigeria, *International Journal of Energy and Environmental Engineering*, Springer, 4 (27), doi:10.1186/2251-6832-4-27
18. **Ajayi, Oluseyi O.** Ajayi, Oluwatoyin O. 2013. Nigeria's energy policy: inferences, analysis and legal ethics towards RE development, *Energy Policy* 60, 61 – 67
19. Aasa, Samson A. **Ajayi, Oluseyi O.** Adavbiele, A. Stephen Akinbode, Folorunso O. 2013. Carbon dioxide Electricity Generation Prospect in Nigeria, *Journal of Energy Technology and Policy* 3 (1), 32-39
20. Aasa, S.A., **Ajayi, O.O** and Omotosho, O.A., 2012. Design optimization of Hot Air Dryer for Yam flour Chunk, *Asian Journal of Scientific Research*, 5 (3), 143-152
21. **Ajayi, Oluseyi O.**, Fagbenle, R.O., Katende, J., Omotosho, O.A and Aasa, S, 2012. Analytical predictive model for wind energy potential estimation: a model for pre-assessment study, *Journal of Applied Sciences*, 12 (5), 450-458
22. Aasa, S.A. and **Ajayi, O.O.** 2012. Evaluation of the temperature effect of a thermosyphon solar water heater, *Canadian Journal of Pure and Applied Sciences*, 6 (1), 1855-1862
23. **Ajayi, O.O.**, Fagbenle, R.O., Katende, J., and Okeniyi, J.O. 2011. Availability of wind energy resource potential for power generation at Jos, Nigeria, *Frontiers in Energy*, 5 (4), 376 - 385.
24. **Ajayi, O.O.**, Fagbenle, R.O. and Katende, J. 2011. Assessment of wind power potential and wind electricity generation using WECS of two sites in South West, Nigeria, *International Journal of Energy Science*, 1 (2), 78-92
25. **Ajayi, O.O.** Fagbenle, R.O. and Katende, J. 2011. Wind profile characteristics and econometric analysis of wind power generation of a site in Sokoto State, Nigeria, *Energy Science and Technology*, 1 (2), 54-66
26. Ohunakin, S.O., Ojolo, S.O., and **Ajayi, O.O.** 2011. Small hydropower (SHP) development in Nigeria: An assessment, *Renewable and Sustainable Energy Reviews*, 15, 2006-2013
27. Fagbenle, R.O; Katende, J; **Ajayi, O.O** and Okeniyi, J.O. 2011. Assessment of wind energy potential of two sites in North - East, Nigeria, *Renewable Energy*, 36, 1277 - 1283

28. **Ajayi, Oluseyi. O.**, Fagbenle, R.O., Katende, James, Okeniyi, Joshua O and Omotosho, O.A. 2010. Wind energy potential for power generation of a local site in Gusau, Nigeria, *International Journal of Energy for a Clean Environment*, 11 (1-4), 99 – 116
29. **Ajayi, Oluseyi O.** 2010. The Potential for Wind Energy in Nigeria, *Wind Engineering*, 34(3), 303 - 312
30. **Ajayi, Oluseyi O.** 2009. Assessment of Utilization of Wind Energy Resources in Nigeria, *Energy Policy*, 37(2), 720 - 723
31. **Ajayi, O.O** and Ajanaku, K.O. 2009. Nigeria's Energy Challenge and Power Development: the way forward, *Energy and Environment*, 20 (3), 411 - 413

## **B. Materials & Production Technology**

### **I. Surface engineering, anti-corrosion materials and Environment induced failure/Corrosion science and engineering**

32. Omotosho, O.A. Okeniyi, J.O. **Ajayi, O.O.** Ajanaku, K.O. Loto C.A. and Popoola, A.P.I. (2015). Analyses of Corrosion Potential from Inhibitor-Admixed Steel-Reinforced Concrete: Implication on Steel-Rebar Corrosion Risk/Probability, *International Journal of Structural Analysis & Design* 2(1), 10 – 14
33. Fayomi, O. S. I. Popoola, A. P. I. Oyawale F. and **Ajayi, O. O., 2016.** Performance Evaluation and Multidoped Composite Conditioned of A5-type/10%Ti-Sn Alloy: Processing and Properties, *Journal of Failure Analysis and Prevention*, DOI 10.1007/s11668-015-0058-x
34. Omotosho, O.A. Loto, C.A. **Ajayi, O.O.** Okeniyi, J.O. Popoola, A.P.I. 2014. Investigating Potassium Chromate and Aniline Effect on Concrete Steel Rebar Degradation in Saline and Sulphate Media, *International Journal of Electrochemical Science*, 9, 2171 - 2185
35. Okeniyi, J.O., Omotosho, O.A., **Ajayi, O.O.**, Loto, C.A, 2014. Effect of potassium-chromate and sodium-nitrite on concrete steel-rebar degradation in sulphate and saline media, *Construction and Building Materials* 50, 448–456
36. Omotosho, O.A. Okeniyi, J.O. Ajayi, O.O and Loto, C.A, 2012. Effect of synergies of  $K_2Cr_2O_7$ ,  $K_2CrO_4$ ,  $NaNO_2$  and aniline inhibitors on the corrosion potential response of

- steel reinforced concrete in saline medium, *International Journal of Environmental Sciences* 2(4), 2346-2359
37. Omotosho, O.A., **Ajayi, O.O.**, Fayomi O. and Yussuff. O., (2012). Degradation Evaluation of Zinc in 2 M Hydrochloric Acid in the Presence of *Bambusa bambos*, *Singapore Journal of Scientific Research*, 2 (1), 14-24
  38. Omotosho, O.A. and **Ajayi, O.O.**, 2012. Investigating the Acid Failure of Aluminium Alloy in 2 M Hydrochloric Acid Using *Vernonia amygdalina*, *ITB Journal of Engineering Science*, 44 (1), 77-92
  39. Okeniyi, J.O., Omotosho, O.A., **Ajayi, O.O.**, James, O.O., and Loto, C.A. 2012. Modelling the performance of sodium Nitrite and Aniline as inhibitors in the corrosion of steel-reinforced concrete, *Asian Journal of Applied Sciences*, 5(3), 132 - 143
  40. Omotosho, O.A., **Ajayi, O.O.**, Fayomi, O., and Ifepe, V.O. 2012. Evaluating the deterioration behaviour of Mild steel in 2 M Sulphuric acid in the presence of *Butyrospermum perkii*, *Asian Journal of applied Sciences*, 5(2), 74 - 84
  41. Omotosho, O.A., **Ajayi, O.O.**, Ajanaku, K.O and Ifepe, V.O. 2012. Environmental induced failure of Mild steel in 2 M sulphuric acid using *Chromolaena odorata*, *Journal of Materials and Environmental Science*, 3(1), 66 – 77
  42. Omotosho, O.A. Loto, C.A. Ajayi, O.O and Okeniyi, J.O, 2011. Statistical-based performance evaluation of inhibitors on the corrosion of steel rebar in concrete, *Botswana Journal of Technology*, 19 (2), 220-226
  43. Olugbenga A. Omotosho, **Oluseyi O. Ajayi**, Ojo S. Fayomi, Vincent O. Ifepe. 2011. Assessing the deterioration behaviour of mild steel in 2 M sulphuric acid using *Bambusa glauscescens*, *International Journal of Applied Engineering Research, Dindigul*, 2 (1), 85 – 97
  44. Fayomi, O.S, Tau V.R, Popoola A.P.I, Durodola B.M, **Ajayi O.O**, Loto C.A, Inegbenebor O.A., 2011. Influence of Plating Parameter and Surface Morphology on Mild Steel, *Journal of Materials and Environmental Science*, 2 (3), 271 – 280
  45. Omotosho, O.A. Loto, C.A. **Ajayi, O.O.** and Okeniyi, J.O. 2011. Aniline effect on concrete steel rebar degradation in saline and sulfate media, *Agricultural Engineering International: CIGR Journal*, 13 (2), 1 – 17 (Manuscript no. 1830)

46. Fayomi, O.S.I. **Ajayi, O.O.** and Popooloa, A.P.I. 2011. Suitability of local binder compositional variation on silica sand for foundry core-making, *International Journal of the Physical Sciences*, 6 (8), 1940-1946
47. **Ajayi, O.O.**; Omotosho, O.A; Ajanaku, K.O and Olawore, B.O. 2011. Failure Evaluation of Aluminum Alloy in 2 M Hydrochloric Acid in the Presence of *Cola acuminata*, *Environmental Research Journal*, 5 (4), 163-169, doi: 10.3923/erj.2011.163.169
48. **Oluseyi O. Ajayi**, Olugbenga A. Omotosho and Vincent O. Ifepe. 2011. Acid failure of Mild Steel in 2 M sulphuric acid in the presence of *Vernonia amygdalina*, *Journal of Materials and Environmental Science*, 2 (2), 186 – 195
49. **Oluseyi O. Ajayi**, Olugbenga A. Omotosho, Kolawole O. Ajanaku and Babatunde O. Olawore. 2011. Degradation study of Aluminum alloy in 2 M Hydrochloric Acid in the presence of *Chromolanaena odorata*, *Journal of Engineering and Applied Sciences*, 6 (1), 10-17
50. Omotosho, O.A., Okeniyi, J.O. and **Ajayi, O.O.** 2010. Performance Evaluation of Potassium Dichromate and Potassium Chromate Inhibitors on Concrete Steel Rebar Corrosion, *Journal of Failure Analysis and Prevention*, 10 (5), 408 - 415

## II. Stress, Fatigue and Fracture analyses

51. P. Okokpujie Imhade, O. Okokpujie Kennedy, **Ajayi Oluseyi, O.** Azeta Joseph, N. Nwoke Obinna, (2017). *Design, Construction and Evaluation of a Cylinder Lawn Mower*, *Journal of Engineering and Applied Sciences*, 12 (5), 1264-126
52. Salawu Enesi Yekini, **Oluseyi. O. Ajayi** and O.O. Olatunji. 2015. Theoretical modelling of thermal-hoop stress around the tooth of a spur gear in a filler machine, *Journal of Multidisciplinary Engineering Science and Technology*, 2 (7), 1625 – 1640
53. Joseph, O.O. Ajayi, J.A. **Ajayi, O.O.** Fayomi, O.S.I. Joseph, O.O. and Gbenebor O. P. 2012. Material performance investigation on the failure of an aircraft (ABT-18) nose wheel strut, *International Journal of Industrial Engineering and Technology*, 2 (3), 1-6
54. **Ajayi, O.O** and Ikotun, J. 2009. Simulating Fatigue Propagation Life of Martensitic Steels, *Trends in applied sciences research*, 4(1), 62 - 67
55. **Ajayi, O.O.** 2007. Constitutive Relationship between Crack Length, Number of Cycles and stress Amplitudes for Martensitic Steel, *Research Journal of Physics*, 1(1), 55 - 59



56. Odukwe, A.O. **Ajayi, O.O** and Oluwadare, G.O. 2007. Simulation of Crack growth Rate in Martensitic Steels, *Journal of Applied Sciences*, 7(2), 302-305

### **III. Machining and Production Technology**

57. Nwanya, S.C. Udofia, J.I. Ajayi, O.O. (2017). Optimization of machine downtime in the plastic manufacturing, *Cogent Engineering*, 4(1),1335444
58. Nwanya, S.C. Achebe<sup>1</sup>, C.N. **Ajayi, O.O.** Mgbemene C.A. (2016). Process variability analysis in make-to-order production systems, *Cogent Engineering*, 3(1), 1269382
59. Onawumi A.S. Dunmade I.S. **Ajayi, O.O.** Adebisi, K.A. (2016). Investigation of work related health hazards prevalent among metal fabrication workers in Nigeria, *European Journal of Engineering and Technology*, 4(4), 1 – 10
60. Ojolo, S.J., **Ajayi, O.O.**, Awe, I.O. and Kuforiji, C. 2011. Investigation into the transition from continuous to discontinuous cylindrical machining, *NSE Technical Transaction*, 46(2), 74-80
61. **Ajayi, O.O** and Olawale, D.O. 2007. Average Weight Based Quality Control of Nigeria Bakery Industry: A Statistical Approach, *American Journal of food technology*, 2(3), 212-216
62. **Ajayi, O.O** and Koya, A.O. 2007. Computer Aided Plumbing Design, *Trends in applied sciences research*, 2(1), 15-22

### **2. Chapter in Books**

63. **Ajayi, O.O.** Fagbenle, R.O and Katende, J. 2013. Constitutive modeling of wind energy potential of selected sites in Nigeria: A pre-assessment model, In Aderemi Atayero and Oleg Sheluhin (Editors.). *Integrated Models for Information Communication Systems and Networks*, Information Science Reference, Pennsylvania, 375 – 389. ISBN: 978-1-4666-2208-1
64. **Ajayi, O.O.** 2010. Nigeria's Energy Policy and Vision 20:2020: Issues of Wind and other Renewable Energy Technologies, In Daramola, A; Adeoye, R; Alagbe, W and Ajayi, Seyi (Editors). *Sustainable Development and Environmental Protection (Strategies and Procedures for Developing Nations)*, Institute for Environment, Research and Development, Ota. 105 – 108. ISBN: 978 – 2415 – 93 – 6

65. **Ajayi, Oluseyi Olanrewaju**, and Jill S. Coleman. 2011. Biomass energy. In D. Mulvaney, & P. Robbins (Eds.), *Green energy: An A-to-Z guide*. (pp. 38-43). Thousand Oaks, CA: SAGE Publications, Inc. ISBN: 9781412996778. doi: <http://dx.doi.org/10.4135/9781412971850.n12>. <[http://www.sage-reference.com/greenenergy/Article\\_n12.html](http://www.sage-reference.com/greenenergy/Article_n12.html)>.
66. **Ajayi Oluseyi Olanrewaju**. 2011. Flaring. In D. Mulvaney, & P. Robbins (Eds.), *Green energy: An A-to-Z guide*. (pp. 169-171). Thousand Oaks, CA: SAGE Publications, Inc. ISBN: 9781412996778. doi: <http://dx.doi.org/10.4135/9781412971850.n52>. <[http://www.sage-ereference.com/greenenergy/Article\\_n52.html](http://www.sage-ereference.com/greenenergy/Article_n52.html)>.
67. **Ajayi Oluseyi Olanrewaju**. 2011. Tidal Power. In D. Mulvaney, & P. Robbins (Eds.), *Green energy: An A-to-Z guide*. (pp. 425-427). Thousand Oaks, CA: SAGE Publications, Inc. ISBN: 9781412996778. doi: <http://dx.doi.org/10.4135/9781412971850.n121>. <[http://www.sage-ereference.com/green energy/Article\\_n121.html](http://www.sage-ereference.com/green energy/Article_n121.html)>.
68. **Ajayi Oluseyi Olanrewaju**. 2011. Non-Renewable Energy Resources. In D. Mulvaney, & P. Robbins (Eds.), *Green energy: An A-to-Z guide*. (pp. 308-311). Thousand Oaks, CA: SAGE Publications, Inc. ISBN: 9781412996778. doi: <http://dx.doi.org/10.4135/9781412971850.n91>. <[http://www.sage-ereference.com/greenenergy/Article\\_n91.html](http://www.sage-ereference.com/greenenergy/Article_n91.html)>.
69. **Ajayi Oluseyi Olanrewaju**. 2011. Wind Power. In D. Mulvaney, & P. Robbins (Eds.), *Green energy: An A-to-Z guide*. (pp. 444-448). Thousand Oaks, CA: SAGE Publications, Inc. ISBN: 9781412996778. doi: <http://dx.doi.org/10.4135/9781412971850.n127>. <[http://www.sage-ereference.com/green energy/Article\\_n127.html](http://www.sage-ereference.com/green energy/Article_n127.html)>.
70. **Ajayi Oluseyi Olanrewaju**. 2011. Wind Turbine, In D. Mulvaney, & P. Robbins (Eds.), *Green energy: An A-to-Z guide*. (pp. 448-450). Thousand Oaks, CA: SAGE Publications, Inc. ISBN: 9781412996778. doi: <http://dx.doi.org/10.4135/9781412971850.n128>. <[http://www.sage-ereference.com/greene nergy/Article\\_n128.html](http://www.sage-ereference.com/greene nergy/Article_n128.html)>.
71. Nsikak Benson and **Oluseyi O. Ajayi**. 2008. Nigeria, In Philander, S.G (Editor), **Encyclopedia of Global Warming and Climate Change**, Vol. 2, Sage Publication, California, USA, 920.
72. **Ajayi, Oluseyi O.** 2008. Transportation, In Philander, S.G (Editor), **Encyclopedia of Global Warming and Climate Change**, Vol. 3, Sage Publication, California, USA, 976-979. ISBN: 978-1-4129-5878

### 3. Conference Proceedings/Book of Abstract

73. **Oluseyi O. Ajayi**, Ohiozua D, Ohijeagbon, Michael C. Agarana, Ameh Attabo, Mercy Ogbonaya, (2017). Wind Resource Classification and Economic Feasibility of Distributed Generation for Rural Community Utilization in North Central Nigeria, *Lecture Notes in Engineering and Computer Science: Proceedings of the World Congress on Engineering 2017*, Vol II WCE 2017, July 5-7, 2017, London, U.K., 842-846
74. Michael C. Agarana, **Oluseyi O. Ajayi**, (2017). Analytical Modelling of Human Arm Locomotion during Dance as a Dynamical Multiple Pendulum System, *Lecture Notes in Engineering and Computer Science: Proceedings of the World Congress on Engineering 2017*, Vol II WCE 2017, July 5-7, 2017, London, U.K., 885-890
75. **Oluseyi O. Ajayi**, Ohiozua D. Ohijeagbon, Michael C. Agarana, Ameh Attabo, Mercy Ogbonaya, (2017). Feasibility and Econometrics Assessment of Standalone and Hybrid RE Facilities for Rural Community Utilization and Embedded Generation in North-West, Nigeria, *Lecture Notes in Engineering and Computer Science: Proceedings of the World Congress on Engineering 2017*, Vol II WCE 2017, July 5-7, 2017, London, U.K., 952-957
76. Michael C. Agarana, **Oluseyi O. Ajayi**, (2017). Dynamic Modeling and Analysis of Inverted Pendulum using Lagrangian-Differential Transform Method, *Lecture Notes in Engineering and Computer Science: Proceedings of the World Congress on Engineering 2017*, Vol II WCE 2017, July 5-7, 2017, London, U.K., 1031-1036
77. S.O. Oyedepo<sup>1</sup>, R.O. Fagbenle, T. O. Babarinde, K. M. Odunfa, R.O. Leramo, O.S. Ohunakin, **O.O. Ajayi**, P.O. Babalola, O. Kilanko, A.D. Oyegbile D. Lawson-Jack, (2017). A Comparative Experimental Study on Performance of Domestic Refrigerator Using R600a and LPG with Varying Refrigerant Charge and Capillary Tube Length, *Proceedings of ECOS 2017 - the 30th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems*, July 2-july 6, 2017, San Diego, California, USA, 1-10
78. **Ajayi O.O.**, Agarana M.C. and Animasaun T.O. (2017). Vibration Analysis of the Low Speed Shaft and Hub of a Wind Turbine using Sub Structuring Techniques, *Procedia Manufacturing* 7, 602 – 608

79. **Ajayi O.O.**, Agarana M.C., Adeniyi M.O and Mercy Ogbonnaya. (2017). Modelling and Control of Flow Induced Vibration of Top-Tensioned Marine Risers using Analytical Methods, *Procedia Manufacturing* 7, 609 – 615
80. **Oluseyi O. Ajayi**, David A. Lawal, Mercy Ogbonnaya, Agarana Michael. (2017). Experimental investigation and FE simulation of the effect of variable control on temperature distribution in orthogonal metal cutting process, *Procedia Manufacturing* 7, 675 – 681
81. **Oluseyi O. Ajayi**, Abatan Abiola, Mercy Ogbonnaya, Agarana Michael. (2017). Development of Thermomechanical model for the Analysis of Effects of Friction and Cutting Speed on Temperature Distribution around AISI 316L during Orthogonal Machining, *Procedia Manufacturing* 7, 682 – 687
82. **Oluseyi O. Ajayi**, Dorothy E. Ibia, Mercy Ogbonnaya, Ameh Attabo, Agarana Michael. (2017). CFD analysis of nanorefrigerant through adiabatic capillary tube of vapour compression refrigeration system, *Procedia Manufacturing* 7, 688 – 695
83. Onawumi A.S., Oyawale F.A., Dunmade I.S., **Ajayi O.O.**, Obasanya, O. O. (2016). Comfort Analysis of Commercial Motorcyclists Using Protective Helmets Operating in Ogbomoso, Oyo State Nigeria, *Proceeding of the 3rd International Conference on African Development Issues (CU-ICADI 2016)*, Ota, Nigeria, May 2016, 1 – 5
84. Agarana M.C., Gbadeyan J.A., and **Ajayi O.O.** (2016). Dynamic Response of Inclined Isotropic Elastic Damped Rectangular Mindlin Plate resting on Pasternak Foundation under a Moving Load, Proceedings of the International MultiConference of Engineers and Computer Scientists, Hong Kong, March 16 – 18, 2016.
85. Nwanya, S., **Ajayi, O.**, Ishola, F. (2016). Process Variability Analysis of License Vehicle Number Plate Production in Nigeria, *Proceedings of the 6<sup>th</sup> International Conference on Industrial Engineering and Operations Management (IEOM)*, Kuala Lumpur, Malaysia, March 8 – 10, 2016
86. **Ajayi Oluseyi O**, Okeowo Opeyemi, Aasa Samson Abiodun, Aboyade Akinwale O, Willoughby Alex. 2015. Novel airfoil design for small horizontal axis wind turbine: a preliminary result, Proceedings of the Third Southern African Solar Energy Conference (SASEC2015), 11 – 13 May 2015, Kruger National Park, South Africa, pp. 181 – 186

87. Omotosho, O.A. Okeniyi, J.O. **Ajayi, O.O.** Ajanaku, K.O. Loto C.A. and Popoola, A.P.I. 2014. Analyses of Corrosion Potential from Inhibitor-Admixed Steel-Reinforced Concrete: Implication on Steel-Rebar Corrosion Risk/Probability, *Proceedings of the Second Intl. Conf. on Advances In Civil, Structural and Mechanical Engineering- CSM 2014*, Birmingham, UK, 16 – 17 November 2014, pp. 10 – 14
88. **Ajayi, O.O.**, Ohijeagbin, O.D, Ajanaku, K.O, Aasa, S.A, Omotosho, O.A, 2014. Techno-Economic Assessment of Renewable Electricity for Rural Electrification and IT Applications in Selected Sites Across the Geopolitical Zones of Nigeria, *Proceedings of the 23<sup>rd</sup> International Business Information Management Association Conference (23<sup>rd</sup> IBIMA) on Vision 2020: Sustainable Growth, Economic Development, and Global Competitiveness, Valencia, Spain 13-14, May 2014, pp 2216 - 2247*
89. Okeniyi, J.O., Omotosho, O.A. and Ajayi, O.O. 2011. Modelling the performance of Potassium Chromate and Sodium Nitrite on Concrete Steel Rebar Corrosion, *Proceedings of the 1<sup>st</sup> EIE International conference on computing, Energy, Networking and Telecommunications, September 13 – 15, Covenant University, Nigeria*

#### **4. Edited Books**

90. Daramola, A; Adeoye, R; Alagbe, W and **Ajayi, Seyi.** 2010. Sustainable Development and Environmental Protection (Strategies and Procedures for Developing Nations), Institute for Environment, Research and Development, Ota. ISBN: 978 – 2415 – 93 – 6

#### **5. Thesis**

1. Development of wind energy models and maps for Nigeria, Ph. D dissertation, Covenant University, Nigeria.
2. Modelling and Simulation of Crack Initiation and Growth in Particulate Composites: High alloy steel as case study, University of Nigeria, Nsukka, M.Eng. Thesis.
3. Computer Aided Plumbing Design, Obafemi Awolowo University, Ile-Ife, B. Sc Project Repots.

#### **CONFERENCE/WORKSHOP PRESENTATION**

1. 51<sup>st</sup> Annual Conference of Science Association of Nigeria, Covenant University, July 9 – 13, 2017

2. 1<sup>st</sup> International Conference on “Sustainable Materials Processing and Manufacturing”, taking place at Skukuza, Kruger National Park, South Africa between January 23 – 25, 2017
3. Second Intl. Conf. on Advances In Civil, Structural and Mechanical Engineering- CSM 2014, Birmingham, UK, 16 – 17 November 2014
4. Nigeria Alternative Energy Expo (naee 2014), Abuja, Nigeria, October 22 – 24, 2014
5. 23<sup>rd</sup> International Business Information Management Association Conference (23<sup>rd</sup> IBIMA) on Vision 2020: Sustainable Growth, Economic Development, and Global Competitiveness, Valencia, Spain 13-14, May 2014
6. 2012 International Conference on Clean Technology and Contemporary Engineering Management (ICCEM 2012), Mechanical Engineering Department, Covenant University in Collaboration with Nigerian Institution of Mechanical Engineers, Ota, Ogun State, Nigeria, November 12 – 15, 2012.
7. 2012 International Conference on Sustainable Development and Environmental Protection: Clean Technology Development and Environmental Sustainability for Developing Nations, Institute for Environment Research and Development and Bells University of Technology, Ota, Ogun State, Nigeria, March 20-22, 2012
8. 1<sup>st</sup> EIE International conference on computing, Energy, Networking and Telecommunications, Covenant Univeristy, Nigeria, September 13 – 15, 2011
9. International Conference on Sustainable Development and Environmental Protection: Strategies and Procedures for Developing Nations, Institute for Environment Research and Development and Bells University of Technology, Ota, Ogun State, Nigeria, September 21 – 23, 2010
10. International Conference of Maintenance of Engineering Infrastructures in Developing Countries (MEIDC 2010), University of Botswana, Gaborone, Botswana, July 27 – 29, 2010
11. World Forum of Engineering Congress on Alternative Energy Applications: Option or Necessity? Kuwait, 3 – 5 November 2009
12. International Workshop on Small Scale Wind Energy for Developing Countries, Institute of Energy and Environmental Technology, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Nairobi, Kenya, 14-16 September 2009.

13. The 43rd, annual national conference of the Science Association of Nigeria, Federal University of Technology, Akure, Ondo State, Nigeria, 2-6 September 2007.

### RECORD OF POSTGRADUATE STUDENTS' SUPERVISION

| S/N | NAME                        | LEVEL   | STATUS        | STAGE          | INSTITUTION                  |
|-----|-----------------------------|---------|---------------|----------------|------------------------------|
| 1   | Solomon Olanrewaju Banjo    | PGD     | Supervisor    | Completed 2016 | Covenant University, Nigeria |
| 2   | Enesi Yekini Salawu         | Masters | Supervisor    | Completed 2014 | University of Lagos, Nigeria |
| 3   | David O. Ohijeagbon         | Masters | Supervisor    | Completed 2014 | University of Lagos, Nigeria |
| 4   | Rafiu Abiola Abatan         | Masters | Supervisor    | Completed 2014 | University of Lagos, Nigeria |
| 5   | Samuel Okwuobi              | Masters | Supervisor    | Completed 2015 | University of Lagos, Nigeria |
| 6   | David Alaba Lawal           | Masters | Supervisor    | Completed 2015 | University of Lagos, Nigeria |
| 7   | Oladele Adeniyi Medupin     | Masters | Supervisor    | Completed 2015 | University of Lagos, Nigeria |
| 8   | Ameh Abraham Attabo         | Masters | Supervisor    | Completed 2015 | Covenant University, Nigeria |
| 9   | Stephen Kalu Ogbonnaya      | Masters | Supervisor    | Completed 2016 | Covenant University, Nigeria |
| 10  | Ayomide Brandon Orhewere    | Masters | Supervisor    | Completed 2017 | Covenant University, Nigeria |
| 11  | Akintunde Claudius Akintayo | Masters | Supervisor    | Ongoing        | Covenant University, Nigeria |
| 12  | Opeyemi Esther Akinyemi     | Ph.D    | Co-Supervisor | Completed 2017 | Covenant University, Nigeria |
| 13  | Ameh Abraham Attabo         | Ph.D    | Supervisor    | Ongoing        | Covenant University, Nigeria |
| 14  | Mercy Ogbonnaya             | Ph.D    | Supervisor    | Ongoing        | Covenant University, Nigeria |
| 15  | Afolabi Wahab Ajibola       | Ph.D    | Co-Supervisor | Ongoing        | Covenant University, Nigeria |

### SELECTED LOCAL/INTERNATIONAL COLLABORATIONS

| S/N | NAME                           | UNIVERSITY   | STATUS OF COLLABORATION |
|-----|--------------------------------|--|-------------------------|
| 1   | Dr. Maurizio Collu             | Cranfield University, United Kingdom                 | Ongoing                 |
| 2   | Dr. Stephen Akinlabi           | University of Johannesburg, South Africa             | Ongoing                 |
| 3   | Prof. David Wood               | University of Calgary, Canada                        | Previous                |
| 4   | Prof. Esther Akinlabi          | University of Johannesburg, South Africa             | Ongoing                 |
| 5   | Prof. Mufutau Adekojo Waheed   | Federal University of Agriculture, Abeokuta, Nigeria | Ongoing                 |
| 6   | Dr. Samuel Onawumi             | Ladoke Akintola University of Technology, Nigeria    | Ongoing                 |
| 7   | Dr. Edmund Okoroigwe           | University of Nigeria, Nsukka, Nigeria               | Ongoing                 |
| 8   | Dr. Michael C. Agarana         | Covenant University, Nigeria                         | Ongoing                 |
| 9   | Dr. David O. Omole             | Covenant University, Nigeria                         | Ongoing                 |
| 10  | Dr. Isaac Akinwunmi            | Covenant University, Nigeria                         | Ongoing                 |
| 11  | Prof. Kolawole Oluseyi Ajanaku | Covenant University, Nigeria                         | Ongoing                 |
| 12  | Prof. Phillip O. Alege         | Covenant University, Nigeria                         | Ongoing                 |
| 13  | Mrs. Felicia Owoeye            | Covenant University, Nigeria                         | Ongoing                 |

## **ONGOING RESEARCH**

1. Effects of natural nanosized-additives on the surface roughness of metals during electroplating
2. Numerical modelling of electroplating process
3. CFD modelling/analysis of Chaotic electrokinetic deposition with nanosized additive enhancement
4. Aerodynamic design and analysis of small wind turbine rotor
5. Design and optimization of a small wind turbine rotor
6. Synthesis, characterisation and application of nano-materials to vapour compression systems
7. Design and Application of heat pipes to enhance the cooling of internal combustion engines

## **SELECTED PROJECTS (ONGOING/COMPLETED) AT POSTGRADUATE LEVELS**

1. Development of bio-based and biodegradable nano polylactide composite (Ph.D/Ongoing)
2. Experimental and numerical heat transfer analysis of multiphase flow of nanorefrigerant through a vapour compression refrigeration system (Ph.D/Ongoing)
3. Theoretical modelling of thermal stress distribution around the spur gear in a rotating filler machine (Masters/Completed)
4. Effect of variable control on temperature distribution in orthogonal metal cutting process: a finite element approach (Masters/Completed)
5. Effect of punch radius on extrusion process using experimental and finite element methods (Masters/Ongoing)
6. Radiative and hydrodynamic characterization of hydrogen diffusion and impingement on porous media of Solid Oxide Fuel Cell (SOFC) (Ph.D)
7. Economic and Environmental implications of Energy Subsidy in Nigeria: A Computable General Equilibrium (CGE) model analysis (Ph.D/Completed)
8. Design, Dimensioning and Techno-economic assessment of solar-wind hybrid system for rural community utilisation and embedded generation in Nigeria (Masters/Completed)
9. Reliability centred maintenance for individual section machine (Masters/Completed)



## **SELECTED PROJECTS SUPERVISED AT UNDERGRADUATE LEVEL**

1. Modelling and simulation of fatigue failure of target metals using MATLAB
2. Design of a stand mixer (food processor)
3. The availability of wind energy resources in South-West Nigeria
4. Effects of green inhibitors on the environmental induced damage of mild steel
5. Effects of organic inhibitors on the corrosion rate of zinc and austenitic stainless steel in acidic environment
6. Monitoring Corrosion behaviour of aluminium in Hydrochloric acid medium in the presence of natural inhibitors
7. Design and construction of a vertical axis wind turbine
8. Development of a rotary vane vacuum pump for crude oil waste extraction
9. Generation of global solar radiation models for Nigeria using sunshine hours
10. Mapping and Econometric Analysis of solar energy resources of Nigeria
11. Optimization of a dual power spice milling machine
12. Development of a dual powered three-way seed planter
13. Development and thermodynamic analysis of a food dryer

## **COURSES TAUGHT**

1. Applied Mechanics I
2. Applied Mechanics II
3. Mechanics of Machines I
4. Mechanics of Machines II
5. Strength of Materials
6. Applied Strength of Materials
7. Machine Design I
8. Engineering Vibrations
9. Fluid Mechanics
10. Thermodynamics
11. Engineering Mathematics

## **AWARD**

|  |            |
|--|------------|
| University Publication Award for Faculty         | 2010, 2011 |
| National Youth Service Corps State Honours Award | 2000       |

## **MEMBER OF PROFESSIONAL BODY**

1. Council for Regulation of Engineering Profession in Nigeria (COREN) (Member R.16, 475)
2. Corporate member, Nigeria Society of Engineers (NSE)

## **ADMINISTRATIVE POSITION/LEADERSHIP QUALITY**

|  |             |
|--|-------------|
| 1. Head of Mechanical Engineering Department   | 2015-2017   |
| 2. Chair, Departmental Committee on Postgraduate Studies   | 2014-2015   |
| 3. Member, University Post Graduate Committee  | 2012 - 2013 |
| 4. Chair, Departmental Committee on Postgraduate Studies   | 2012 - 2013 |
| 5. Secretary, Departmental Post Graduate Committee   | 2010 - 2012 |
| 6. Member, College Quality Assurance and Academic Standard Committee                                   | 2007        |
| 7. Coordinator, Mechanical Engineering Departmental Quality Assurance and Academic Standard Committee. | 2007        |
| 8. Coordinator, Mechanical Engineering Departmental Seminar  | 2007 - 2009 |
| 9. Academic Adviser  | 2006-2011   |

## **EXTERNAL CONTRIBUTIONS/COMMUNITY DEVELOPMENT**

1. Oluseyi O. Ajayi (2017). Alternative Energy Sources: are they all of advantages for the nation's climate change, food security and employment opportunities, **Plenary Lecture**, 51<sup>st</sup> Annual Conference of the Science Association of Nigeria (SAN), July 9 – 13, 2017, Covenant University, Ota, Nigeria
2. **External Reviewer**, Renewable and Sustainable Energy Reviews, (a Publication of Elsevier LTD) 2012 – Date
3. **External Reviewer**, Energy Policy, (a Publication of Elsevier LTD) 2012 – Date
4. **External Reviewer**, Energy, an International Journal (a Publication of Elsevier LTD) 2010 - Date
5. **Member of the International Scientific Committee/Organizing Committee** for the 2010 International Conference on Sustainable Development and Environmental Protection: Strategies and Procedures for Developing Nations, Nigeria, September 21 – 23, 2010

6. **External Reviewer**, International Journal of Sustainability (an open access journal) (a Publication of Molecular Diversity Preservation International, Switzerland), 2009 – 2010.
7. **Reviewer**, International Conference of the World Forum of Engineering Congress on Alternative Energy Applications: Options or Necessity, Kuwait, November 3 - 5, 2009.
8. **External Reviewer**, International Journal of Fatigue (a Publication of Elsevier LTD) 2007 – 2009
9. O.O. Ajayi, 2007. Charity and National development: The Role and Importance, **Public Lecture** delivered at the International Association of Lions Club, Gateway Lions Club, Ota, District 404B Nigeria. (Sunday 2nd September 2007, Bezer hall, Dalemo, Lagos-Abeokuta Expressway, Sango Ota, Ogun State.)

### COMMITTEE MEMEBERSHIP

1. Member, Technical Sub-Committee of the Local Organising Committee for 2<sup>nd</sup> Covenant University International Conference on African Development Issues (ICADI) 2015
2. Member, CUCERD ad hoc Committee on the proposed Whales Automobile and Bamboo Modelling 2014
3. Member, Technical Sub-Committee of the Local Organising Committee for 1<sup>st</sup> Covenant University International Conference on African Development Issues (ICADI) 2014
4. Member, Committee of the School of Postgraduate Studies 2013-2014
5. Member, Centre for Entrepreneurial Development Studies (CEDS) committee 2013-2015
6. Member, Covenant University Farm committee 2013-2015
7. Member, ad hoc committee on Centre for Alternative Energy 2013-2014
8. Member, ad hoc committee on Centre for Renewable Energy 2013-2014
9. Member, Department Postgraduate committee 2012-Date
10. Member, planning committee for 2012 International conference on Engineering innovations and clean technology, Mechanical Engineering Department, Covenant University, Ota 2011-2012
11. Member, Covenant University Consortium Group (CUCG) 2007
12. Member, Publications Committee for Mathematical and Computer Science International Conference, Covenant University, Ota 2006

## **APPOINTMENTS WITHIN THE UNIVERSITY**

1. Appointment as External Examiner to Postgraduate Students, Ladoke Akintola University of Technology, Ogbomosho, Oyo State, Nigeria 2016-Date
2. Appointment as a member of panel of Examiners for Ph.D Proposal Defense 2013-Date
3. Appointment as a member of panel of Examiners for Ph.D Post-field Defense 2013-Date
4. Appointment as Internal/College Examiner for Ph.D Oral Defense 2013-Date