Curriculum Vitae of Xin Cui

Ph.D. Candidate in Geophysics

Laboratory for Seismology and Physics of Earth's interior
School of Earth and Space Sciences
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Research Interests

- Machine Learning in Seismology: ML applications to event clustering and new seismological discoveries.
- Earthquake Physics: Evolution and properties of foreshocks, aftershocks, and mainshocks.
- Earthquake Cycle: Simulation of coseismic and postseismic deformation.

Education

- 2024/9-current, Visiting Student, Université Côte d'Azur, Geoazur Laboratory, Nice, France
  Advisor: Prof. Jean-Paul Ampuero
- 2020/9-current, Ph.D. Candidate in Geophysics, USTC, Hefei, China
  Advisor: Prof. Zefeng Li
- 2019/6-2019/9, Visiting Student, California Institute of Technology, Pasadena, USA
  Advisor: Prof. Robert Clayton
- 2016/9-2020/6, B.S. in Geophysics USTC, Hefei, China
  Advisor: Prof. Zefeng Li and Prof. Yan Hu

Awards & Honors

2023	Outstanding Student Presentation Award, 2023 Annual Meeting of American Geophysical Union (AGU), USA
2023	Best Student Presentation Award, 2023 Annual Meeting of AI for Seismology Conference, Hefei, China
2023	Best Poster Award, 2023 Annual Meeting of International Professionals for the Advancement of Chinese Earth Sciences (IPACES), Hefei, China
2023	National Scholarship Graduate, USTC, China
2022	National Scholarship Graduate, USTC, China
2020–2023	Outstanding Student Scholarships, USTC, China (Four times)
2020	Graduate with honir: USTC, China

Received Funds

- Youth Student Basic Research Project (PhD Student), National Natural Science Foundation of China, 300,000 Chinese Yuan, PI, 2024/01–2026/12

Publications

*corresponding author

4. Liu, Y. **Cui, X.** Hu, Y.*, Zhang, J. & Chen, Y. (2024). Integrated investigation on heterogeneous lower crust rheology in Kyushu and afterslip behavior following the 2016 Mw7.1 Kumamoto earthquake. *Geophysical Research Letters*, *51*, e2023GL107606. doi:10.1029/2023GL107606

3. **Cui, X.** Hu, Y. Ma, S. Li, Z.*, Liu, G. & Huang, H. (2024). Bridging supervised and unsupervised learning to build volcano-seismicity classifiers in Kilauea, Hawaii. *Seismological Research Letters*, *95*(3), 1849-1857 doi:10.1785/0220230251

2. **Cui, X.** Li, Z.*& Hu, Y. (2023). Similar seismic moment release process for shallow and deep earthquakes. *Nature Geoscience*, *16*, 454-460 doi:10.1038/s41561-023-01176-5

1. **Cui, X.** Li, Z.*& Huang, H. (2021). Subdivision of seismicity beneath the summit region of Kilauea volcano: Implications for the preparation process of the 2018 eruption. *Geophysical Research Letters*, *48*, e2021GL094698. doi:10.1029/2021GL094698

Ongoing manuscripts:

3. **Cui, X.** Li, Z.*, Han, X. & Yuan, R. (2024). Spurious sound-speed changes on Mars caused by turbulence-induced pressure frequency variations. *Geophysical Research Letters*, under review.

2. **Cui, X.** & Li, Z.*. Moho depth controls earthquake stress drop in Southern California, in preparation.

1. **Cui, X.** & Li, Z.*. Investigating the Evolutionary Patterns and Mechanisms of Foreshocks, in preparation.

Meeting Abstracts

5. **Cui, X.** Li, Z. & Ma, S. (2024). Moho depth controls earthquake stress drop in Southern California 2024 IPACES Annual Meeting, Beijing, China.

4. **Cui, X.** & Li, Z. (2023). On the Physical Mechanism of Foreshock Sequences in South California. 2023 AGU Fall Meeting, San Fransisco, CA, USA. ID: S31A-05.

3. **Cui, X.** & Li, Z. (2023). Exploring the Predictability of Fault Seismicity with Machine Learning. 2023 IPACES Annual Meeting, Hefei, China.

2. **Cui, X.** & Li, Z. (2021). Are shallow, intermediate-depth, deep-focus EQs distinguishable from source time functions? 2021 Annual Meeting of Asia Oceania Geosciences Society, Online.

1. **Cui, X.** Li, Z. & Huang, H. (2021). Subdivision of seismicity beneath the summit region ofKilauea volcano: Implications for the preparation process of the 2018 eruption. 2021 Annual Meeting of AI for Seismology Conference, Qingdao, China