Curriculum Vitae August 2024

Junle Jiang

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RESEARCH INTERESTS

My research goal is to understand the mechanisms and impacts of the Earth's near-surface and crustal processes across spatiotemporal scales and improve effective geohazard assessment/mitigation and sustainable geoenergy exploration. Current projects focus on elucidating the links between microseismicity, large earthquakes, and crustal deformation due to tectonic and human activities through integrating laboratory-based geomaterial behavior, theoretical and computational modeling, and seismic and geodetic observations.

EDUCATION

Ph.D., Geophysics, California Institute of Technology, USA 2016
Ph.D. Minor, Computational Science and Engineering, California Institute of Technology, USA 2014
M.Sc., Geophysics, California Institute of Technology, USA 2011
B.Sc., Physics, Peking University, China 2009

APPOINTMENTS

Assistant Professor, University of Oklahoma, USA 2020–Present
Postdoctoral Associate, Cornell University, USA 2018–2020
Green Postdoctoral Scholar, University of California, San Diego, USA 2016–2018
Research and Teaching Assistant, California Institute of Technology, USA 2009–2015

PH.D. DISSERTATION

Jiang, J. (2016), Probabilistic Imaging and Dynamic Modeling of Earthquake Source Processes, California Institute of Technology. doi:10.7907/Z9639MQC. (Advisors: Mark Simons & Nadia Lapusta)

HONORS AND AWARDS

Faculty Success Program Scholarship, Center for Faculty Excellence, University of Oklahoma 2023
Cecil H. and Ida M. Green Postdoctoral Fellowship, University of California San Diego 2016–2018
Graduate Student Office Leadership Award, California Institute of Technology 2016
Demetriades-Tsafka-Kokkalis Best Thesis Award in Seismo-Engineering, Prediction, and Protection, California Institute of Technology 2016
Chinese Government Award for Outstanding Self-Financed Students Abroad 2015
Outstanding Student Presentation Award, Tectonophysics Section, American Geophysical Union 2015
Honor for Excellent Graduate, Peking University 2009
Petro China Scholarship, Peking University 2007
Dean's List Award for Academic Excellence, Hong Kong University of Science and Technology 2007
Cannon Scholarship, Peking University 2006

REFEREED PUBLICATIONS

1. Regmi, N. R., Walter, J. I., **Jiang, J.**, Orban, A. M., and Hayman, N. W., Spatial patterns of landslides in a modest topography of the Ozark and Ouachita Mountains, USA, *Catena*, doi:10.1016/j.catena.2024.108344.
2. Caballero, E., Duputel, Z., Twardzik, C., Rivera, L., Klein, E., **Jiang, J.**, Liang, C., Zhu, L., Jolivet, R., Fielding, E., Simons, M. (2023). Revisiting the 2015 Mw=8.3 Illapel earthquake: Unveiling complex fault slip properties using Bayesian inversion, *Geophys. J. Int.*, 235(3), 2828-2845, doi:10.1093/gji/ggad380.

3. Erickson, B. A., **Jiang, J.**, Lambert, V. R., Abdelmeguid, M., Almquist, M., Ampuero, J., Ando, R., Barbot, S. D., Cattania, C., Chen, A., Dal Zilio, L., Dunham, E. M., Elbanna, A. E., Gabriel, A., Harvey, T., Huang, Y., Kaneko, Y., Kozdon, J. E., Lapusta, N., Li, D., Li, M., Liang, C., Liu, Y., Ozawa, S., Pranger, C., Segall, P., Sun, Y., Thakur, P., Uphoff, C., van Dinther, Y., & Yang, Y. (2023). Incorporating full elastodynamic effects and dipping fault geometries in community code verification exercises for simulations of earthquake sequences and aseismic slip (SEAS), *Bull. Seismol. Soc. Amer.*, 113, 499–523, doi:10.1785/0120220066.
4. Materna, K., Barbour, A., **Jiang, J.**, and Eneva, M. (2022) Detection of aseismic slip and poroelastic reservoir deformation at the North Brawley Geothermal Field from 2009 to 2019, *J. Geophys. Res. Solid Earth*, 127, e2021JB023335, doi:10.1029/2021JB023335.
5. **Jiang, J.**, Erickson, B., Lambert, V., Ampuero, J.-P., Ando, R., Barbot, S., Cattania, C., Dal Zilio, L., Duan, B., Dunham, E., Gabriel, A-A., Lapusta, N., Li, D., Li, M., Liu, D., Liu, D., Liu, Y., Ozawa, S., Pranger, C., van Dinther, Y. (2022). Community-driven code comparisons for three-dimensional dynamic modeling of sequences of earthquakes and aseismic slip, *J. Geophys. Res. Solid Earth*, 127, e2021JB023519, doi:10.1029/2021JB023519. News: EOS Research Spotlight.
6. **Jiang, J.**, Bock, Y., and Klein, E. (2021). Coevolving early afterslip and aftershock signatures of a San Andreas fault rupture, *Science Advances*, 7(15), eabc1606, doi:10.1126/sciadv.abc1606. News: OU News.
7. **Jiang, J.**, and Lohman, R. B. (2020). Coherence-guided InSAR deformation analysis in the presence of ongoing land surface changes in the Imperial Valley, California. *Remote Sens. Environ.*, 112160, doi:10.1016/j.rse.2020.112160.
8. Erickson, B.[*], **Jiang, J.**[*], Barall, M., Lapusta, N., Dunham, E. M., Harris, R., Abrahams, L., Allison, K., Ampuero, J.-P., Barbot, S., Cattania, C., Elbanna, A., Fialko, Y., Idini, B., Kozdon, J., Lambert, V., Liu, Y., Luo, Y., Ma, X., Segall, P., Shi, P., and Wei, M. (2020). The community code verification exercise for simulating sequences of earthquakes and aseismic slip (SEAS), *Seismo. Res. Lett.*, 91(2A), 874–890, doi:10/10.1785/0220190248. ([*]equal contributions)
9. Tymofyeyeva, E., Fialko, Y., **Jiang, J.**, Xu, X., Sandwell, D., Bilham, R., Rockwell, T. K., Blanton, C., Burkett, F., Gontz, A., and Moafipoor, S. (2019). Slow slip event on the southern San Andreas fault triggered by the 2017 Mw8.2 Chiapas (Mexico) earthquake. *J. Geophys. Res. Solid Earth*, 124(9), 9956-9975, doi:10.1029/2018JB016765. News: EOS Research Spotlight.
10. Gombert, B., Duputel, Z., Jolivet, R., Simons, M., **Jiang, J.**, Liang, C., Fielding, E. J., and Rivera, L. (2018). Strain budget of the Ecuador–Colombia subduction zone: A stochastic view, *Earth Planet. Sci. Lett.*, 498, 288–299, doi:10.1016/j.epsl.2018.06.046.
11. Xu, X., Ward, L., **Jiang, J.**, Smith-Konter, B., Tymofyeyeva, E., Lindsey, E., Sylvester, A. G., and Sandwell, D. T. (2018). Surface creep rate of the Southern San Andreas Fault modulated by stress perturbations from nearby large events, *Geophys. Res. Lett.*, 45, 10259–10268, doi:10.1029/2018GL080137.
12. Michel, S., Avouac, J.-P., Lapusta, N., and **Jiang, J.** (2017). Pulse-like partial ruptures and high-frequency radiation at creeping-locked transition during megathrust earthquakes, *Geophys. Res. Lett.*, 44, 8345–8351, doi:10.1002/2017GL074725.
13. **Jiang, J.** and Lapusta, N. (2017). Connecting depth limits of interseismic locking, microseismicity, and large earthquakes in models of long-term fault slip, *J. Geophys. Res. Solid Earth*, 122, 6491–6523, doi:10.1002/2017JB014030.
14. Fan, W., Bassett, D., **Jiang, J.**, Shearer, P. M., and Ji, C. (2017). Rupture evolution of the 2006 Java tsunami earthquake and the possible role of splay faults, *Tectonophysics*, 721, 143–150, doi:10.1016/j.tecto.2017.10.003.
15. Yue, H., Simons, M., Duputel, Z., **Jiang, J.**, Fielding, E., Liang, C., Owen, S., Moore, A., Riel, B., Ampuero, J. P., and Samsonov, S. V. (2016). Depth varying rupture properties during the 2015 Mw 7.8 Gorkha (Nepal) earthquake, *Tectonophysics*, 714–715, 44-54, doi:10.1016/j.tecto.2016.07.005.
16. **Jiang, J.** and Fialko, Y. (2016). Reconciling seismicity and geodetic locking depths on the Anza section of the San Jacinto fault, *Geophys. Res. Lett.*, 43, 10663–10671, doi:10.1002/2016GL071113.
17. **Jiang, J.** and Simons, M. (2016). Probabilistic imaging of tsunamigenic seafloor deformation during the 2011 Tohoku-oki Earthquake, *J. Geophys. Res. Solid Earth*, 121, 9050–9076, doi:10.1002/2016JB013760. News: EOS Research Spotlight.
18. **Jiang, J.** and Lapusta, N. (2016). Deeper penetration of large earthquakes on seismically quiescent faults, *Science*, 352(6291), 1293–1297, doi:10.1126/science.aaf1496. News: New Yorker, Phys.org.
19. Bletery, Q., Sladen, A., **Jiang, J.**, and Simons, M. (2016). A Bayesian source model for the 2004 great Sumatra-Andaman earthquake, *J. Geophys. Res. Solid Earth*, 121, 5116–5135, doi:10.1002/2016JB012911.
20. Duputel, Z., **Jiang, J.**, Jolivet, R., Simons, M., Rivera, L., Ampuero, J.-P., Riel, B., Owen, S. E., Moore, A. W., Samsonov, S. V., Culaciati, F. O., and Minson, S. E. (2015). The Iquique earthquake sequence of April 2014: Bayesian modeling accounting for prediction uncertainty, *Geophys. Res. Lett.*, 42, 7949–7957, doi:10.1002/2015GL065402.
21. Bletery, Q., Sladen, A., Delouis, B., Vallée, M., Nocquet, J.-M., Rolland, L., and **Jiang, J.** (2014). A detailed source model for the M_w 9.0 Tohokut-Oki earthquake reconciling geodesy, seismology, and tsunami records, *J. Geophys. Res. Solid Earth*, 119, 7636–7653, doi:10.1002/2014JB011261.
22. Minson, S. E., Simons, M., Beck, J. L., Ortega, F., **Jiang, J.**, Owen, S. E., Moore, A. W., Inbal, A., and Sladen, A.(2014). Bayesian inversion for finite fault earthquake source models - II: the 2011 great Tohoku-oki, Japan earthquake, *Geophys. J. Int.*, 198(2), 922–940. doi:10.1093/gji/ggu170.

23. Wei, S., Graves, R., Helmberger, D. V., Avouac, J.-P., and **Jiang, J.** (2012). Sources of shaking and flooding during the Tohoku-Oki earthquake: A mixture of rupture styles, *Earth Planet. Sci. Lett.*, 333-334(C), 91–100, doi:10.1016/j.epsl.2012.04.006.
24. Simons, M., Minson, S. E., Sladen, A., Ortega, F., **Jiang, J.**, Owen, S. E., Meng, L., Ampuero, J. P., Wei, S., Chu, R., Helmberger, D. V., Kanamori, H., Hetland, E., Moore, A. W., and Webb, F. H. (2011). The 2011 magnitude 9.0 Tohoku-oki earthquake: Mosaicking the megathrust from seconds to centuries, *Science*, 332(6036), 1421–1425, doi:10.1126/science.1206731.

DATASETS

1. **Jiang, J.**, Erickson, B., et al. (2021). Simulation Data for "Community-Driven Code Comparisons for Three-Dimensional Dynamic Modeling of Sequences of Earthquakes and Aseismic Slip (SEAS)" [Data set]. In *Journal of Geophysical Research*. Zenodo. doi:10.5281/zenodo.6299674.
2. Materna, K., Barbour, A., **Jiang, J.**, and Eneva (2022), Geodetic displacement data near North Brawley Geothermal Field, 2009-2019. Zenodo. doi:10.5281/zenodo.5949377.
3. **Jiang, J.**, Bock, Y., and Klein, E. (2021). Data and Models for "Coevolving early afterslip and aftershock signatures of a San Andreas fault rupture" [Data set]. In *Science Advances*. Zenodo. doi:10.5281/zenodo.4278477.
4. **Jiang, J.**, and Lohman, R. (2020). Data for "Coherence-guided InSAR deformation analysis in the presence of ongoing land surface change in the Imperial Valley, California" [Data set]. In *Remote Sensing of Environment*. Zenodo. doi:10.5281/zenodo.3911193.
5. **Jiang, J.** and Simons, M. (2016). Data and Models for "Probabilistic imaging of tsunamigenic seafloor deformation during the 2011 Tohoku-oki Earthquake" [Data set]. In *J. Geophys. Res. Solid Earth*. Zenodo. doi:10.5281/zenodo.6896262.

OTHER PUBLICATIONS

Lapusta, N., et al. (inc. **J. Jiang**), 2019. Modeling Earthquake Source Processes: from Tectonics to Dynamic Rupture, Report to the National Science Foundation. [Weblink].

PUBLICATIONS IN PROGRESS

**Advised Students are underlined*

1. Lambert, V. R., Erickson, B. A., **Jiang, J.**, Dunham, E. M., Kim, T., Ando, R., Dal Zilio, L., Elbanna, A. E., Gabriel, A.-A., Lapusta, N., Li, M., Marcum, J., May, D., Ozawa, S., Pranger, C., Romanet, P., van Dinther, Y., Yang, Y. & Yun, J. Community-driven code comparisons for simulations of fluid-induced aseismic slip, in prep., *J. Geophys. Res. Solid Earth*
2. **Jiang, J.**, Ragon, T., Liang, C., and Simons, M., Bayesian inference of megathrust faulting during and after the 2010 Maule earthquake: 1. Quantifying uncertainty, resolution, and information content in multi-dataset inversions, in prep.
3. **Jiang, J.**, Ragon, T., Liang, C., and Simons, M., Bayesian inference of megathrust faulting during and after the 2010 Maule earthquake: 2. Characterizing source processes in three-dimensional subduction zone structures, in prep.
4. **Jiang, J.**, Bodunde, S., Walter, J., Carpenter, B., Viteri, J., Intraplate crustal rheological layering revealed in natural and anthropogenic processes at Pawnee, Oklahoma, in prep.
5. Bodunde, S. and **Jiang, J.**, Characteristic timescales and spatial patterns of early postseismic deformation of large megathrust earthquakes, in prep.
6. Shodunke, G. O., **Jiang, J.**, and Bodunde, S., Influences of heterogeneous layered hydromechanical properties on injection-induced ground deformation and pore pressure evolution in geothermal fields, in prep.
7. Viteri Lopez, J. and **Jiang, J.**, Posterior exploration and predictive analysis of Bayesian finite-fault earthquake models, in prep.
8. Thapa, M., **Jiang, J.**, and Regmi, N., Detection and validation of landslide size and scaling properties using multitemporal radar imagery, in prep.

INVITED TALKS

International Professionals for the Advancement of Chinese Earth Scientist (IPACES) Annual Meeting, Beijing, China	2024
Hewett Club Lecture Series, University of California Riverside, CA	2023
AGU Fall Meeting, Chicago, IL	2022
Center for Earthquake Research and Information, University of Memphis, TN	2022
School of Earth Sciences Summer School, Zhejiang University, China (Online)	2022
SAGE/GAGE Community Science Workshop, Pittsburgh, PA	2022
Department of Geosciences Seminar, University of Montana, MT (Online)	2022

Earthquake Physics Seminar, University of Southern California, CA (Online) 2021
Berkeley Seismology Laboratory Seminar, University of California, Berkeley, CA (Online) 2021
GeoSeminar, Department of Geosciences, University of Tulsa, OK (Online) 2021
Earthquake Science Center Seminar, United States Geological Survey, CA (Online) 2021
Shell Colloquium, School of Geosciences, University of Oklahoma, OK 2020
Andes Seminar, Department of Earth and Atmospheric Sciences, Cornell University, NY 2019
SCEC Workshop about Physics-Based Earthquake Simulators, Menlo Park, CA 2019
Department of Earth, Atmospheric & Planetary Sciences, MIT, Cambridge, MA 2019
Keynote Talk, Southern California Earthquake Center Annual Meeting, Palm Springs, CA 2018
Department of Geology & Geophysics, Woods Hole Oceanographic Institution, Falmouth, MA 2018
SSA Fall Meeting, Denver, CO 2017
Department of Earth, Planetary, and Space Sciences, University of California Los Angeles, CA 2017
Scripps Institution of Oceanography, University of California San Diego, CA 2016
School of Earth & Space Sciences, University of Science & Technology of China, Hefei, China 2016
AGU Fall Meeting, San Francisco, CA 2013
State Key Laboratory of Earthquake Dynamics, China Earthquake Administration, Beijing, China 2012

GRANTS & PROPOSALS

NSF: National Science Foundation; **USGS**: United States Geological Survey; **SCEC**: Southern/Statewide California Earthquake Center (a **NSF/USGS**-funded consortium); **NASA**: National Aeronautics and Space Administration

Total Awarded Amount: ~$1,410K; PI Amount: ~$936K

Research Grants – Current & Past

NSF Geophysics, PI, Collaborative Research: Investigating Links Between Earthquake Swarms, Aseismic Processes, and Fault Zone Heterogeneity in Volcanic and Geothermal Areas, $360K 2024–2027

OU Data Institute for Societal Challenges (DISC), PI, Physics-Informed Forecasting and Risk Assessment of Human-Induced Seismicity, $10K 2024–2025

NSF Geophysics, PI, Constraining Rupture and Relaxation Dynamics of Crustal Fault Roots with Geodetic and Microseismic Observations, $306K 2022–2025

NASA Earth Surface & Interior, Co-PI, Monitoring Hillslope Dynamics Using SAR Time Series and Machine Learning, $280K 2022–2025

SCEC, PI, Advancing Simulations of Sequences of Earthquakes and Aseismic Slip (SEAS), $109K (PI)/$318K (Total) 2018–2024

SCEC, PI, Geodetic Imaging of Earthquakes, Fault Creep, Deformation, and Coastal Changes at the Southern Salton Sea Over Two Decades, $26K 2022–2023

SCEC, PI, Distinguishing Between Tectonic and Anthropogenic Processes in the Salton Sea Geothermal Field, $27K 2020–2022

Extreme Science and Engineering Discovery Environment (XSEDE), PI, Integrated Simulation of Dynamic Earthquakes and Crustal Deformation, 120K computing units 2017–2021

SCEC, Co-PI, Mechanisms of Unsteady Shallow Creep on Major Crustal Faults, $28K 2018–2019

SCEC, Co-PI, Microseismicity, Geodetic Coupling, and Earthquake Variability on Heterogeneous Faults: A Case Study of the San Jacinto Fault, $28K 2017–2018

Research Grants – Pending & Planned

USGS Earthquake Hazards Program, PI, Probing Transient Rheology and Spatial Heterogeneity of Faults Using Repeating Earthquakes and Deformation Data: Collaborative Research with the University of Oklahoma and University of California Berkeley, $66K 2025–2026

NSF Geophysics / Marine Geology & Geophysics, PI, CAREER: Bridging Multiscale Observations and Models of Megathrust Faulting and Subduction Zone Hazards, $735K 2025–2030

SCEC, PI, Joint Characterization of Transient Deformation and Repeating Earthquakes in California, $17K 2025–2026

Workshop Grants

SCEC-NSF/USGS, PI (w/ B. Erickson, V. Lambert). Workshop for Advancing Simulations of Sequences of Earthquakes and Aseismic Slip (SEAS). [Website] 2022

SCEC-NSF/USGS, PI (w/ B. Erickson, V. Lambert). Workshop for Advancing Simulations of Sequences of Earthquakes and Aseismic Slip (SEAS) — Fluids, 3D Modeling, and Future Directions. [Website] 2021

SCEC-NSF/USGS, PI (w/ B. Erickson). Workshop for Advancing Simulations of Sequences of Earthquakes and Aseismic Slip (SEAS) — Free-Surface Effects in 2D/3D Models. [Website] 2020

SCEC-NSF/USGS, PI (w/ B. Erickson). Workshop for Advancing Simulations of Sequences of Earthquakes and Aseismic Slip (SEAS) — Full Dynamics and 3D Effects. [Website] 2020

SCEC-NSF/USGS, PI (w/ B. Erickson). Workshop for Advancing Simulations of Sequences of Earthquakes and Aseismic Slip (SEAS) — Exploring Complexity and Resolution. [Website] 2018

SCEC-NSF/USGS, PI (w/ R. Harris, B. Erickson). A Joint Workshop: Rupture Dynamics Code Validation and Comparing Simulations of Earthquake Sequences and Aseismic Slip. [Website] 2018

Proposals Not Funded

NSF Geomorphology & Land-Use Dynamics, Co-PI, Assessment of Landslide Properties Under Dynamic Loads Using Near Surface Geophysics and Remote Sensing, $597K 2024

NSF Cultural Transformation in the Geoscience Community, Co-PI, Planning Grant: Building Community in the Geosciences by Focusing on Undergraduate Research for Transfer Students, $300K 2022

ACS Petroleum Research Fund, PI, Numerical Modeling of Dynamic Fracture and Deformation in Dissimilar Fault Rocks, $110K 2021

NASA, PI, Multiscale Imaging and Inference of Crustal Dynamics: Towards Linking Deformation and Seismicity in Oklahoma and California, $360K 2020

TEACHING EXPERIENCE

UG: Undergraduates; G: Graduate Students; CH: Credit Hour. S/F/Su: Spring/Fall/Summer Semesters. Newly developed courses are marked in **boldface**.

Sole Instructor, University of Oklahoma (Semester System)

GEOL1114 Physical Geology for Scientists and Engineers [UG; 4 CH]	2020F, 2022S, 2024F
GPHY3013 Data Analysis in Geosciences [UG; 3 CH]	2023S
GPHY4553 Introduction to Seismology [UG/G; 3 CH]	2022S
GPHY5413 Global Geophysics [UG/G; 3 CH]	2022F, 2023F, 2024F
GPHY5970 Remote Sensing & Space Geodesy [UG/G; 3 CH]	2021F, 2023F
GPHY5920 Computational Geophysics [G; 3 CH]	2021S, 2023S
GPHY3440 Mentored Research Experience [UG; 3 CH]	2021S, 2022Su, 2023F, 2024Su, 2024F
GPHY5970 Geophysical Journal Seminar [G; 1 CH]	2021F, 2022S, 2022F, 2023F, 2024F

Co-Instructor, University of Oklahoma

GPHY2013 Frontiers of Geophysics [UG; 3 CH] (w/ S. Saneiyan, H. Bedle, J. Walter)	2023S
GPHY6970 Machine Learning in Geosciences Seminar [G; 1 CH] (w/ H. Bedle & M. Pranter)	2021F

Guest Lecturer, University of Oklahoma

GEOL5001 Topics in Geosciences Seminar for First-Year Students [G; 1CH]	2022F, 2023F

Guest Lecturer, Cornell University

EAS2550 Satellite-Based Remote Sensing [UG]	2019S, 2020S
EAS7800 Earthquake Record Reading [G]	2019S
Teaching & Learning in the Diverse Classroom Course	2020S

Guest Lecturer, Scripps Institution of Oceanography

SIOG237 Space Geodesy [G]	2017S, 2018S

Graduate Teaching Assistant, California Institute of Technology

Ge11d/102 Introduction to Geophysics [UG]	2014S
Ge263 Computational Geophysics [G]	2012F
Ge161 Plate Tectonics [G]	2011F
ME/Ge266 Dynamic Fracture and Frictional Faulting [G]	2011S

STUDENT ADVISING & MENTORING

Thesis & Dissertation Advisor (OU)

Zhenyu Kang (PhD): InSAR observations of crustal deformation	2024–Present
Jose A. Viteri Lopez (MS): Bayesian inference of earthquake source models	2023–Present
Manoj Thapa (PhD, co-advised w/ N. Regmi & S. Saneiyan): Landslide detection and characterization	2023–Present
Segun Steven Bodunde (PhD): Strain-stress-seismicity evolution in megathrust and intraplate regions	2021–Present
Ganiyat Shodunke (PhD): Fluid extraction-induced deformation in heterogeneous geo-reservoirs	2021–Present
Haoyu Li (MS): Comparison of ambient-noise seismic velocity and strain evolution [MS thesis]	2021–2023

Thesis & Dissertation Committee Member (OU)

Danial Mansourian (PhD, advised by S. Saneiyan)	2022–Present
Alex Vera Arroyo (PhD, advised by H. Bedle)	2022–2024
Zhuobo Wang (PhD, advised by X. Chen & M. Behm)	2022–2023
Rachel Neher (PhD, advised by J. Pigott)	2022–2023
Raymond Ng (PhD, advised by J. Walter & X. Chen)	2022–2023
Deepankar Dangwal (PhD, advised by X. Chen & M. Behm)	2022–2023
Jiewen Zhang (PhD, advised by X. Chen)	2020–2021

Undergraduate/Internship Research Advisor

Abrar Al Maamari (BS, Geophysics, OU): Geophysical observations of geothermal fields	2024 Fall
Said Al Muzahmi (BS, Geophysics, OU): Risk analysis of induced earthquakes	2024 Summer
Jacqueline Silva (EarthScope Intern; BS, Geology, UTEP): Spectral analysis of California GNSS data	2024 Summer
Dawoud Al Hashemi (BS, Geophysics, OU): Regional variability in induced seismicity	2023 Fall
Alexander Cordero (MS, Geophysics, OU): SAR-based landslide detection	2023 Summer
Zhenyu Kang (BS, Geophysics, Peking Uni.): Bayesian inversion of InSAR slow slip signals	2023 Summer
Maurine Oyugi (EarthScope Intern; BS, Geomatics, JKUAT): Oklahoma GNSS/seismicity analysis	2023 Summer
Calvin Rutkauskas (BS, Geography & Geology, OU): SAR analysis of induced earthquake damage	2022 Summer
John McKnight (BS, Geophysics, OU) OK nodal array waveform analysis	2021 Spring
Gillian Quiros (BS, Mathematics, UCSD): Modeling nonlinear spring-slider dynamics	2017–2018
Xander Zheng (BS, Computing & Math. Sciences, Caltech): InSAR analysis of LA aquifers	2012 Summer
Patrick Ferchaud (BS/MS, Geophysics, École Polytechnique): BEM modeling	2011 Summer

FIELD EXPERIENCE

Shallow landslide field survey, Cavanal Hills, OK & AR (Co-PI, OU)	2023
Campaign GPS surveys for the San Jacinto fault, Anza, CA (PI: Y. Fialko, UCSD/SIO)	2016–2018
Sample collection and structure mapping of rock islands, Palau (PI: J. Kirschvink, Caltech)	2017
Seismic deployment at Anza, California (PI: F. Vernon, UCSD/SIO)	2016
Campaign GPS survey across central Taiwan (PI: S.-B. Yu, Academia Sinica)	2011
Seismic survey, Salton Seismic Imaging Project (SSIP) (PI: J. Stock, Caltech)	2011

PROFESSIONAL & COMMUNITY SERVICE

University of Oklahoma (OU), College of Earth & Energy (MCEE), School of Geosciences (SOG)

Faculty Liaison, AGU Bridge Program	2021–Present
Institutional Representative, Southern/Statewide California Earthquake Center (SCEC)	2022–Present
Institutional Representative, Computational Infrastructure for Geodynamics (CIG)	2022–Present
Member, MCEE Diversity, Equity, & Inclusion Council	2021–Present
Member, OU Data Institute for Societal Challenges (DISC)	2021–Present
Member, SOG Honors and Awards Committee	2021–Present
Member, SOG Graduate Affairs Committee	2020–Present

Member, SOG Computer Lab Committee	2020–Present
Member, SOG Energy Transition Geophysics Search Committee	2023–2024
Organizer, SOG Annual Virtual Open House for Prospective Graduate Students	2021–2023
Institutional Representative, UNAVCO WInSAR	2021–2023
Institutional Representative, EarthScope Consortium	2022–2023
Member, Strategic Faculty Hire in Energy Geosciences Search Committee	2022–2023
Member, OU Reflection Seismology Centennial Planning Committee	2021–2023
Member, SOG Teaching Evaluation Committee	2021–2022
Member and DEI Advocate, SOG Environmental Geophysics Search Committee	2020–2021
Member, SOG Petroleum Geosciences Vision Committee	2020
Co-Editor, SOG Application to AGU Bridge Program Partnership	2020

Service for Broader Communities

Paper Reviewer:

Science (3); Science Advances (2); Journal of Geophysical Research: Solid Earth (21); Geophysical Journal International (9); Geophysical Research Letters (13); Earth and Planetary Science Letters (3); Geochemistry, Geophysics, Geosystems (2); Bulletin of the Seismological Society of America (4); Seismological Research Letters (7); Earth Planets and Space (2); Scientific Reports (1); Tectonophysics (4); Earth and Space Science (1); Computers and Geosciences (1); Pure and Applied Geophysics (8); Remote Sensing of Environment (9); Remote Sensing (22); Lithosphere (3); Geosciences (2); Energies (8); Sensors (3); Earthquake Science (1); Applied Sciences (5); Science China Earth Sciences (2), etc.

Proposal Reviewer:

NSF Graduate Research Fellowship Program (GRFP)	Panel: 2021
NSF Postdoctoral Fellowship Program (EAR-PF)	Ad hoc: 2024
NSF Directorate for Geosciences (GEO)	Ad hoc: 2020, 2022, 2023; Panel: 2022
NASA Postdoctoral Program (NPP)	Ad Hoc: 2023
NASA Earth Science Division (ESD)	Panel: 2021, 2023, 2024
USGS Earthquake Hazards Program	Panel: 2019, 2020, 2023
Oak Ridge Institute for Science and Education (ORISE)	Ad hoc: 2024
ACS Petroleum Research Fund (PRF)	Ad hoc: 2023
Dutch Research Council (NWO)	Ad hoc: 2022
German Research Foundation (DFG)	Ad hoc: 2019

Professional Communities:

Member, SZ4D Modeling Collaboratory for Subduction (MCS) Integrative Group	2023–Present
Co-Leader, Community Code Verification for SEAS (Sequences of Earthquakes and Aseismic Slip), Southern California Earthquake Center (SCEC)	2017–2024
Panel Moderator, Northern California Earthquake Hazards Workshop, United States Geological Survey	2024
Panelist, Community Stress Drop Workshop, Southern California Earthquake Center	2024
Reviewer, Four Chapters in Textbook *Earth: Portrait of a Planet*, W. W. Norton	2023
Mentor, EarthScope International Undergraduate Summer Internship Program	2023
Mentor, Asian Americans & Pacific Islanders in Geosciences (AAPIiG) Mentoring Pod Program	2022–2023
Liaison & Judge, Outstanding Student Paper Award (OSPA) of AGU Annual Meeting	2017–2022
Panel Organizer & Moderator, Southern California Earthquake Center Annual Meeting	2022
Session Chair, "Faults and Earthquakes: Networks, Precursors, Monitoring Systems and Numerical Modelling Techniques," Asia Oceania Geosciences Society Annual Meeting, Pyeongchang, Gangwon-do. South Korea	2024
Session Co-Convener, "Characteristics and Mechanics of Fault Zone Rupture Processes, From Micro to Macro Scales," Oral Session at 2024 SSA Annual Meeting, Anchorage, AL, USA	2024
Session Chair, "State-of-the-Art Observations and Modeling of Earthquake Source Processes," Oral Sessions at 2021 AGU Annual Fall Meeting, New Orleans, LO, USA	2021
Session Chair, "Earthquake Rupture Revealed by Kinematic Source Imaging," Oral Sessions at 2017 AGU Annual Fall Meeting, New Orleans, LO, USA	2017

Service & Synergistic Activities at Previous Institutions

Member, Inclusion, Diversity & Equity in Earth and Atmospheric Sciences (IDEEAS), Cornell University 2019–2020

Awardee, Postdoctoral Leadership Program, Cornell University 2018–2019

Organizer, IGPP Geophysics Seminar, Scripps Institution of Oceanography, UC San Diego 2016–2018

Event Organizer and Speaker, International Student Programs & Center for Diversity, Caltech 2011–2015

Member, Board of Directors, Graduate Student Council, Caltech 2011–2014

Option Representative for Geophysics (2011–2013); Under-Represented Student Advocate (2011–2013); Treasurer (2012–2013); Director at Large (2013–2014)

Organizer, Dix Seismological Laboratory Seminar, Caltech 2011–2012

Executive Committee, Chinese Students and Scholars Association, Caltech 2010–2012

Director for Sports and Outdoor Activities (2010–2011); President (2011–2012)

EDUCATION & OUTREACH

Geosciences Day, University of Oklahoma, Norman, OK 2022–2024

Seminar speaker, Birch Aquarium, Scripps Institution of Oceanography, UCSD, CA 2016–2017

Tour leader for K-12 students, Tectonic Observatory & Seismological Laboratory, Caltech, CA 2010–2015

Invited class speaker, Huntington Middle School, San Marino, CA 2011–2012

Teaching assistant and speaker, Blair High School, Pasadena, CA 2010–2011

PROFESSIONAL SOCIETY & COMMUNITY MEMBERSHIP

Southern California Earthquake Center (SCEC) 2009–Present

American Geophysical Union (AGU) 2009–Present

Seismological Society of America (SSA) 2012–Present

American Association for the Advancement of Science (AAAS) 2012–Present

Society of Exploration Geophysicists (SEG) 2020–Present

Geothermal Research Council (GRC) 2020–Present

National Association of Geoscience Teachers (NAGT) 2020–Present

Asian Americans and Pacific Islanders in Geosciences (AAPIiG) 2020–Present

SELECTED CONFERENCE PRESENTATIONS

Only oral, students', or post-2020 (at OU) presentations are listed here. Advised students are underlined.

1. Bodunde, S., **Jiang, J.**, Viteri Lopez, J., Walter, J., Carpenter, B., Microseismic Evolution, Fault Reactivation, and Stress Heterogeneity of Crustal Faults at Pawnee, Oklahoma, AGU Fall Meeting, Washington DC, December 2024.
2. Viteri Lopez, J. and **Jiang, J.**, Posterior Exploration and Predictive Analysis of Bayesian Finite-Fault Earthquake Models, AGU Fall Meeting, Washington DC, December 2024.
3. Kang, Z., **Jiang, J.**, Bayesian Inference of 2017 Shallow Slow Slip Evolution on the Superstition Hills Fault, California, AGU Fall Meeting, Washington DC, December 2024.
4. Thapa, M., **Jiang, J.**, and Regmi, N., Enhancing Landslide Detection with Low-Latency SAR Imagery: A Spectral Analysis Approach for Improved Accuracy and Mapping, AGU Fall Meeting, Washington DC, December 2024.
5. Silva, J., Viteri Lopez, J., **Jiang, J.**, Time-Frequency Analysis of GPS Displacements for Monitoring Changes in Aquifers and Geothermal Fields in California, AGU Fall Meeting, Washington DC, December 2024.
6. Regmi, N. R., Walter, J. I., **Jiang, J.**, and Hayman, N. W., Characteristics of Landslides in the Ozark and Ouachita Mountains, USA, USA, GSA Annual Meeting, Anaheim, CA, USA, September 2024.
7. Shodunke, G. O., **Jiang, J.**, and Bodunde, S., Hydromechanical Impacts of Rock Layer Heterogeneity on Poroelastic Deformation and Fluid Flow in Geothermal Fields: A 3D Finite-Element Modeling Approach, 43rd Annual Technical Conference of the National Association of Black Geoscientists, Atlanta, GA, USA, September 2024.
8. **Jiang, J.**, Interactions of Slow and Fast Slip, Small and Large Quakes, and Fluids in Crustal Faults, IPACES Annual Meeting, Beijing, China, July 2024. (*Oral Presentation*)
9. **Jiang, J.**, Bodunde, S., Walter, J., Carpenter, B., Viteri Lopez, J., Crustal Rheological Layering Revealed in Multiscale Signals of

Natural and Anthropogenic Processes at Pawnee, Oklahoma, Asia Oceania Geosciences Society Annual Meeting, Pyeongchang, Gangwon-do. South Korea, June 2024. (*Oral Presentation*)

10. **Jiang, J.**, Viteri Lopez, J., Bodunde, S., Connecting Probabilistic and Physical Perspectives on Megathrust Rupture Processes, Japan Geoscience Union Meeting, Makuhari, Chiba, Japan, May 2024. (*Oral Presentation*)
11. **Jiang, J.**, Bodunde, S., Walter, J., Carpenter, B., Viteri Lopez, J., Crustal Rheological Layering Revealed in Multiscale Signals of Natural and Anthropogenic Processes at Pawnee, Oklahoma, SSA Annual Meeting, Anchorage, AK, April 2024. (*Poster Presentation*)
12. **Jiang, J.**, Taira, T., Probing Transient Rheology and Spatial Heterogeneity of Faults Using Repeating Earthquakes and Deformation Data, SSA Annual Meeting, Anchorage, AK, April 2024. (*Poster Presentation*)
13. Chen, X., **Jiang, J.**, Uchide, T., Sagae, K., Earthquake Swarms as a Window to Characterize Transient Processes, SSA Annual Meeting, Anchorage, AK, April 2024. (*Oral Presentation*)
14. Viteri Lopez, J. and **Jiang, J.**, Posterior Exploration of Bayesian Kinematic Finite-Fault Earthquake Source Models, SSA Annual Meeting, Anchorage, AK, April 2024. (*Poster Presentation*)
15. Thapa, M., **Jiang, J.**, and Regmi, N., Optimizing Landslide Detection and Validation through Sentinel-1 Radar Imagery: Case Studies of Hokkaido and Hiroshima in Japan, SSA Annual Meeting, Anchorage, AK, April 2024. (*Poster Presentation*)
16. Thapa, M., Pradhan, A., Chamlagain, D., **Jiang, J.**, and Regmi, N. Landslide Susceptibility Assessment using Earthquake Ground Motion for Different Return Periods in Rasuwa District, Central Nepal, SSA Annual Meeting, Anchorage, AK, April 2024. (*Poster Presentation*)
17. Bodunde, S., **Jiang, J.**, Spatiotemporal Evolution of Postseismic Stress and Aftershocks following the 2010 Mw8.8 Maule Earthquake, SSA Annual Meeting, Anchorage, AK, April 2024. (*Poster Presentation*)
18. Shodunke, G. O., **Jiang, J.**, and Bodunde, S., Hydromechanical Impacts of Rock Layer Heterogeneity on Poroelastic Deformation and Fluid Flow in Geothermal Fields: A 3D Finite-Element Modeling Approach, SEG/SPE/SPWLA Workshop, Norman, OK, March 2024. (*Poster Presentation*)
19. Bodunde, S., **Jiang, J.**, Microseismic Evolution, Fault Reactivation, and Stress Heterogeneity of Crustal Faults at Pawnee, Oklahoma, SEG/SPE/SPWLA Workshop, Norman, OK, March 2024. (*Oral Presentation*)
20. Chen, X., **Jiang, J.**, Influences of Intrinsic Fault Characteristics and External Processes on Swarm Migration and Duration, AGU Fall Meeting, San Francisco, CA, December 2023. (*Oral Presentation*)
21. Bodunde, S., **Jiang, J.**, Three-Dimensional Numerical Modeling of Stress and Deformation Variability in the Aftermath of Large Subduction Earthquakes, AGU Fall Meeting, San Francisco, CA, December 2023. (*Poster Presentation*)
22. Lambert, V., Erickson, B., **Jiang, J.**, Dunham, E. M., Abdelmeguid, M., Agajanian, M., Almquist, M., Ampuero, J.-P., Ando, R. Barbot, S., Bodunde, S., Cattania, C., Chen, A., Dal Zilio, L., Duan, B., Elbanna, A. E., Gabriel, A.-A., Harvey, T., Huang, Y., Kaneko, Y., Kim, T., Kozdon, J. E., Lapusta, N., Li, D., Li, M., Liang, C., Liu, D., Liu, Y., Marcum, J., Mia, M., Ozawa, S., Pranger, C., Romanet, P., Segall, P., Sun, Y., Thakur, P., Uphoff, C., van Dinther, Y., Verwijs, R., Yang, Y., Community Code Verification Exercises for Simulations of Earthquake Sequences and Aseismic Slip (SEAS): Effects from Dipping Faults and Full Elastodynamics to Fluids and Fault Friction Evolution, AGU Fall Meeting, San Francisco, CA, December 2023. (*Poster Presentation*)
23. **Jiang, J.**, Bodunde, S., Oyugi, M., Walter, J., and Carpenter, B., Steady and Transient Crustal Signals from Joint GNSS-Seismicity Analyses in Oklahoma, ES-SSA Annual Meeting, Dallas, TX, October 2023. (*Oral Presentation*)
24. Bodunde, S., **Jiang, J.**, Deciphering Time-Dependent Deformation and Stress Fields of Intraplate Seismicity: Effects of Poroelasticity, Viscoelasticity, Fault Slip and Fault Orientation, ES-SSA Annual Meeting, Dallas, TX, October 2023
25. **Jiang., J.**, Geodetic and Microseismic Signatures of Crustal Faulting Following Large Earthquakes, AGU Fall Meeting, Chicago, IL, December 2022. (*Invited Oral Presentation*)
26. Bodunde, S., **Jiang, J.**, Characterizing Spatial Patterns and Timescales of Early Postseismic Deformation of Megathrust Earthquakes, AGU Fall Meeting, Chicago, IL, December 2022. (*Poster Presentation*)
27. Li, H., **Jiang, J.**, Comparing Ambient-Noise-Based Seismic Velocity Variations with Dynamic and Static Strain Changes Associated with Major Earthquake Rupture at Parkfield, AGU Fall Meeting, Chicago, IL, Dec. 2022. (*Poster Presentation*)
28. Shodunke, G. O., **Jiang, J.**, and Bodunde, S., Investigating the Effects of Permeability and Porosity on Reservoir Deformation and Pore Pressure Evolution at Geothermal Fields, AGU Fall Meeting, Chicago, IL, December 2022. (*Poster Presentation*)
29. Lambert, V., **Jiang, J.**, Erickson, B., Abdelmeguid, M., Almquist, M., Ampuero, J.-P., Ando, R. Barbot, S., Bodunde, S., Cattania, C., Chen, A., Dal Zilio, L., Duan, B., Dunham, E. M., Elbanna, A. E., Gabriel, A.-A., Harvey, T., Huang, Y., Kaneko, Y., Kim, T., Kozdon, J. E., Lapusta, N., Li, D., Li, M., Liang, C., Liu, D., Liu, Y., Ozawa, S., Pranger, C., Segall, P., Sun, Y., Thakur, P., Uphoff, C., van Dinther, Y., Yang, Y., Community Code Verification Exercises for Simulations of Earthquake Sequences and Aseismic Slip (SEAS): From 3D, Full Elastodynamics and Dipping Faults to Fluids and Fault Friction Evolution, AGU Fall Meeting, Chicago, IL, December 2022. (*Poster Presentation*)
30. **Jiang., J.**, Geodetic Pursuit Of Aseismic Forces For Micro-earthquake Processes, SAGE/GAGE Community Science Workshop,

Pittsburgh, PA., June 2022. (*Invited Oral Presentation*)

31. **Jiang., J.**, Bock, Y., and E. Klein, Imaging multiscale fault zone dynamics following the 2004 Parkfield rupture, AGU Fall Meeting, New Orleans, LO, December 2021. (*Oral Presentation*)
32. **Jiang, J.**, Erickson, B., Lambert, V., Abdelmeguid, M., Almquist, M., Ampuero, J.-P., Ando, R. Barbot, S., Cattania, C., Chen, A., Dal Zilio, L., Duan, B., Dunham, E. M., Elbanna, A. E., Gabriel, A.-A., Harvey, T., Huang, Y., Kaneko, Y., Kozdon, J. E., Lapusta, N., Li, D., Li, M., Liang, C., Liu, D., Liu, Y., Ozawa, S., Pranger, C., Segall, P., Sun, Y., Thakur, P., Uphoff, C., van Dinther, Y., Yang, Y. Community Code Verification Exercises for Simulations of Earthquake Sequences and Aseismic Slip (SEAS): 3D Effects, Fully Dynamic Ruptures, and Dipping Fault Geometries. AGU Fall Meeting, New Orleans, LO, December 2021. (*Poster Presentation*)
33. **Jiang., J.**, and Lohman, R. B., Characterizing tectonic and anthropogenic ground deformation history in the Imperial Valley, California, using Sentinel-1 InSAR time series, AGU Fall Meeting, San Francisco, CA, December 2019. (*Oral Presentation*)
34. **Jiang., J.** (2019), Perspectives from the SCEC Sequences of Earthquakes and Aseismic Slip (SEAS) Project, SCEC workshop on "How Physics-Based Earthquake Simulators Might Help Improve Earthquake Forecasts," June 18, 2019. (*Invited Oral Presentation*)
35. **Jiang., J.**, Bock, Y., and E. Klein, Imaging slip evolution on the San Andreas fault due to the 2004 Parkfield earthquake, AGU Fall Meeting, Washington D.C., December 2018. (*Oral Presentation*)
36. **Jiang., J.**, and Erickson, B. A. Advancing Simulations of Sequences of Earthquakes and Aseismic Slip (SEAS). SCEC Annual Meeting, September 2018. (*Invited Oral Presentation*)
37. **Jiang., J.** and Fialko, Y., Mechanisms of unsteady shallow creep on major crustal faults, AGU Fall Meeting, New Orleans, LA, December 2017. (*Oral Presentation*)
38. **Jiang., J.** and Simons, M., Multiscale probabilistic imaging of tsunamigenic seafloor deformation during the 2011 Tohoku-oki earthquake, SSA Fall Meeting, Denver, CO, April 2017. (*Invited Oral Presentation*)
39. **Jiang., J.** and Lapusta, N., Variability of earthquake slip and arresting depths in fault models, 20th International Congress of Theoretical and Applied Mechanics (ICTAM), Montreal, Canada, August 2016. (*Oral Presentation*)
40. **Jiang., J.** and Simons, M., Bayesian exploration of coseismic seafloor deformation process during 2011 Tohoku-Oki earthquake using near-field tsunami records, AGU Fall Meeting, San Francisco, CA, December 2014. (*Oral Presentation*)
41. Kirschvink, J. and **Jiang, J.**, Potential Seismic and Tsunami Hazard from the Palau Trench, as viewed from molluscan grazing notches in uplifted coral atolls, GSA Annual Meeting, October 2014. (*Oral Presentation*)
42. **Jiang., J.**, Lapusta, N. and Noda, H., Re-evaluating the seismogenic potential of creeping fault regions: implications from models with rate-and-state friction and enhanced coseismic weakening, AGU Fall Meeting, San Francisco, CA, USA, December 2013. (*Invited Oral Presentation*)
43. **Jiang., J.**, and Lapusta, N., Depth Extent of Large Earthquake Rupture and Patterns of Microseismicity: Effect of Dynamic Weakening below the Seismogenic Depth, International Summer School on Earthquake Science (iSSEs), Earthquake Research Institute (ERI), University of Tokyo, September 2013. (*Oral Presentation*)
44. **Jiang., J.**, and Lapusta, N., Do Large Earthquakes Penetrate below the Seismogenic Zone? Potential Clues from Microseismicity, AGU Fall Meeting, San Francisco, CA, USA, December 2012. (*Oral Presentation*)
45. **Jiang., J.**, and Lapusta, N., Interaction of Dynamic Rupture and Heterogeneous Fault Strength over Multiple Earthquake Cycles. 3rd James K. Knowles Lectures & Caltech Solid Mechanics Symposium, January 2012. (*Oral Presentation*)