

Jumoke Akinpelu

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EDUCATION

- Ph.D. Geology – In progress (Graduating Summer 2026), University of Houston
- MBA University of Illinois at Urbana Champagne
- M.Sc. Petroleum Geoscience, University of Manchester, UK
- B.Sc. Geology – Obafemi Awolowo University, Nigeria

EXPERIENCE

Conjugate Basins Tectonics and Hydrocarbons Research Consortium, University of Houston, Texas: Ph.D. Candidate / Petroleum Exploration Research - Aug. 2023 - To date

Research focus on the petroleum system evaluation, hydrocarbon prospectivity & distribution along the Equatorial Atlantic margin.

Niger Delta Basin, West Africa

- Integrated deeply penetrating regional 2D seismic reflection data, gravity, magnetic and well data on- and offshore of the Niger Delta
- Defined 3 crustal types underlying the 10-18-km thick basin and the influence of the crustal types on source rock maturation and hydrocarbon potential within the basin
- Identified new Cretaceous deepwater exploration fairways in ultra -deepwater, offshore Niger delta for new exploration acreage captures.
- Completed basin model with the prediction that Aptian-Albian source rocks in the continental rifts and Late Cretaceous post-rift are oil and gas mature offshore the Niger delta derisking exploration under-explored deepwater area.

Potiguar Basin, Brazil

- Integrated seismic and potential field datasets to define crustal architecture and heat-flow regimes, revealing stretched continental crust and a clear continent–ocean transition favorable for source rock maturation and an expanded frontier basin potential
- Characterized tectono-sedimentary controls that generated three key play types: syn-rift anticlinal plays (shallow to deepwater), strike-slip structural plays (ultra-deepwater), and Upper Cretaceous turbidite plays within post-rift drift sequences.
- Demonstrated significant ultra-deepwater exploration potential through 3D basin modeling and source rock analysis, confirming that Lower Aptian–Cenomanian source intervals lie within the oil window

Liberia Basin, West Africa

- Integrated 2D, 3D seismic, exploration wells and regional geochemical data along the West African Transform Margin Cretaceous trend to identify and derisk petroleum system elements in the Liberia basin
- Completed petroleum system evaluation and basin modeling – modeled source rock maturity, hydrocarbon generation timing & expulsion relative to charge, migration, and trap formation

ExxonMobil Nigeria & Houston: Exploration, Development and Production Geologist, Mar. 2006 – Aug. 2023

Designed and led geoscience technical development and production drilling work programs for ExxonMobil Nigeria's Niger Delta Deepwater fields to improve asset profitability.

- Built up subsurface drilling opportunities inventory of new infill wells and designed screening criteria for subsurface project selectivity
- Technical viability evaluation and opportunities inventory screening of infill well drilling work program
- Well workover program opportunity evaluation and technical viability screening of 32 well workover candidates toward project execution
- Led geoscience support for 4D seismic data survey design, planning & acquisition

- Collaborated with drilling, reservoir, production and facilities engineers for improved asset profitability of 5 Niger Delta Deepwater fields
- Stakeholders, partners, and government agency's engagement for drilling program and budget approvals of 12 Tranche 1 infill drilling opportunities

Led Commercial value creation and profitability improvement initiatives for 20 Joint Venture fields through high-quality geoscience technical work in the Nigeria JV, Shallow water ExxonMobil operated blocks.

- Integrated seismic data interpretation, well logs correlations, and production data to identify bypass opportunities and recommend well locations.
- New prospect identification, evaluation and maturation, volumetric calculations, and risk assessment of new wells
- Near field wildcat prospect evaluation and drilling well location recommendations for tie back to existing facilities
- Structural and stratigraphic seismic interpretation, depositional environments and paleo-geographic reconstruction.
- Field development planning and execution of optimized production depletion plans for 20 JV fields.
- Executed 17 new wells and 10 workover (well re-entries) opportunities to extend the life of existing producing fields. This largely helped prolong the production plateau and, in many cases, arrested rapid production decline with improved asset profitability.
- Pioneered application of data analytics for improved reservoir predictions and field development in an unconventional reservoir in the Ubit field mass transport complex reservoir

Additional Skills

- Excellent presentation skills and cross-functional collaborator
- Geoscience Interpretation Tools – Expert in Petrel & Kingdom seismic interpretation tools
- Gravity & Magnetics Data Modeling with GIS Tools – ArcGIS, QGIS and Oasis Montaj
- Volumetric Assessment Tool – GeoX
- Basin Modeling Tools – Genesis and Excalibar (Explorlab)
- Reporting and Visualization Tools – PowerBI, Alteryx, PowerPoint
- Data analytics / data science and Machine Learning certification

Awards / Recognition

- Best Poster Presentation – First Runner-up at Houston Geological Society 2023 Sheriff Lecture Annual Event
- Best Oral Presentation – First Runner-up at the University of Houston 2024 Student Research Day Conference
- ExxonMobil Geoscience Advanced Skill Milestone (ASM) Award
- ExxonMobil Upstream Outstanding Technical Leader Award
- 2--time Best Oral Paper Presentation awardee at Nigerian Association of Petroleum Explorationists (NAPE) Annual International Conference & Exhibition, Lagos, Nigeria
- ExxonMobil International Post Graduate Scholarship Award (M.Sc., United Kingdom)

Volunteering

- Houston Geological Society, Africa Conference Planning Committee member & Educational Outreach
- North America Chapter Coordinator – Nigeria Association of Petroleum Explorationists (NAPE)
- Board member & Treasurer – AAPG Student Chapter, University of Houston
- STEM mentoring – Exciting World of Geology Webinars for high school students, Women in Geosciences & Engineering

Publications in NAPE Bulletins & Oral Technical Paper Presentations at NAPE Annual Conferences, SPE & AAPG Conferences (18)

1. Low Cost Production Uplift through Integrated Reservoir Evaluation - Enang Field Example (**Jumoke. K. Akinpelu**, Ezioge C. Okoro, & Bala Wudiri), NAPE Conference Technical Paper, 2017- Best Paper Award

2. Enhanced Recovery in a Mature Field Utilizing MazeFlo™, an Innovative Sand Control Technology (**Akinpelu Jumoke.**, Okoroh Kenneth., Agbaji Joseph., Ogunnusi Henry and Hommemma Jennifer), NAPE Conference Technical Paper, 2016 – 1st runner-up Best Paper Award
3. Alternative Approach for Optimizing Infill Well Placement in the Highly Heterogeneous Disturbed Biafra, Ubit Field, Offshore Nigeria (Ogunnusi H.O., Young R.H., **Akinpelu J.K.**, Oluwasusi A.B., Onasanya B.A., Krukrubo G.J.), NAPE Conference, Technical Paper 2011
4. An integrated Production, Seismic and Stratigraphic Approach; Optimizing Recovery of Remaining Oil in a Mature Field – Ubit Field Nigeria (Osivwi Thomas-Ideh*, **Jumoke K. Akinpelu**, John A. Adegoke, Tim R. Fahrer, George I. Unomah, Olubunmi K. Ajayi, Olugbenga E. Olumurewa, Chuka B. Eche, Joseph Agbaji and Hashim N. Yaqub), NAPE Conference, Technical Paper 2014
5. A sedimentological and petrophysical approach to estimating and predicting water saturation and flow behavior in hydrocarbon reservoirs - Ubit field, Nigeria case study (Thomas-Ideh O., Unomah G., Fahrer T., Adegoke J., Ajayi B., Eche C., **Akinpelu J.**, Babatunde F., Danison I., and Chiroma A) NAPE Conference, Technical Paper 2015
6. 'Opportunity Generation in Mature Field Settings using Spectral Decomposition Technology: Niger Delta Reservoir Example' (Amidu S. A.*, Obere F. O., Agbegha E., **Akinpelu J. K.**, Amadi C. S., Medema G. F., Ochogbu P. I., Salisu A.) NAPE Conference, Technical Paper 2016
7. An Integrated Approach to Opportunity Generation; The Amber Field Example , MPN JV, Nigeria (Nwoke C., **Akinpelu J.** , Onoyase, A.), NAPE Conference, Technical Paper 2017
8. Strategies for Reducing Re-development Cost through Optimized Drillwell Planning- Edop Field Example, Nigeria JV: Nwachukwu U. D., Odebeatu C., Idih R., Sanchez S., and **Akinpelu, J.**), NAPE Conference, Technical Paper 2018
9. An Integrated Geophysical Approach to the Re-evaluation of a Deltaic Reservoir Using Reprocessed APSDM Seismic Data in T-Field, OML 104, Nigeria JV: Omeni G.*, Bansal R., **Akinpelu J.**, Diakparomre U. and Wudiri B., NAPE Conference, Technical Paper 2019
10. Real Options Thinking and Decision Tree Analysis (DTA) in Asset Development: Case Study from a Multi-Reservoir Drilling Program Planning in the Cenozoic Niger Delta, Offshore Nigeria: *Diakparomre U.A., Ogiamien E. O., Morales D. C., **Akinpelu J. K.**, and Ali A. L.), NAPE Conference, Technical Paper 2020
11. Strategic Planning and Execution of a Multi-Scenario, Multi-Target Well: Inuen Example: Noble Tamunobereton-ari, **Jumoke. K. Akinpelu**, & Newton Samagbeyi, NAPE Conference, Technical Paper 2020
12. V-Shale Observations in Radioactive Shallow Marine Reservoir Sands and its Impact on Resource Assessment and Field Development . Olatunbosun A., Orupabo S., **Akinpelu J.**, Onyido C.,NAPE Conference, Technical Paper 2021
13. Value of Cost Effective and High Impact Data Acquisition Strategy- Learnings from Usari Graben Re-development; Orupabo S., Olatunbosun A., Kumapayi O., **Akinpelu J.**, Inwere I. NAPE Conference, Technical Paper 2021
14. Orji, M.K., Olatunbosun, A., Kumapayi, O., Abe, G., Inwere, I, Bassey, N., **Akinpelu, J.**, and Benson, E., 2023. Maximizing Well Construction Strategy for Combined Appraisal and Development in Stacked Reservoirs – A Case Study. Society of Petroleum Engineers. <https://doi.org/10.2118/221687-MS>

15. **Akinpelu, J & Mann., P, 2024.** Redefining the continent-ocean boundary beneath the distal Niger delta and expanding its deepwater, hydrocarbon play fairway based on the wider zone of continental rifts and syn-rift source rocks. Poster presentation, 2024 IMAGE Conference, Houston, Texas
16. **Akinpelu, J & Mann., P, 2024.** Expanding the play fairway of hydrocarbon systems based on syn-rift Cretaceous source rocks, western Niger Delta, offshore Nigeria. Oral presentation, Houston Geological Society Africa Conference, Houston, September 24-25, 2024.
17. **Akinpelu, J & Mann., P, 2025.** Continent-ocean transition beneath the Niger delta, West Africa and implications for its deepwater hydrocarbon potential. Poster presentation, 2025 IMAGE Conference, Houston, Texas.
18. **Akinpelu, J, 2025.** Integrating potential field and seismic reflection data for mapping basement structures beneath the Niger delta. Post conference workshop presentation. Session 3: New insights and methods of mega-regional basin modeling for predicting hydrocarbons. 2025 IMAGE Conference, Houston, Texas.