

# Folarin Kolawole, Ph.D.

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## **Current Position:**

Assistant Professor of Structural Geology, Columbia University, New York, U.S.

## **Areas of Expertise:**

Structural Geology, Tectonics, Geophysics, Rock Mechanics

## **Professional Appointments:**

|                                                                                |                   |
|--------------------------------------------------------------------------------|-------------------|
| <b>Assistant Professor of Structural Geology</b> , Columbia University         | 07/2022 - Present |
| <b>Adjunct Associate Research Scientist</b> , Lamont-Doherty Earth Observatory | 2021 - 2022       |
| <b>Upstream Structural Geologist</b> , BP America                              | 2020 - 2022       |
| <b>Structural Geology Intern</b> , BP America                                  | 2019 - 2019       |
| <b>Structural Geology Intern</b> , Chesapeake Energy                           | 2018 - 2018       |
| <b>Graduate Research &amp; Teaching Assistant</b> , University of Oklahoma     | 2017 - 2020       |
| <b>Graduate Teaching Assistant</b> , Oklahoma State University                 | 2015 - 2017       |
| <b>On-site QC seismologist</b> , BGP-CNPC, Nigeria                             | 2010 - 2014       |

## **Education:**

**Ph.D. in Geophysics** August 2020

University of Oklahoma

*Emphasis:* Structural Geology, Geomechanics, Geophysics

*Advisers:* Brett M. Carpenter and Ze'ev Reches

**M.S. in Geology** August 2017

Oklahoma State University

*Emphasis:* Active Tectonics, Near-Surface Geophysics

*Advisers:* Estella A. Atekwana and Mohamed Abdel Salam

**B.S. in Geology** October 2008

Federal University of Technology, Akure (F.U.T.A.), Nigeria

*Emphasis:* Structural Geology, Remote Sensing

*Adviser:* Yekini B. Anifowose

## **Teaching Experience**

|                                                                                                                            |                |
|----------------------------------------------------------------------------------------------------------------------------|----------------|
| Instructor: <i>Death Valley Field Excursion</i> (Columbia University)                                                      | 2024 - Present |
| Instructor: <i>Crustal Deformation</i> (Columbia University)                                                               | 2022 - present |
| Instructor: <i>Tutorial in Earth Science</i> (Columbia University)                                                         | Spring 2025    |
| Instructor: <i>Tutorial in Earth Science</i> (Columbia University)                                                         | Fall 2024      |
| Instructor: <i>Tutorial in Earth Science</i> (Columbia University)                                                         | Summer 2023    |
| Instructor: <i>Tutorial in Earth Science</i> (Columbia University)                                                         | Spring 2023    |
| Co-Instructor: <i>Death Valley Field Excursion</i> (Columbia University)                                                   | Spring 2023    |
| Instructor: <i>Tutorial in Earth Science</i> (Columbia University)                                                         | Fall 2022      |
| Teaching Assistant: <i>Structural Geology</i> (Univ. of Oklahoma)                                                          | 2019           |
| Field Teaching Assistant: <i>3-Day Field Trip on the Geology of Oklahoma for New Graduate Students</i> (Univ. of Oklahoma) | 2019           |

|                                                                                                         |      |
|---------------------------------------------------------------------------------------------------------|------|
| Teaching Assistant: <i>Structural Geology &amp; Stratigraphy for Engineers</i> ,<br>(Univ. of Oklahoma) | 2019 |
| Teaching Assistant: <i>Structural Geology</i> (Univ. of Oklahoma)                                       | 2018 |
| Teaching Assistant: <i>Geology &amp; Human Affairs</i> (Oklahoma State Univ.)                           | 2017 |
| Teaching Assistant: <i>Introduction to Geophysics</i> (Oklahoma State Univ.)                            | 2016 |
| Teaching Assistant: <i>Geology &amp; Human Affairs</i> (Oklahoma State Univ.)                           | 2015 |

## **Awards**

### ***Grant Awards (Funded): PI/Co-PI***

- 2024 – National Science Foundation RAPID Grant (NSF-2431983) (\$24,641) Co-PI: *Post-Seismic Survey of the April 5, 2024 Mw4.8 New Jersey Earthquake* (PI: Waldhauser)
- 2024 – Cascadia Region Earthquake Science Center (2017Y0SC) (\$30,991) PI: *Multi-resolution and -scale synthesis of Cascadia Earth Models* (Co-PI: Ajala)
- 2024 - Southern California Earthquake Center (SCEC #24021) (\$38,111), PI: *Slip Rates and the Deformation Field of the Northern Black Mountain Fault*
- 2024 - Southern California Earthquake Center (SCEC #24043) (\$31,464), PI: *3-D full waveform inversion of the Salton Seismic Imaging Project active source dataset* (Co-PI: Ajala)
- 2023 - Southern California Earthquake Center (SCEC #23178) (\$29,555), PI: *Active-Source Adjoint Tomographic Update of CVM-H 15.1 in Salton Trough* (Co-PI: Ajala)
- 2023 - Provost's Junior Faculty Grant, Columbia University (\$29,715), PI
- 2023 - Lenfest Junior Faculty Grant, Columbia University (\$11,516), PI
- 2018 - Geological Society of America (GSA) Student Research Grant (\$2,000), PI

### ***Grant Awards (Funded): Students & Postdocs***

2024 – AAPG Foundation Grants-in-Aid Award to student Sydney Maguire (\$3,000)  
 2024 – NSF Postdoctoral Fellowship Award to postdoc Rasheed Ajala (\$130,000)  
 2024 – CRESCENT seed grant Award to postdoc Rasheed Ajala (CR2024-01) (\$30,991)  
 2024 – SCEC seed grant Award to postdoc Rasheed Ajala (SCEC #24043) (\$31,464)

## **Professional Feature:**

**Science Magazine (AAAS) (Nov. 7, 2024): *Africa's Breaking Heart*:** A *Science* article feature that was dedicated to my research on continental rift initiation, detailing my journey as a geoscientist and my vision as an emerging leader in the field.

## ***Fellowships & Other Awards:***

- Chris J. Cheatwood Geology & Geophysics Graduate Scholarship Award, University of Oklahoma (August 2018)
- Decker Dawson Graduate Fellowship in Geophysics, Oklahoma State University (August 2016)
- Skinner Geology Graduate Fellowship, Oklahoma State University (August 2015)
- 2<sup>nd</sup> Place Best Poster Presentation at the ConocoPhillips Research Symposium, University of Oklahoma (April 2019)
- 1<sup>st</sup> Place Best Poster Presentation at the 2019 AAPG Spring-Break Student Expo (March 2019)
- 2018 Ben Hare Excellence in Research Award, School of Geosciences, University of Oklahoma (May 2018)
- 3<sup>rd</sup> Place Best Poster Presentation, the 2018 AAPG Spring-Break Student Expo (March 2018)

- 1st Place Best Student Oral Presentation at Eastern Section Seismological Society of America Annual Meeting (October 2017)
- Best Poster Presentation, AAPG-ConocoPhillips TechFest 2017 Conference, Oklahoma State University (March 2017)

### **Media Coverage/Mentions:**

**Science Magazine** (AAAS) Logbook Feature (Nov. 7, 2024): *Hunting for rifts. And grants. And family time*

**News12** TV Interview with Edric Robinson (12 Oct 2024): New study sheds light on April earthquake felt in NYC

**Bergen Record** newspaper profile (April 19, 2024): Geologists from Columbia University gather data after NJ earthquake

**Bergen Record** newspaper profile (April 19, 2024): How NJ earthquake shook local geologists into fervent action

**NBC4 New York** TV interview with Gus Rosendale (April 6, 2024): Magnitude 4.8 earthquake shakes tri-state

**The New York Times** newspaper mention (April 5, 2024): Friday's earthquake brings attention to the region's fault lines

**LiveNOW from FOX** TV interview with Josh Breslow (April 6, 2024): NJ earthquake: More aftershocks possible

**News Nation** TV interview with Hena Doba (April 5, 2024): How Rare are Earthquakes in the Northeast?

**The Daily Beast** newspaper mention (April 5, 2024): Does the East Coast Earthquake Mean the Big One Is Coming?

**Parsing Science Podcast** interview (December 12, 2017): Fault Reactivation and Earthquakes.

**Sequent News & Update** feature (November 15, 2018): Finding Faults: Improving Human Safety in Earthquake-Prone Areas.

**Sequent News & Update** feature (June 19, 2018): Aeromagnetic data helps to assess earthquake potential.

**OSU College of Arts & Sciences News** feature (June 8, 2017): OSU researcher authors paper exploring Pawnee quake damage.

### **Postdocs and Students**

#### **Columbia University:**

##### ***Postdocs:***

- Leonard Ohenhen: Lamont Postdoc Fellow (Fall 2024 - present)
- Rasheed Ajala: NSF Postdoc Fellow (Fall 2024 - present), Lamont Postdoc Fellow (2022 - 2024)

##### ***PhD Students:***

- Andry Ramarolahy (Fall 2024 - present)
- Meritxell Colet (Fall 2023 - present)
- Christian Rowan (Fall 2022 - present)

##### ***Undergraduate Students:***

- Mia Caitlyn Yiannias (Fall 2024 – present)
- Alexis Mitchel (Fall 2024 – present)
- Lela Kornfeld (Spring 2023 – present)

#### *Alumni:*

- Cameron Grant (Undergrad., Fall 2022 – Spring 2024): Completed BSc. Thesis; now at Colorado School of Mines
- Zachary Foster-Baril (Jan. 2024 – Feb. 2025)
- Sydney Maguire (Grad., Fall 2023 – Spring 2024)
- Eva Sherman (Undergrad., Fall 2023 research intern)
- Macy Matthews (Undergrad., 2023 summer intern)
- Farhan Tanvir (Undergrad., 2023 summer intern)
- Sarah Hisham Alsharif (Undergrad., 2023 summer intern)
- Lawson Goodloe (Undergrad., Fall 2022 research intern)

#### *Non-Columbia Univ. Students (last engagement/degree of pursuit at the time/institution):*

- Jean-Joel Legre (current – PhD/Rochester University, NY)
- Debbie Mfa (current – MS/BIUST, Botswana)
- Boniface Kgosidintsi (current – MS/BIUST, Botswana)
- Krista Watson (Summer 2023, REU - Undergrad/Gateway Community College, CT)
- Patrick Boston (Summer 2023, Undergrad/Midwestern State University, TX)
- Leonard Ohenhen (2022 – MS/University of Delaware, DE)
- Oyewande Ojo (2022 – PhD/Oklahoma State University, OK)
- Hardy Nkodia (2022- PhD/Marien Ngouabi University, Dem. Rep. Congo)
- Roberto Clairmont (2020 – MS/University of Oklahoma, OK)
- Brandon Chase (2020 – MS/Oklahoma State University, OK)
- Max Firkins (2020 – MS/University of Oklahoma, OK)
- Oladoyin Kolawole (2020 – PhD/Texas Tech., TX)
- Thuwaiba Al Wahaibi (2019 – Undergrad/University of Oklahoma, OK)
- Erin Heilman (2018 – Undergrad/Oklahoma State University, OK)

#### **Journal Publications**

***In Review:*** <sup>‡</sup>Undergraduate student, <sup>†</sup>PhD student, or <sup>\*</sup>Postdoc in my lab group; <sup>\*</sup>equal contribution (or corresponding author)

7. Katumwehe, A., <sup>\*</sup>**Kolawole, F.**, Atekwana, E.A., Mickus, K., Ngalamo, J.F.G., Stamps, D.S., Evans, R.L., Atekwana, E.A., Taylor, M.H., Njinju, E.A., van der Lee, S., Kiberu, J.M., Babirye, P., Tugume, F. (2025). Heat Flow Distribution and Geothermal Domains of the Edward-George and Albertine-Rhino Rift Zones, Western Uganda. *Submitted to Geophysical Journal International*.
6. Katumwehe, A., Atekwana, E., Mickus, K., Ngalamo, J.F.G., **Kolawole, F.** (2025). Crustal Structure of the Propagating Tip of the Western Branch of the East African Rift in the Albertine Graben, Uganda. *Submitted to Geophysical Journal International*.
5. Njinju, E.A., <sup>\*</sup>**Kolawole, F.**, Atekwana, E.A., Atekwana, E.A., Stamps, D.S., van der Lee, S., Evans, R.L., Taylor, M.H., Katumwehe, A.B., <sup>\*</sup>Ajala, R. (2025). Low-Density Perturbations in the Crust Indicate Potential for Blind Magmatism Beneath Magma-poor Rifts. *Submitted to Tectonophysics*.
4. <sup>†</sup>Colet, M., **Kolawole, F.**, <sup>\*</sup>Ajala, R., Delvaux, D., Nkodia, H.M.D. (2025). Redefining the Nubian-Victoria plate boundary in East Africa: Incipient Reactivation of Failed Rifts and Initiation of a Microplate in D. R. Congo. *In review, Tectonics*. Authorea preprint DOI: 10.22541/essoar.173687319.95662295/v1.
3. Kgosidintsi, B., <sup>\*</sup>**Kolawole, F.**, Nthaba, B., <sup>\*</sup>Foster-Baril, Z., Shemang, E. (2025). Incipient Rifting of the Kalahari Craton: Reactivation of Mesozoic Failed Rifts in Southern Africa's

Cratonic Interior. *In review*, *Tectonics*. Authorea preprint DOI: 10.22541/essoar.173724396.63149470/v1.

2. \*Ajala, R., **Kolawole, F.**, Legre, J-J., Olugboji, T., van Herwaarden, D-P., Fichtner, A. (2025). Multiscale comparison of early-stage lithospheric deformation styles in magma-poor and magma-rich divergent plate boundaries. *Submitted to*, *Earth & Planetary Science Letters*. Authorea preprint DOI: 10.22541/au.173627299.94095848/v1.
1. **Kolawole, F.**, \*Foster-Baril, Z., Seeber, L., Tielke, J., Prakash, A., <sup>†</sup>Colet, M., Beaucé, E., Kim, W.Y., \*Ajala, R., McCarthy, C., F. Waldhauser, F. (2025). The 2024 Mw4.8 New Jersey Intraplate Earthquake: Preferential Rupture of an Immature Rough Fault in Frictionally Unstable Basement Rocks. *In review*, *Geophysical Research Letters*. Authorea preprint DOI: 10.22541/au.173204170.01301789/v1.

**Published (Peer-Reviewed):** <sup>‡</sup>Undergraduate student, <sup>†</sup>PhD student, \*Postdoc in my lab group; \*equal contribution (or corresponding author)

47. Beaucé, E., Waldhauser, F., Schaff, D., Kim, W.Y., **Kolawole, F.** (2025). The 2024 Tewksbury, New Jersey seismic sequence revealed by local seismic networks and machine-learning-enhanced detection techniques. *Accepted*, *Geophysical Research Letters*. DOI: 10.22541/au.173956793.37866560/v1.
46. **Kolawole, F.**, Xue, L., Dulanya, Z. (2024). Rapid Versus Delayed Linkage and Coalescence of Propagating Rift Tips. *Accepted, in press*, *AGU Books: Extensional Tectonics: Continental Breakup to Formation of Oceanic Basins*. Preprint DOI: 10.22541/essoar.168167202.29986035/v2.
45. Njinju, E.A., **Kolawole, F.**, Stamps, S.D., Atekwana, E.A., Ghomsi, F.E.K., Atekwana, E.A. (2024). Intrarift fault interactions: Insights from coseismic stress redistribution from large seismogenic segment ruptures, Northern Malawi Rift. *Journal of Structural Geology*, v.191, 105326.
44. Mfa, D., **\*Kolawole, F.**, Kgosidintsi, B., \*Ajala, R., Shemang, E. (2024). Long-Lived Seismic Instability of a Large Intraplate Brittle Shear Zone Revealed by Distributed Slip Zones and Paleoseismic Frictional Melt, Eastern Botswana. *Journal of Structural Geology*, v.191, 105324.
43. Dulanya, Z., **\*Kolawole, F.**, Gallen, S.F., Williams, J.N. (2024). On the Timescales of Border Fault Growth: Pleistocene Slip Acceleration and Lateral Border Fault Propagation in the Lower Shire Graben, East Africa. *Tectonics*, 43(9), p.e2023TC008232.
42. <sup>‡</sup>Grant, C., **Kolawole, F.**, Williams, J. (2024). Evolution of Incipient Rift Faulting in Magma-Poor Divergent Plate Boundaries: New Insights from the Incipient Okavango-Makgadikgadi Rift Zone, Botswana. *Earth and Planetary Science Letters*, 646, 118957.
41. Xue, L., Moucha, R., **Kolawole, F.**, Muirhead, J. D., Scholz, C. A. (2024). The influence of the strength of pre-existing crustal-scale weak zones on rift geometry and strain localization. *Tectonophysics*, 890, 230472.
40. **Kolawole, F.**, \*Ajala, R. (2024). Propagating rifts: the roles of crustal damage and ascending mantle fluids, *EGU-Solid Earth*, 15, 747–762. Doi: 10.5194/se-15-747-2024.
39. Legre, J-J., Olugboji, T., Qin, Y., **Kolawole, F.** (2024). The Intraplate Stress Field of West Africa. *Geophysical Research Letters*, 51, e2023GL107614. Doi: 10.1029/2023GL107614.
38. \*Ajala, R., **Kolawole, F.**, Menke, B. (2024). Blind magmatism abets nonvolcanic continental rifting. *Nature Communications Earth & Environment*, 5(80). Doi: 10.1038/s43247-024-01244-7.

37. Li, P., Nakata, N., **Kolawole, F.**, Carpenter, B.M. (2023). Towards the Usage of Quarry Blasts as an Active Seismic Source for Subsurface Characterization and Imaging. *Geophysical Journal International*, 235(3), pp.2916-2926.
36. **Kolawole, F.**, Evenick, C. (2023). Global Distribution of Geothermal Gradients in Sedimentary Basins. *Geoscience Frontiers*, 14. Doi: 10.1016/j.gsf.2023.101685.
35. Shaban, S., **Kolawole, F.**, Scholz, C.A., (2023). The Deep Basin and Underlying Basement Structure of the Tanganyika Rift. *Tectonics*, 42, e2022TC007726. Doi: 10.1029/2022TC007726.
34. Ohenhen, L.O., Mayle, M., **Kolawole, F.**, Ismail, A., Atekwana, E.A. (2023). Exploring for Groundwater in Sub-Saharan Africa: Insights from Integrated Geophysical Characterization of Weathered Basement Aquifer System, Central Malawi. *Journal of Hydrology: Regional Studies*, 47 (101433).
33. Brune, S., **Kolawole, F.**, Olive, J-A., Stamps, D.S., Buck, R.W., Buiter, S.J.H., Furman, T., Shillington, D.J. (2023). Geodynamics of continental rift initiation and evolution. *Nature Reviews Earth & Environment*, 4(4), pp.235-253. Doi: 10.1038/s43017-023-00391-3.
32. Chisenga, S., **Kolawole, F.**, Atekwana, E.A., Yan, J., Rajaonarison, T., Shemang, E.M. (2023). Localization of Large Intraplate Earthquakes along Faulted Density-Contrast Boundaries: Insights from the 2017 Mw6.5 Botswana Earthquake. *Journal of African Earth Sciences*, 197, 104752. Doi: 10.1016/j.jafrearsci.2022.104752.
31. Williams, J.N., Wedmore, L.N.J., Fagereng, A., Werner, M.J., Mdala, H., Shillington, D., Scholz, C.A., **Kolawole, F.**, Wright, L.J.M., Biggs, J., Dulanya, Z., Mphepo, F., Chindandali, P.R.N. (2022). Geologic and geodetic constraints on the seismic hazard of Malawi's active faults: The Malawi Seismogenic Source Database (MSSD). *Natural Hazards and Earth System Sciences*, 22, 3607–3639.
30. Nkodia, H.M.D., Miyouna, T., **Kolawole, F.**, Boudzoumou, F., Loemba, A.P.R., Bazebizanza, N.C.T., Delvaux D. (2022). Seismogenic Fault Reactivation in Western Central Africa: Insights from Regional Stress Analyses. *Geochemistry, Geophysics, Geosystems*, 23 (11), e2022GC010377.
29. **Kolawole, F.**, Vick, T., Atekwana, E.A., Laó-Dávila, D.A., Costa, A.G., and Carpenter, B.M. (2022). Strain Localization and Migration During the Pulsed Lateral Propagation of the Shire Rift Zone, East Africa. *Tectonophysics*, 839, 229499. doi: 10.1016/j.tecto.2022.229499.
28. Dulanya, Z., Gallen, S.F., **Kolawole, F.**, Williams, J.N., Wedmore, L.N.J., Biggs, J., Fagereng, Å (2022). Knickpoint Morphotectonics of the Middle Shire River Basin: Implications for the Evolution of Rift Interaction Zones. *Basin Research*. doi: 10.1111/bre.12687.
27. Chase, B.F., **Kolawole, F.**, Atekwana, E.A., Carpenter, B.M., Turko, M., Abdelsalam, M.G., and Finn, C. (2022). The 180 km-Long Meers-Willow Fault System in the Southern Oklahoma Aulacogen: A Potential US Mid-Continent Seismic Hazard. *GSA Bulletin*, 135(3-4), pp.663-677.
26. Williams, J.N., Wedmore, L.N.J., Scholz, C.A., **Kolawole, F.**, Wright, L.J.M., Shillington, D., Fagereng, A., Biggs, J., Mdala, H., Dulanya, Z., Mphepo, F., Chindandali, P.R.N., Werner, M.J. (2022). The Malawi Active Fault Database: an onshore-offshore database for regional assessment of seismic hazard and tectonic evolution. *Geochemistry, Geophysics, Geosystems*, 23, e2022GC010425. doi: 10.1029/2022GC010425 (Open access).
25. Ojo, O.O., Ohenhen, L., **Kolawole, F.**, Johnson, S.G., Chindandali, P.R., Atekwana, E.A., Laó-Dávila, D.A. (2022). Under-Displaced Normal Faults: Strain Accommodation along an

Early-Stage Rift-Bounding Fault in the Southern Malawi Rift. *Frontiers in Earth Science*. v. 10. doi: 10.3389/feart.2022.846389 (Open access).

24. Olugboji, T.M., Shirzaei, M., Lu, Y., Adepelumi, A.A., and **Kolawole, F.** (2021) On the Origin of Orphan Tremors & Intraplate Seismicity in Western Africa. *Frontiers in Earth Science*. doi: 10.3389/feart.2021.716630
23. **Kolawole F.**, Firkins, M.C., Al Wahaibi, T.S., Atekwana, E.A., Soreghan, M.J. (2021). Rift interaction zones and the stages of rift linkage in active segmented continental rift systems. *Basin Research*. doi: 10.1111/bre.12592.
22. **Kolawole F.**, Phillips, T.B., Atekwana, E.A., Jackson, C.A-L. (2021). Structural Inheritance Controls Strain Distribution During Early Continental Rifting, Rukwa Rift. *Frontiers in Earth Science*. doi:10.3389/feart.2021.707869.
21. Hamilton, M., Carpenter, B.M., Johnston, C.S., **Kolawole, F.**, Evans, S.C. and Elmore, R.D. (2021). Fractured, altered, and faulted basement in northeastern Oklahoma: Implications for induced seismicity. *Journal of Structural Geology*, p.104330. doi:10.1016/j.jsg.2021.104330.
20. Kolawole O., Ispas I., **Kolawole F.**, Gernay C., McLennan J.D. (2021). Mechanical zonation of rock properties and the development of fluid migration pathways: implications for enhanced geothermal systems in sedimentary-hosted geothermal reservoirs. *Geothermal Energy*, doi:10.1186/s40517-021-00195-y.
19. Patel, S., **Kolawole, F.**, Walter, J.I., Chen, X., and Marfurt, K.J. (2020). Seismic illumination of small-throw seismogenic faults, Anadarko Basin, Oklahoma. *Interpretation*, vol. 9, no. 2; p. SE35–SE51, doi:10.1190/INT-2020-0135.1.
18. Firkins, M., **Kolawole, F.**, Marfurt, K.J., and Carpenter, B.M. (2020). Attribute-assisted characterization of basement faulting and the associated sedimentary sequence deformation in north-central Oklahoma. *Interpretation*, 8(4), SP175-SP189, doi:10.1190/INT-2020-0053.1.
17. Clairmont, R., **Kolawole, F.**, Omale, A.P., and Bedle, H. (2020). Controls of pre-existing structures on clinoform architecture and the associated progradational system elements. *Basin Research*, 00, 1– 28, doi:10.1111/bre.12487.
16. **Kolawole, F.**, Carpenter, B.M., and Simpson-Turko, M. (2020) Basement-controlled deformation of sedimentary sequences, Anadarko Shelf, Oklahoma. *Basin Research*, 32, 1365– 1387, doi:10.1111/bre.12433.
15. Qin, Y., Chen, X., Walter, J.I., Haffener, J., Trugman, D.T., Carpenter, B.M., Weingarten, M., and **Kolawole, F.** (2019) Deciphering the stress state of seismogenic faults in Oklahoma and southern Kansas based on an improved stress map. *Journal of Geophysical Research: Solid Earth*, 124, 12920– 12934, doi:10.1029/2019JB018377.
14. Njinju, E. A., Atekwana, E. A., Stamps, D. S., Abdelsalam, M. G., Atekwana, E. A., Mickus, K. L., Fishwick, S., **Kolawole, F.**, Rajaonarison, T. A., and Nyalugwe, V. N. (2019). Lithospheric structure of the Malawi Rift: Implications for magma-poor rifting processes. *Tectonics*, 38, doi: 10.1029/2019TC005549.
13. **Kolawole, F.**, Johnston, C.S., Morgan, C.B., Chang, J.C., Marfurt, K.J., Lockner, D.A., Reches, Z., and Carpenter, B.M. (2019) The susceptibility of Oklahoma's basement to seismic reactivation. *Nature Geoscience*, 12(10), 839-844, doi: 10.1038/s41561-019-0440-5.
12. Njinju, E. A., **Kolawole, F.**, Atekwana, E.A., Stamps, D.S., Atekwana, E.A., Abdelsalam, M.G., Mickus, K.L. (2019). Terrestrial heat flow in the Malawi Rifted Zone, East Africa:

Implications for tectono-thermal inheritance in continental rift basins. *Journal of Volcanology and Geothermal Research*, 387, 106656, doi:10.1016/j.jvolgeores.2019.07.023.

11. Heilman, E., \***Kolawole, F.**, Atekwana, E.A. and Mayle, M. (2019). Controls of basement fabric on the linkage of rift segments. *Tectonics*, 38(4), 1337-1366, doi:10.1029/2018TC005362.
10. Qin, Y., Chen, X., Carpenter, B.M., and **Kolawole, F.** (2018). Coulomb stress transfer influences fault reactivation in areas of wastewater injection. *Geophysical Research Letters*, doi:10.1029/2018GL079713.
9. **Kolawole, F.**, Atekwana, E.A., Laó-Dávila, D.A., Abdel Salam, M.G., Chindandali, P.R., Salima, J., and Kalindekafe, L. (2018). Active deformation of Malawi rift's north basin Hinge zone modulated by reactivation of pre-existing Precambrian Shear zone fabric. *Tectonics*, 37(3), 683-704, doi:10.1002/2017TC004628.
8. **Kolawole, F.**, Atekwana, E.A., Laó-Dávila, D.A., Abdel Salam, M.G., Chindandali, P.R., Salima, J., and Kalindekafe, L. (2018). High-resolution electrical resistivity and aeromagnetic imaging reveal the causative fault of the 2009 M w 6.0 Karonga, Malawi earthquake. *Geophysical Journal International*, 213(2), 1412-1425, doi:10.1093/gji/ggy066.
7. **Kolawole, F.**, Atekwana, E.A., Malloy, S., Stamps, D.S., Grandin, R., Abdel Salam, M.G., Leseane, K. and Shemang, E.M. (2017). Aeromagnetic, gravity, and Differential Interferometric Synthetic Aperture Radar analyses reveal the causative fault of the 3 April 2017 Mw 6.5 Moiyabana, Botswana, earthquake. *Geophysical Research Letters*, 44(17), pp.8837-8846, doi:10.1002/2017GL074620.
6. **Kolawole, F.**, Atekwana, E.A., and Ismail, A. (2017). Near-surface electrical resistivity investigation of coseismic liquefaction-induced ground deformation associated with the 2016 Mw 5.8 Pawnee, Oklahoma, earthquake. *Seismological Research Letters*, 88(4), 1017-1023, doi:10.1785/0220170004.
5. Anifowose, A.Y.B., and \***Kolawole, F.** (2014). Appraisal of the geotourism potentials of the Idanre Hills, Nigeria. *Geoheritage*, 6(3), 193-203, doi:10.1007/s12371-014-0100-5.
4. Anifowose, A.Y.B., and \***Kolawole, F.** (2012). Emplacement Tectonics of Idanre Batholith, West Africa. *Comunicação Geológicas*, 99(2).
3. Anifowose, A.Y.B., and \***Kolawole, F.** (2012). Tectono-hydrological study of Akure metropolis, Southwestern Nigeria. *Special Publication of the Nigerian Association of Hydrological Sciences*, 106-120.
2. **Kolawole, F.**, and Anifowose, A.Y.B. (2011). Talus caves: Geotourist attractions formed by spheroidal and exfoliation weathering on Akure-Ado Inselbergs, Southwestern Nigeria. *Ethiopian Journal of Environmental Studies and Management*, 4(3), 1-6, doi:10.4314/ejesm.v4i3.1.
1. **Kolawole, F.**, and Anifowose, A.Y.B. (2011). Remote sensing analysis of a dextral discontinuity along Ifewara-Zungeru area, Nigeria, West Africa. *Indian Journal of Science and Technology*, 4(1), 46-51.

**Others:** Thesis, Conference Extended Abstracts, and Magazine Articles

7. **Kolawole, F.**, Evenick, J.C. (2024). Data Supporting Global Distribution of Geothermal Gradients in Sedimentary Basins. Zenodo. url: <https://zenodo.org/records/11258453>

6. **Kolawole, F.** (2020). The Roles of Structural Inheritance in Regions of Induced Seismicity and Active Tectonics. *PhD Dissertation, University of Oklahoma.*
5. **Kolawole, F.,** Carpenter, B.M., and Turko Simpson, M. (2019) The Intra-Basement Reflectors in the STACK Area of Oklahoma: What are they really? *AAPG Explorer, April 2019.*
4. Chopra, S., Marfurt, K.J., **Kolawole, F.,** and Carpenter B.M. (2018). Nemaha strike-slip fault expressions on 3D seismic data in the SCOOP trend of Oklahoma. *AAPG Explorer, June 2018.*
3. Atekwana, E.A., **Kolawole, F.,** Ismail, A., and Harding, J.K. (2017). Assessing earthquake rupture zones: An integrated Electrical and Aeromagnetic Approach. In International Conference on Engineering Geophysics, Al Ain, United Arab Emirates, 9-12 October 2017, *Society of Exploration Geophysicists (SEG).*
2. **Kolawole, F.** (2017). Mw 6.0 Karonga, Malawi Earthquake Occurred on Cenozoic Faults That Reactivated Precambrian Shear Zone: Evidence from Aeromagnetic and Electrical Resistivity Imaging. *MSc Thesis, Oklahoma State University.*
1. **Kolawole, F.** (2008). Brittle Deformation of a Basement Massif in southwest Nigeria, Idanre Batholith. *BSc Thesis, Federal University of Technology, Akure, Nigeria.*

### **Invited Lectures**

---- 2025----

**10/15/2025** – University of South Hampton, UK

**04/17/2025** – 2025 Seismological Society of America (SSA) Annual Meeting, Baltimore, session “Earthquakes, Lithospheric Structure, and Dynamics in Stable Continental Region”

**02/20/2025** – University of Pittsburg, Pennsylvania

---- 2024----

**09/23/2024** – GSA Annual Conference, Anaheim, CA

**09/13/2024** – Science Research Fellows Meeting, Columbia University, NY

**09/10/2024** – Statewide California Earthquake Center (SCEC)

**08/06/2024** – Gordon Research Conference on Rock Deformation, Maine

**07/8/2024** – University of Dar es Salaam, Tanzania

**06/26/2024** – 2024 Structural Geology and Tectonics Forum, Bellingham, Washington

**05/14/2024** – Botswana International University of Science & Technology, Botswana

**04/26/2024** – Binghamton University, New York

---- 2023----

**12/12/2023** - AGU Fall Meeting 2023, San Francisco

**11/09/2023** - University of Washington, Seattle

**07/25/2023** - Southern East Africa Rift System Workshop, Blantyre, Malawi

**04/12/2023** - CU R&D: Research and Diversity at Columbia University

**03/31/2023** - McGill University, Canada

---- 2022----

**10/06/2022** - New Mexico Tech.

**09/29/2022** - Syracuse University

**09/23/2022** - University of Massachusetts at Amherst

**08/07/2022** - Gordon Research Seminar (GRS): Invited panelist

**05/26/2022** - PEMEX Mexico  
**05/11/2022** - AAPG Petroleum Structure and Geomechanics Division  
**04/08/2022** - Geological Survey of Brazil  
**02/25/2022** - Georgia Tech.  
**02/08/2022** - Dallas Geological Society (DGS)

---- 2021 ----

**12/13/2021** - AGU Fall Meeting, Session T001 "Advances in our understanding of magma-poor and magma-rich rifting processes"  
**11/19/2021** - Tulane University  
**10/11/2021** - GSA Annual Meeting (Connects 2021)  
**09/16/2021** - University of Alaska Anchorage  
**06/30/2021** - United States Geological Survey, California  
**06/09/2021** - NSF/GeoPRISMS Rift2Ridge Margins Workshop  
**05/11/2021** - Ruhr-Universität Bochum, Germany  
**04/02/2021** - Virginia Tech.  
**03/11/2021** - University of Texas at Austin  
**03/09/2021** - University of St. Andrews, U.K.  
**03/09/2021** - Arizona State University  
**03/03/2021** - University of Oklahoma  
**03/01/2021** - Columbia University  
**02/24/2021** - University of Cambridge, U.K.  
**02/10/2021** - University of California, Davis (UC Davis)  
**01/25/2021** - Utah State University (USU)

---- 2020 ----

**12/17/2020** - AGU Fall Meeting, PPEM Session MR028  
**11/02/2020** - Rifted Margin Webinars, GFZ Potsdam

### **Academic Service**

**NSF Grant Review Panelist**

Fall 2024

### ***Journal Editing:***

- |                                                                                                                                                        |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <ul style="list-style-type: none"> <li>• <b>Associate Editor</b><br/>Geochemistry, Geophysics, Geosystems (AGU journal)</li> </ul>                     | 2021 - Current |
| <ul style="list-style-type: none"> <li>• <b>Associate Editor</b><br/>The Journal of Geology</li> </ul>                                                 | 2024 - Current |
| <ul style="list-style-type: none"> <li>• <b>Associate Editor</b><br/>Frontiers in Earth Science - <i>Structural Geology &amp; Tectonics</i></li> </ul> | 2022 - 2024    |
| <ul style="list-style-type: none"> <li>• <b>Editorial Board Member</b><br/>ES<sup>3</sup> (The Geological Society of London Journal)</li> </ul>        | 2020 - 2023    |

### ***Journal Reviewing:***

- Science
- Tectonics
- Earth and Planetary Physics
- EGU Solid Earth
- Journal of African Earth Sciences
- Tectonophysics

- Basin Research
- Italian Journal of Geosciences

### ***Community Leadership Roles via Scientific Meeting Convening:***

- *Convener*, AGU 2022 session T010: From Rift to Ridge: The Roles of Faulting, Fluids, Surface Processes, and Tectonic Inheritance
- *Co-Convener*, AGU 2021 session T023: Recent Advances and Future Directions in Studying the Geology and Tectonics of Africa
- *Co-Convener*, AGU 2020 session T028: Recent Advances and Future Directions in Studying the Tectonics and Geodynamics of Africa
- *Co-Convener*, GSA 2020 session T21: The Geology of Induced Seismicity
- *Organizing Committee*, GFZ Rifts and Rifted Margins Seminar 2021 - Present
- *Coordinating committee*, EGU TS-Must Read Papers 2020 - 2020
- *Outdoor Trip Coordinator*, AAPG OSU Student Chapter 2016 – 2017

### **Scientific Community Memberships**

*Member*, American Geophysical Union (AGU)

*Member*, Geological Society of America (GSA)

### **Conference Abstracts & Presentations (last 3 yrs):** *\*Postdoc, <sup>†</sup>PhD student, <sup>‡</sup>Undergraduate student in my lab group.*

-----2024-----

<sup>‡</sup>Colet, M., **Kolawole, F.** (2024). Incipient Reactivation of Failed Rifts and Initiation of a Microplate in Eastern DRC: A Widening East African Rift System? *AGU24* abstract #V51E-3116.

**Kolawole, F.**, \*Foster-Baril, Z., Seeber, L., Tielke, J.A., Prakash, A., <sup>‡</sup>Colet, M., Beaucé, E., Kim, W.Y., \*Ajala, R., McCarthy, C. and Waldhauser, F. (2024). The 2024 M4.8 New Jersey Earthquake: Reactivation of a Rough Immature Fault in Frictionally Unstable Basement Rocks. *AGU24* abstract #T53B-3216.

Beaucé, E., Waldhauser, F., Schaff, D., Kim, W.Y., **Kolawole, F.** (2024). The 2024 Tewksbury, New Jersey seismic sequence revealed by machine-learning and cross-correlation detection techniques. *AGU24* abstract #T43A-3289.

\*Ajala, R., **Kolawole, F.**, and Lekic, V. (2024). Gradient-Based Transdimensional Inversion of Plane Wave Records. *AGU24* abstract #S41E-3350.

\*Ajala, R., **Kolawole, F.**, Legre, J.J., Olugboji, T.M., van Herwaarden, D.P. and Fichtner, A. (2024). Lithosphere-Asthenosphere Boundary Variability in the Magma-Poor Branch of the East African Rift. *AGU24* abstract #T22A-07.

\*Foster-Baril, Z., Stockli, D.F., **Kolawole, F.**, Olsen, P.E. and Fildani, A. (2024). Post-necking phase reactivation of the proximal domain, Fundy Basin, Canada. *AGU24* abstract #T24B-04.

Sharman, E., Henke, Z., \*Ajala, R., **Kolawole, F.**, and van der Lee, S. (2024). Replicability of SKS-wave Splitting in Three Decades of High-quality Broadband Seismic Data. *AGU24* abstract #D123B-3184.

Legre, J.J., Qin, Y., **Kolawole, F.**, and Olugboji, T. (2024). The intraplate stress field of West Africa. *AGU24* abstract #T43A-3294.

Okoko, G., Terry, O., **Kolawole, F.**, Kelly, S., Schmitt, D.R. and Goldberg, D. (2024). Integrating Fracture Networks, NMR Porosity, and Ultrasonic Phase Velocity Measurements for Enhanced Carbon Storage in Preakness Basalts. *AGU24* abstract #GC51A-05.

Kruger, I., Tielke, J.A., **Kolawole, F.**, Prakash, A., McCarthy, C., and Jansen, R. (2024). Frictional Properties of Simulated Fault Gouge from the Ramapo Seismic Zone, NY/NJ. AGU24 abstract #MR33B-3032.

Kabanda, A., van der Lee, S., Stamps, D.S., Atekwana, E.A., Nyago, J., Tugume, F., Kabenge, L., Babiye, G.P., Fishwick, S., **Kolawole, F.**, and Evans, R.L. (2024). Crustal Structure Around the Northern Western Branch of the East African Rift System from Receiver Function Analysis. AGU24 abstract #T22A-05.

Njinju, E.A., Atekwana, E.A., Atekwana, E.A., Stamps, D.S., van der Lee, S., Evans, R.L., Taylor, M.H., Katumwehe, A.B., **Kolawole, F.**, and Ajala, R.\* (2024). Low-Density Perturbations in the Crust Indicate Potential for Blind Magmatism Beneath Magma-poor Rifts. AGU24 abstract #T33C-3225.

Abbey, O., Katumwehe, A.B., Atekwana, E.A., Stamps, D.S., Scholz, C.A., **Kolawole, F.**, van der Lee, S., Evans, R.L., Taylor, M.H., Atekwana, E.A. and Mwongyera, H., Temporal Evolution of Rift Faulting in the Non-Volcanic Southern Albertine Graben, Uganda. AGU24 abstract #V54A-03.

-----2023-----

**Kolawole, F.**, \*Ajala, R., Van Wijk, J. (2023). Lateral Rift Propagation: A Top-Down or Bottom-Up Process? AGU Fall Meeting abstract #T11A-01.

‡Watson, K., **Kolawole, F.** (2023). Incipient Tectonic Reactivation of a 'Failed' Rift, Luama Basin, DRC. AGU Fall Meeting abstract #T13C-0231.

\*Ajala, R., **Kolawole, F.**, van Herwaarden, D., Fichtner, A. (2023). Upper Mantle Heterogeneity Along-Axis of the Amagmatic East African Rift's Western Branch. AGU Fall Meeting abstract #T13C-0235.

‡Grant, C., **Kolawole, F.**, Williams, J. (2023). Evolution of Continental Rift Faulting: New Insights from the Incipient Okavango-Makgadikgadi Rift Zone, Botswana. AGU Fall Meeting abstract #T13C-0230.

†Rowan, C.M., Becel, A., **Kolawole, F.** (2023). Strain Migration and Localization in an Active Continental Rift: A Case Study from the Magma-rich Turkana Rift Zone, Kenya. AGU Fall Meeting abstract #T13C-0239.

†Le, H., **Kolawole, F.**, Key, K., Mayle, M., Atekwana, E.A., Evans, R.L. (2023). Minimal Downward Saline Fluid Migration Near the Largest Injection-Induced Earthquake, Oklahoma. AGU Fall Meeting abstract #H51Q-1319.

Tielke, J.A., Verdecchia, A., Pederson, C., McCarthy, C., **Kolawole, F.** (2023). Frictional behavior of hydrothermally-altered gouges: implications for fault stability of geothermal carbonate reservoirs. AGU Fall Meeting abstract #MR53B-0046.

Mwongyera, H., Taylor, M.H., Mongovin, D., Stamps, S.D., Atekwana, E.A., Atekwana, E.A., **Kolawole, F.** et al. (2023). Magnitude and Rate of Rift Flank Uplift Along the Nkusi River, Albertine Rift, Uganda. AGU Fall Meeting abstract #T13C-0232.

-----2022-----

**Kolawole, F.**, Xue, L., Dulanya, Z. Early Versus Delayed Coalescence of Propagating Rifts: The Role of Rift Interaction Zone Geometry. AGU Fall Meeting abstract #T12C-0091.

\*Ajala, R., **Kolawole, F.**, Menke, W.H. Crustal Shear Wave Splitting Patterns in the southern Tanganyika-Rukwa Rift Zone, East Africa. AGU Fall Meeting abstract #T12C-0089.

Boston, P.B., **Kolawole, F.**, Katumwehe, A.B., Kiberu, J.M., Atekwana, E.A. (2022). Coupling of Displacement and Basement Damage Distribution Across a Border Fault Relay Zone, Toro-Bunyoro Fault, Albertine Rift. *AGU Fall Meeting abstract #T15A-02*.

Njinju, E.A., Atekwana, E.A., **Kolawole, F.** (2022). Coseismic static stress transfer between propagating faults promotes intra-rift faulting: Insights from the 2009 Mw 6.0 and 2014 Mw 5.2 Karonga Earthquakes, Malawi Rift. *AGU Fall Meeting abstract #T15A-01*.

Legre, J-J., Qin, Y., **Kolawole, F.**, Olugboji, T.M. (2022). The Seismicity of West Africa: Construction of a Focal Mechanism Catalog with a Sparse Dataset. *AGU Fall Meeting abstract #T25D-0160*.

Stamps, D.S., Atekwana, E.A., Atekwana, E., van der Lee, S., Taylor, M., Katumwehe, A., Evans, R., Tugume, F., Aanyu, K., Fishwick, S., Barry, P. et al. (2022). The DRIAR Project: Dry-Rifting in the Albertine-Rhino Graben, Uganda. *AGU Fall Meeting abstract #T12C-0088*.

Foluso, J., Atekwana, E., **Kolawole, F.**, Atekwana, E.A., Evans, R.L., Taylor, M.H., Katumwehe, A.B., Tugume, F., Kiberu, J.M., Fishwick, S., Barry, P.H. et al. (2022). Hydrogeochemistry and Geothermometry of the Hot Springs Along the Magma-poor Western branch of the East African Rift System. *AGU Fall Meeting abstract #V52E-0038*.

**Kolawole, F.**, Dangwal, D., Reches, Z., Carpenter, B.M. (2022). Internal structure of a large fault-zone in the granitic basement of Oklahoma: A potential fracture-controlled conduit for fluid flow. *Gordon Research Conference on Crustal Deformation, Maine*.