

AKPA, JACKSON GUNORUBON

STATE OF ORIGIN: RIVERS STATE
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DATE OF BIRTH: 18th August 1967

<u>INSTITUTION</u>	<u>QUALIFICATION</u>	<u>DATE</u>
Rivers state University of Science & Technology, Port-Harcourt	Ph.D	2006
Rivers state University of Science & Technology, Port-Harcourt	M.Tech	1997
University of Port-Harcourt Port-Harcourt	B.Eng	1990
Federal Government College Ido-ani, Ondo State	WAEC	1978-1983

WORK EXPERIENCE

Organization: Department of Chemical/Petrochemical Engineering
Rivers state University of Science and Technology, Port Harcourt
Position/Date: Assistant Lecturer, May 2000
Lecturer II, May 2001
Lecturer I, October 2006
Senior Lecturer, October 2012
Reader, October 2015
Professor: October 2018
Head, Department of Chemical/Petrochemical Engineering: (2014 – 2016)
Dean, Faculty of Engineering: February 2022 - Date

Organization: Mobil Producing Nigeria
Section: Facilities Engineering
Position/Date: (NYSC) Facilities Engineer October 1990 - September 1991
Organization: Shell Petroleum Dev. Company
Position/Date: Industrial Trainee, April – Sept. 1989

Active Membership of Relevant Professional Body(ies):

Registered Engineer, Council for the Regulation of Engineering in Nigeria (COREN), R13,337

Corporate Member, Nigerian Society of Engineers (NSE), R16272

Corporate Member, Nigerian Society of Chemical Engineers (MNSChE), R1841

- Secretary, Nigeria Society of Chemical Engineers, RivBay Chapter: February 2018 -
- Chief Examiner (Chemical), NSE Port Harcourt Examination Centre: 2018 -
- Examiner, Process & Materials Division, NSE, Port-Harcourt Centre, 2014 - Date
- Member, Local Organizing Committee, 2010 International Conference & Annual General Meeting of Nigerian Society of Chemical Engineers.
- Member, Local Organizing Committee, 2017 Annual Conference / AGM & Exhibition of Nigerian Society of Chemical Engineers.
- Member, Technical Sub-Committee, 2017 Annual Conference / AGM & Exhibition of Nigerian Society of Chemical Engineers.

Membership of University/Faculty/Department Committees

- i) Head, Department of Chemical/Petrochemical Engineering: 2014 - 2016
- ii) Departmental Examination Officer, Chemical/Petrochemical Engineering: 2000 - 2010
- ii) Faculty Representative in the Board of the Faculty of Environmental Sciences (2006 – 2012)
- iii) Faculty Examination Officer, Faculty of Engineering: 2007 - 2016
- iv) Member, Appointment and Graduation Requirement Committee (A&GRC), Rivers State University of Science & Technology, Port-Harcourt, Rivers State. 2007 – 2016
- v) Member, University Calendar Committee, Rivers State University of Science & Technology, Port-Harcourt, Rivers, 2016 – Date
- vi) External Examiner, Department of Chemical Engineering, Niger Delta University, Wilberforce Island, Bayelsa State, 2015 – Date
- vii) External Examiner, Department of Chemical Engineering, Federal University of Petroleum Resources, Warri, Delta State, 2015 – 2017

COMMUNITY SERVICES:

- i) Head of Protocol, Agape Bible Church Port-Harcourt, (2002 – Date)
- ii) Deacon, Agape Bible Church Port-Harcourt, (2010 – Date)
- iii) Patron, Association of Chemical/Petrochemical Engineering Students (2003 – Date)
- iv) Patron, National Union of Andoni Students, RSUST Chapter
- v) Staff Adviser, Junior Chamber International, JCI (RSUST) (2012- Date)
- vi) Patron, Man O War, RSUST Chapter. (2014 - Date)

Referred Published Journal Papers

1. Oboho, E. O., Ogoni, H. A., Oboho, S. P. & **Akpa, J.** (2000). Simulation of reactor block for the oxidation of sulphur (IV) oxide to sulphur (VI) oxide. *Journal of Applied Science*, 4, 1365-1378.
2. Oboho, E. O., **Akpa, J. G.** & Oboho, S. P. (2001). Modeling of a riser type Fluid catalytic cracking (FCC) unit - The three lump Model. *Journal of Engineering*, 11 (2), 129-139.
3. Oboho, E. O. & **Akpa, J. G.** (2001). Application of the three lump model for the simulation of a fluid catalytic cracking (FCC) riser reactor. *Inter-world Journal of science and technology*, 1 (2), 250-258
4. Oboho, E. O. & **Akpa, J. G.** (2001). A model for predicting products' yields in a fluid catalytic cracking (FCC) riser reactor. *Inter-world Journal of science and technology*, 2 (2), 104-113.
5. Oboho, E. O. & **Akpa, J. G.** (2002). Modeling of a Fluid catalytic cracking (FCC) riser reactor – The Four-lump model. *Journal of modeling, Design and Management of Engineering Systems*, 1 (1), 39-52.
6. Amadi, S. A., **Akpa, J.** & Nmegbu, C. G. J. (2003). Influence of temperature, solar radiation, Rainfall, Humidity and Pollution in the atmospheric corrosion of carbon steel in Humid Tropical climate – Niger delta region as a case study. *Journal of Engineering*, 13 (1), 13-24.
7. Oboho, E. O., **Akpa, J. G.** & Dagde, K. K. (2005). Application of the three-lump kinetic model for the catalytic cracking of gas oil in a fluidized bed reactor. *International Journal of Science & Technology*, 4 (1&2), 29-35.
8. Oboho, E. O., **Akpa, J. G.**, Dagde, K. K. & Njobuenwu, D. O. (2006). Application of the four-lump kinetic model for the simulation of a fluidized bed reactor for catalytic cracking of gas oil. *Journal of Engineering*, 16 (1), 27-44.
9. Amadi, S.A., Ukpaka, C.P., **Akpa, J.** & Dune, K.K. (2007). Evaluating the effective corrosion rate and control in a nitrogenous fertilizer plant in Nigeria. *Journal of Engineering Science and Technology*, 2 (2), 26-33.
10. Ukpaka, C. P., **Akpa, J.**, Ikenyiri, P. N. & Farrow, T. S. (2007). Evaluation of biostimulation rate in a crude oil contaminated site. *Journal of the Nigerian Society of Chemical Engineers*, 22 (1&2), 41-49.
11. Dagde, K. K., **Akpa, J. G.**, Puyate, Y. T. & Oboho, E. O. (2008). Five Lump Kinetic Model for Fluid Catalytic Cracking of Gas oil in a Fluidized Bed reactor. *Journal of the Nigerian Society of Chemical Engineers*, 23 (1&2), 1-19.
12. **Akpa, J. G.**, Dagde, K. K. & Umueze, O. D. (2010). Dynamic Modeling and Simulation of a Fluid Catalytic Cracking Riser. *Journal of the Nigerian Society of Chemical Engineers*, 25 (1 &2), 109-130.
13. Dagde, K. K., **Akpa, J. G.** & Piagbo, B. K. (2011). Modeling Biodegradation of Phenol in an Industrial Rotating Biological Contactor. *Journal of the Nigerian Society of Chemical Engineers*, 26 (2), 48-60.
14. **Akpa, J. G.**, Dagde, K. K. & Okoroma, J.U. (2011). Transient Analysis of Heat Exchanger Networks in the Crude Distillation Unit of Port-Harcourt

Refinery. *Journal of Emerging Trends in Engineering and Applied Science*, 2 (5), 810-816.

15. **Akpa, J. G.** and Dagde, K. K. (2012). Modification of Cassava Starch for Industrial Uses. *International Journal of Engineering & Technology*, 2 (6), 908-914.
16. **Akpa, J. G.** and Okoroma, J. U. (2012). Pinch Analysis of Heat Exchanger Networks in the Crude Distillation Unit of Port-Harcourt Refinery. *Journal of Emerging Trends in Engineering and Applied Science*, 3 (3), 475-484.
17. **Akpa, J. G.** (2012). Simulation of an Isothermal Membrane reactor for the Dehydrogenation of Ethylbenzene. *Chemical and Process Engineering Research*, (3), 14-28.
18. **Akpa, J. G.** (2012). Production of Cassava Starch Based Adhesive. *Research Journal in Engineering and applied Sciences*, 4, 219-224.
19. **Akpa, J. G.** (2012). Modeling of a bioreactor for the fermentation of palmwine by *Saccharomyce cerevisiae* (yeast) and *Lactobacillus* (bacteria). *American Journal of Scientific and Industrial Research*, 3 (4), 231-240.
20. **Akpa, J. G.** & Igbagara, P. W. (2013). Modeling and Simulation of Glycol Dhydration Unit of a Natural Gas Plant. *International Journal of Engineering and Technology*, 3 (7), 736-745.
21. **Akpa, J. G.** and Umuze, O. D. (2013). Simulation of a Multi-Component Crude Distillation Column. *American Journal of Scientific and Industrial Research*, 4 (4), 366-377.
22. **Akpa, J. G.** (2013). Modeling of the Corrosion rate of Stainless Steel in Marine Oil Environment. *ARPJ Journal of Engineering and Applied Sciences*, 8 (8), 656-662.
23. Wordu, A. A. & **Akpa, J. G.** (2014). Modeling of Hydro Cracking Lumps of Series-Parallel Complex Reactions in Plug Flow Reactor Plant. *European Journal of Engineering and Technology*, 2 (1), 20-28.
24. **Akpa, J. G.** & Rapheal, N. R. (2014). Simulation of an Ammonia Synthesis Converter. *Canadian Journal of Pure & Applied Sciences*, 8 (2), 2913-2923.
25. Nmegbu, C. G. J. & **Akpa, G. J.** (2014). Modeling the Effects of microbes in a Reservoir Undergoing Microbial Enhanced Oil Recovery. *International Journal of Application or Innovation in Engineering & Management*, (IJAIEM), 3 (6), 206-215.
26. Dagde, K. K. & **Akpa, J. G.** (2014). Numerical Simulation of an Industrial Absorber for Dehydration of Natural Gas Using Triethylene Glycol. *Hindawi Publishing Corporation Journal of Engineering*, 1-8.
27. **Akpa, J. G.** & Uku, M. (2014). Alternatives to Natrosol as Thickener in the Production of Emulsion Paint. *ARPJ Journal of Engineering and Applied Sciences*, 9 (7), 1129-1133.
28. **Akpa, J. G.** & Uku, M. (2014). Production of Glues from Animal Bones. *ARPJ Journal of Engineering and Applied Sciences*, 9 (9), 1592-1597.

29. **Akpa, J. G.** & Nmegbu, C.G.J. (2014). Adsorption of Benzene on Activated Carbon from Agricultural waste materials. *Research Journal of Chemical Sciences*, 4 (9), 34-40.
30. **Akpa, J. G.** & Raphael, N. R. (2014). Optimization of Ammonia Synthesis Converter. *World Journal of Engineering and Technology*, 2, 205-313. <http://dx.doi.org/10.4236/wjet.2014.24032>.
31. Dagde, K. K. & **Akpa, J. G.** (2014). Computer aided Design of an Isothermal Plug Flow Reactor for Non-Catalytic Partial Oxidation of methane to Synthesis Gas. *Chemical and Process Engineering Research*, 28, 9-20.
32. **Akpa, J. G.** & Okoroma, J. U. (2014). Absorber Models for adsorption of Carbon dioxide from sour natural gas by Methyl-diethanol Amine (MDEA). *Int. Journal of Engineering Research and Applications*, 4 (12), 7-17.
33. Dagde, K. K. & **Akpa, J. G.** (2014). Development of Models for Fluid Catalytic Cracking Fluidized Bed Reactor using Four-Lump kinetic scheme. *IOSR Journal of Engineering (IOSRJEN)*, 4 (12), 22-31.
34. **Akpa, J.G.** & Uchendu, J. (2017). Simulation and Control of a Reactive Distillation Column for the Hydrogenation of Benzene in a Reformate Stream, *Mathematical Theory and Modeling*, (7), 11, 47 – 62.
35. **Akpa, J.G.** & Mamah, S.C. (2017). Development of a Simulation and Analysis Tool for Chemical Reactors, *Int. Journal of Engineering Research and Application*, (7), 12, 27 - 34.
36. **Akpa, J.G.** & Adeloje, O.M. (2017). Simulation of a Naphtha Reforming Reactor, *Chemical and Process Engineering Research*, 54, 26 – 41.
37. **Akpa, J.G.** & Igbagara, P.W. (2018). Adsorptive Removal of Heavy Metals from Refinery Waste Water Using Activated Carbon Produced from Palm Kernel Shell, *American Journal of Engineering Research (AJER)*, (7), 2, 165 – 170.
38. **Akpa, J.G.** & Onuorah, P. (2018). Simulation and Control of a Reactor for the Non-Catalytic Hydrolysis of Ethylene Oxide to Ethylene Glycol, *Mathematical Theory and Modeling*, (8), 2, 23 – 45.
39. . **Akpa, J.G.** & Nduka, C. (2018). Kinetics, Equilibrium and Thermodynamics Studies of Fe³⁺ Ion Removal from Aqueous Solutions Using Periwinkle Shell Activated Carbon, *Advances in Chemical Engineering and Science*, (8), 49 – 66.
40. **Akpa, J.G.** and Dagde, K.K. (2018). Effect of Activation Method and Agent on the Characterization of Periwinkle Shell Activated Carbon, *Chemical and Process Engineering Research*, (56), 24 – 36.
41. Dagde, K.K. and **Akpa, J.G.** (2018). Simulation of Fischer-Tropsch Fluidized Bed Reactor for the production of methane from synthesis gas (Gas to Liquid Technology), *Chemical and Process Engineering Research*, (56), 37 – 44.
42. **Akpa, J. G.**, Uzono, R. I. and Dagde, K. K. (2018). Energy Integration of Butene-1 Production Plant Using Pinch Technology, *International Journal of Energy and Environmental Research*, 7, (1), 1 – 17.

43. Dagde, K. K. **Akpa, J. G.** and Ekine, A. A. (2019). Production of Adsorbent from local raw materials for the removal of fluoride from water, *European Journal of Engineering and Technology*, 7, (2), 18 – 37
44. Ekine, H. O., **Akpa, J. G.**, Ehirim, E. O. and Ukpaka, C. P. (2019). Predictive modeling of Biogas production from the degradation of cow Rumen, *Indian Journal of Engineering*, 16, 1 – 14.
45. **Akpa, J. G.**, Dagde, K. K. & Inyang, N. B. (2019). Design of Industrial Water Cooled Chiller for Recycle Cyclohexane in Polyethylene Plant, *Advances in Chemical Engineering and Science*, 9, (2), 143 – 158.
46. Ojong, O. E., A. A. Wordu, & **Akpa, J.** (2019). "Estimation of Kinetic Parameters f Naphtha Lump Feeds." *Adv. Eng. Technol.*, 6, 71.
47. Eze. P., Dagde, K. K. & **Akpa, J. G.** (2019). Computer Aided Design for the Recovery of Boil-Off Gas from LNG Plant, *Advances in Chemical Engineering and Science*, 9, (2), 159 – 175.
48. Owonaro, D., **Akpa, J. G.** & Ukpaka, C. P. (2019) Development of predictive model for crude oil dispersion in coastal water, *Current Science*, 6-13.
49. Abowei, M. F. N, Akinwande, A. C, & **Akpa, J. G.** (2019). Design of Cow-Dung and Grass- Clippings Isothermal Continuous Stirred Co-digester for biogas production. *International Journal of Advances in Scientific Research and Engineering (IJASRE)*, ISSN:2454-8006, 5(3), 96-109
50. Dagde, K. K., **Akpa, J. G.** & Viura, A. T. (2019). Computer-aided simulation of a fluidized-bed reactor for the production of biofuels from ricehusk biomass. *European Journal of Engineering and Technology*, 7 (5), 51-63.
51. Ojo, A., **Akpa, J. G.** & Dagde, K. K. (2019). Modeling and Simulation of Two- Staged Separation Process for an Onshore Early Production Facility, *Advances in Chemical Engineering and Science*, 9, (2), 127 – 142.
52. Dagde, K. K., **Akpa, J. G.** & Wele, G. N. (2019). Development of steady state model equations for optimization of high pressure carbamate condenser in urea plant. *European Journal of Engineering and Technology*, 7 (5), 40-50.
53. Wordu, A., Mmecha, C., Puyate, Y. & **Akpa, J.** (2019). The Profile of Physico-Chemical Properties of Spilled Crude Oil in Marine Sediments in Niger Delta. *European Journal of Engineering and Technology Research*. 4, (3), 203-207.
54. Abowei, M., Akinwande, A. & **Akpa, J.** (2019). Modelling Cow-Dung and Grass-Clippings Isothermal Continuous Stirred Co-digester for Biogas Production using Modified Gompertz Rate Equation. *European Journal of Engineering and Technology Research*. 4, (3), 196-202.
55. **Akpa, J.**, Dagde, K. K. & Moses, B. (2019). Development of Model for the Simulation of an Industrial Deaerator for Boiler feed water Production, *European Journal of Engineering and Technology*, 7, (4), 94-110.
56. **Igbagara, P. W.**, Akpa, J., Alah, J. & Okpanum, J. (2019). Modelling and Simulation of a Crude oil Topping Column using the Liebmann's

Decomposition Model, *Journal of the Nigerian Society of Engineers*, 34(2), 35-42.

57. Emiowele, P., **Akpa, J. G.** & Ikenyiri, P. (2020). Simulation of a Plant for the Production of Polyethylene, *Advances in Chemical Engineering and Science*, 10, (4), 408 – 422.
58. Wai-Ogosu, B. D., Dagde, K. K., **Akpa, J. G.** & Goodhead, T. O. (2020). Computer Aided Simulation of Multiple Effect Evaporator for Concentration of Caustic Soda Solution, *East African Scholars J Eng. Comput. Sci.*; 3, (8),146-156
59. Tambomieye, A., **Akpa, J. G.** & Dagde, K. K (2020). Modeling and Control of a Biodiesel Transesterification Reactor, *Advances in Chemical Engineering and Science*, 10, (3), 210 – 224
60. Iringer, N., Dagde, K. K. & **Akpa, J. G.** (2020). Comparative Study of Dextrose Production from Locally Sourced Cassava, Tigernut and Yam. *International Journal of Agrochemistry*, 6(1): 1–24.
61. Jaja, Z., **Akpa, J. G.** & Dagde, K. K (2020). Optimization of Crude Distillation Unit Case Study of the Port Harcourt Refining Company, *Advances in Chemical Engineering and Science*, 10, (3), 123 – 134
62. Friday F. Isaiah, Ehirim, E. O., & **Akpa, J. G.** (2020). Simulation of the Effect Variation of Ammonia – Carbon Dioxide Ratio in the Performance of Urea Production. *International Journal of Cheminformatics Research*. 2020; 6(1): 48–89.
63. Nwanam, B. R., **Akpa, J. G.** & Dagde, K. K. (2020). Simulation and Optimization of an Ammonia Plant: A Case Study of Indorama Ammonia Plant, *East African Scholars J Eng. Comput. Sci.*; 3, (9),196-204.
64. Amachree, B., Dagde, K. K & **Akpa, J.** (2020) Simulation of a Process Plant for the Production of Propylene. *Advances in Chemical Engineering and Science*, 10, 322-331
65. Nwosu, B. F. C., Ademiluyi, F. T., **Akpa, J. G.**, & Abowei, M. F. N. (2021). Review of the Effect of Preservatives on the Stability of Cassava Starch-Bentonite Muds for Water-Base Drilling Fluid Formulations. *Journal of New views in Engineering and Technology*. 3(1), 21–33.
66. **Akpa, J. G.**, Igbagara, P. W. & Adeloye, O. A. (2021). Kinetics and Reactor Model of Biogas Production from Abattoir Waste (Cow Dung), *Chemical and Biomolecular Engineering*, 6(3), 49-58.
67. Igbagara, P. W. & **Akpa, J. G.** (2021). Application of Constant Reflux Batch Distillation for Artesan Crude oil Refining, *International Journal of Scientific & Engineering Research – IJSER*, 12(3).
68. **Akpa, J. G.**, Dagde, K. K. & Afolayan, J. T. (2021). Simulation of an Extractor for the Extraction of Vegetable oil from Palm Kernel, *American Journal of Chemical and Biochemical Engineering*, 5(2), 41-48.
69. Dagde, K. K., **Akpa, J. G.**, Adeloye, O. M. & Nnabuife, O. A. (2021). Mathematical Models for Packed Bed Reactor for Methanation of Carbon

dioxide, Journal of Chemical, Environmental & Biological Engineering, 5(2), 69-74.

70. Igbagara, P. W. **Akpa, J. G.** & Adeloje, O. M. (2021). Production and Characterization of Bio oil from Bamboo, American Journal of Chemical Engineering, 9(6), 134-140.
71. **Akpa, J. G.**, Kennedy, R., Adeloje, O. M. & Abowei, M. F. N. (2021). Modeling of Membrane Reactor for Methane Steam Reforming: An alternative to conventional Reactors, Global Scientific Journals, 9(12), 1466-1479.
72. Hezekiah, B. S., **Akpa, J. G.**, Dagde, K. K. & Adeloje, O. M. (2022). Design and Simulation of Natural Gas Liquid Recovery Process from rich Natural Gas, Chemical and Process Engineering Research, 64, 26-36.
73. **Akpa, J. G.**, Wordu, A. A., Obi, C. M. & Adeloje, O. M. (2022). Performance Evaluation of Thermosyphon Reboiler for the Regeneration of Triethylene Glycol, Global Scientific Journals, 10(1), 990-1003.

REFERENCES

1. **Prof. M. F. N. Abowei**
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2. **Prof. E. O. Oboho**
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RESEARCH AREAS:

- Reaction Engineering and Modeling of Reaction Kinetics
- Modeling and Simulation of Processes
- Optimization of Process Systems
- Computer Aided Process Design
- Numerical Computation

On-going Research:

- Production of Biodegradable Films
- Operational Feasibility and Optimization of Modular Refineries
- Control of Fluid Catalytic Cracking (FCC) Unit
- Optimization Fluid Catalytic Cracking (FCC) Unit Operations