Rasheed **Ajala**

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Education

Columbia University — *New York, NY, U.S.*

Postdoc in Geophysics(Seismology)
Lamont-Doherty Earth Observatory (LDEO) postdoctoral fellow — *Sep. 2022 - Present*
Advisors: Drs. Folarin Kolawole and William Menke

Louisiana State University — *Baton Rouge, Louisiana, U.S.*

Ph.D. in Geophysics(Seismology)
Advisor: Dr. Patricia Persaud — *Aug. 2017 - May 2022*

University of Houston — *Houston, Texas, U.S.*

Honors B.Sc. in Geophysics and Seismology
Advisor: Dr. Paul Mann — *May 2017*

Employment

U.S. Geological Survey — *Baton Rouge, Louisiana, U.S.*

Contract Research Geophysicist
Advisor: Dr. Rufus Catchings — *Jun. 2021 - Jul. 2021*

- Earthquake tomography and analysis of aftershock sequences of the 2019 Ridgecrest earthquake in the vicinity of the Garlock fault step-over, Southern California

BP — *Houston, Texas, U.S.*

Geophysicist Intern
Advisor: Dr. Frederic Billette — *Jun. 2020 - Aug. 2020*

- State-of-the-art Full Waveform Inversion (FWI) and Reverse Time Migration (RTM) subsurface image reconstructions in the Gulf of Mexico

FM Global — *Norwood, Massachusetts, U.S.*

Seismology Research Intern
Advisor: Dr. Harold Magistrale — *May 2018 - Aug. 2018*

- Developed an improved earthquake risk model for Bangladesh

Publications (First-Authored)

- Ajala, R., Persaud, P., & Juarez, A. (2022). Earth Model Space Exploration in Southern California: Influence of Topography, Geotechnical Layer, and Attenuation on Wavefield Accuracy, *Frontiers in Earth Science,* 1-19. https://doi.org/10.3389/feart.2022.964806
- Ajala, R. & Persaud, P. (2022). Ground-Motion Evaluation of Hybrid Seismic Velocity Models, *The Seismic Record, 2(3),* 186-196. https://doi.org/10.1785/0320220022
- Ajala, R., & Persaud, P. (2021). Effect of Merging Multiscale Models on Seismic Wavefield Predictions Near the Southern San Andreas Fault, *Journal of Geophysical Research: Solid Earth, 126,* 1-23. https://doi.org/10.1029/2021JB021915
- Ajala, R., Persaud, P., Stock, J. M., Fuis, G. S., Hole, J. A., Goldman, M. R., & Scheirer, D. S. (2019). Three-dimensional Basin and Fault Structure From a Detailed Seismic Velocity Model of Coachella Valley, Southern California. *Journal of Geophysical Research: Solid Earth, 124,* 4728-4750. https://doi.org/10.1029/2018JB016260

Funded Proposals

SCEC Award 21059 for 28,847.00 USD: *Updating CVM-S 4.26 in Salton Trough Using Explosion Waveforms* — *Feb. 2021 - Feb. 2022*
PI: Patricia Persaud; I wrote the scientific justification of the proposal

NSF Supplemental Award for 55,000.00 USD: *Seismic Signal Detection, Identification, and Location: An Integrated Machine Learning Approach* — *Jun. 2021 - Nov. 2021*
PI: Patricia Persaud; I wrote the scientific justification of the proposal

SCEC Awards 19014 and 20023 for 60,060.00 USD: *Assimilating SSIP data into a Full 3D Tomography (F3DT) model of the Salton Trough* — *Feb. 2019 - Feb. 2021*
PI: Patricia Persaud; I wrote the scientific justification of the proposal

Selected Honors & Awards

Society of Exploration Geophysicists (SEG) Scholarships	*2016 - 2022 (6)*
Houston Energy, L.P. Graduate Student Scholarship	*2019 - 2022 (3)*
Chevron Energy Leaders Scholarship	*2018 - 2019*
Incorporated Research Institutions for Seismology (IRIS) Workshop Scholarship	*Summer 2018*
Provost Undergraduate Research Scholarship	*Fall 2016*
National Association of Black Geoscientists (NABG) Mack Gipson Scholarship	*Fall 2016*
Leslie and Alan Wong Geophysics Field Camp Scholarship	*Summer 2016*
Mathematics Olympiad (Top 1% in Ogun State, Nigeria)	*June 2012*

Invited Talks

- Ajala, R. (2020). Active source tomography in Salton Trough: Geologic insights and application to ground motion prediction, USGS-ESC Seminar, Online.
- Ajala, R., Persaud, P., & Juarez, A. (2020). UCVM development and low-frequency validation of hybrid Earth models near the southern San Andreas fault, SCEC CVM Workshop, Online.

Selected Presentations

- Ajala, R., Persaud, P., & Juarez, A. (2021). Beyond 1 Hz: Double-difference active source adjoint tomography of Salton Trough, SCEC Annual Meeting, Online. (Poster)
- Ajala, R., Persaud, P., Juarez, A., & Ayeni, G. (2019). Evaluating seismic velocity models in the Salton Trough using spectral-element wave simulation of validation events, SCEC Annual Meeting, Palm Springs, CA. (Poster)
- Ajala, R., Persaud, P., Steckler, M., Sandvol, E., Akhter, S., Gaherty, J., Carchedi, C., Grall, C., & Seeber, L. (2018). Teleseismic Receiver Functions Constraint on the Structure of the Indo-Burma Subduction System, American Geophysical Union, Fall Meeting, Washington, D.C. (Poster)
- Ajala, R., Persaud, P., Stock, J. M., Fuis, G. S., Hole, J. A., Goldman, M. R., & Scheirer, D. S. (2017). 3-D Velocity Model of the Coachella Valley Determined Using P-Wave First Arrival Times from the Salton Seismic Imaging Project and Local Earthquakes, SCEC Annual Meeting, Palm Springs, CA. (Poster)
- Ajala, R., & Mann, P. (2016). Gravity-Based Model for Regional Flexure Induced by Crustal Loading by the 14-km-thick Mississippi Delta, American Geophysical Union, Fall Meeting, San Francisco, CA. (Poster)

Reproducible Data and Software

- Ajala, R. (2022). Reproducibility material for ground motion validation of hybrid models: Zenodo. Retrieved from https://doi.org/10.5281/zenodo.6615708
- Ajala, R. (2022). Code and data repository for the role of topography, geotechnical layering, and attenuation on ground motion prediction: Zenodo. Retrieved from https://doi.org/10.5281/zenodo.6615706
- Ajala, R. (2021). Algorithm for merging gridded multiscale and multidimensional datasets using window functions: Zenodo. Retrieved from https://doi.org/10.5281/zenodo.4552676
- Ajala, R. (2021). Modified UCVM software with blending functionality: Zenodo. Retrieved from https://doi.org/10.5281/zenodo.4533337
- Ajala, R. (2021). Data and scripts to reproduce research on seismological application of multiscale hybrid Earth models: Zenodo. Retrieved from https://doi.org/10.5281/zenodo.4548149

Professional & Extracurricular Activities

COVID-19 relief volunteer in Baton Rouge, LA	*Apr. 2020 - Jul. 2022*
Geaux Science for Girls: Our Earth, Our Laboratory Event Volunteer	*Mar. 2019, Apr. 2022*
LSU High Performance Computing Training	*Jan. 2019 - May 2019*
Incorporated Research Institutions for Seismology Workshop	*Jun. 2018*
Lamont-Doherty Earth Observatory (LDEO) Seismology Student Workshop	*Mar. 2018*
Cougars and Houston Area Math Program Volunteer	*Jun. 2017*

Memberships

Volunteers of America Southeast Louisiana	*2020 - Present*
Seismological Society of America	*2018 - Present*
Society for Industrial and Applied Mathematics	*2017 - Present*
Southern California Earthquake Center	*2017 - Present*
Society of Exploration Geophysicists	*2016 - Present*
American Geophysical Union	*2016 - Present*