Chuanming Liu

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EDUCATION

Ph.D., in Geophysics, University of Colorado at Boulder (Advisor: Michael Ritzwoller) 2017 - 2023
M.S., in Geophysics, University of Science and Technology of China (Advisor: Huajian Yao) 2014 - 2017
B.S., in Geophysics, China University of Geosciences 2010 - 2014

PROFESSIONAL APPOINTMENTS

Distinguished Postdoctoral Fellow, The University of Texas at Austin (Mentor: Thorsten Becker) 2023.8-

ACADEMIC HONORS

- UT Austin Jackson School of Geosciences Distinguished Postdoctoral Fellowship 2023
- EarthScope Consortium Marine Seismology Travel Support 2022
- American Geophysical Union Outstanding Student Presentation Award 2021
- Chinese Geophysical Society Outstanding Student Presentation Award 2015
- The Liu Guang-Ding Geophysics Scholarship 2012
- China National Scholarship for Undergraduate Students 2011

PUBLICATIONS

Peer reviewed

1. **Liu, C.**, Becker, T.W., Wu, M., Han, S., & Ritzwoller M.H. (2024) Seismic Azimuthal Anisotropy Within the Juan de Fuca - Gorda Plates, *Geophysical Research Letters,* https://doi.org/10.1029/2024GL111835
2. Zheng, M., Sheehan, A. F., **Liu, C.**, Wu, M., & Ritzwoller, M. H. (2024). Characterizing Sub-Seafloor Seismic Structure of the Alaska Peninsula Along the Alaska-Aleutian Subduction Zone. *Journal of Geophysical Research: Solid Earth*, *129*(11). https://doi.org/10.1029/2024jb029862
3. **Liu, C.**, Sheehan A.F., Ritzwoller M.H. (2024) Seismic Azimuthal Anisotropy Beneath the Alaska-Aleutian Subduction Zone, *Geophysical Research Letters, 51,* https://doi.org/10.1029/2024GL109758
4. **Liu, C.**, & Ritzwoller, M. H. (2024). Seismic anisotropy and deep crustal deformation across Alaska. *Journal of Geophysical Research: Solid Earth*, *129*. https://doi.org/10.1029/2023JB028525
5. **Liu, C.**, Zhang, S., Sheehan, A. F., & Ritzwoller, M. H. (2022). Surface Wave Isotropic and Azimuthally Anisotropic Dispersion Across Alaska and the Alaska-Aleutian Subduction Zone. *Journal of Geophysical Research: Solid Earth*, *127*(11). https://doi.org/10.1029/2022jb024885
6. Bem, T. S., **Liu, C.**, Yao, H., Luo, S., Yang, Y., & Liu, B. (2022). Azimuthally Anisotropic Structure in the Crust and Uppermost Mantle in Central East China and Its Significance to Regional Deformation Around the Tan-Lu Fault Zone. *Journal of Geophysical Research: Solid Earth*, *127*(3). https://doi.org/10.1029/2021jb023532
7. Z Zhang, Z., Yao, H., Wang, W., & **Liu, C.** (2022). 3-D Crustal Azimuthal Anisotropy Reveals Multi-Stage Deformation Processes of the Sichuan Basin and Its Adjacent Area, SW China. *Journal of Geophysical Research: Solid Earth*, *127*(1). https://doi.org/10.1029/2021jb023289

8. Feng, L., **Liu, C.**, & Ritzwoller, M. H. (2020). Azimuthal Anisotropy of the Crust and Uppermost Mantle Beneath Alaska. *Journal of Geophysical Research: Solid Earth*, *125*(12). https://doi.org/10.1029/2020jb020076
9. **Liu, C.**, Yao, H., Yang, H., Shen, W., Fang, H., Hu, S., & Qiao, L. (2019). Direct Inversion for Three-Dimensional Shear Wave Speed Azimuthal Anisotropy Based on Surface Wave Ray Tracing: Methodology and Application to Yunnan, Southwest China. *Journal of Geophysical Research: Solid Earth*, *124*(11), 11394–11413. https://doi.org/10.1029/2018jb016920
10. **Liu, C.**, & Yao, H. (2017). Surface Wave Tomography with Spatially Varying Smoothing Based on Continuous Model Regionalization. Pure and Applied Geophysics, 174(3), 937–953. https://doi.org/10.1007/s00024-016-1434-5

GRANTS

UT Austin JSG Distinguished Postdoctoral Fellowship, $150k, PI: Chuanming Liu 2023-2025

- 3D Variation of Seismic Anisotropy across the Juan de Fuca Plate System and the Cascadia Subduction zone

NSF Grants EAR-1928395, $295k, PI: Michael Ritzwoller 2019-2021

- Seismic Interferometry and Data Assimilation for Lithospheric Structure and Anisotropy Across Alaska

  C. Liu contributed the scientific justification of the proposal and executed the work.

NSF Grants EAR-1952209, $363k, PI: Anne Sheehan, CO-PI: Michael Ritzwoller 2020-2023

- 3D Characterization of the Alaska-Aleutian Subduction System with Amphibious Array Interferometry

  C. Liu contributed the scientific justification of the proposal and executed the work.

INVITED TALKS

- Department of Geological Sciences seminar, University of Missouri, 2025
- Department of Sustainable Earth Systems Sciences seminar, The University of Texas at Dallas, 02/2025
- UTIG seminar, University of Texas Institute for Geophysics, 04/2024
- News from the Alaska Subduction Zone virtual seminar, 11/2023
- School of Earth and Space Sciences seminar, University of Science and Technology of China, 10/2023
- School of Geophysics and Geomatics seminar, China University of Geosciences, 10/2023
- Lithosphere and Deep Earth (LDE) seminar, The University of Texas at Austin, 09/2023
- IRIS Alaska EarthScope synthesis, 04/2022
- Seismology Algorithms and Programs Workshop, University of Science and Technology of China, 08/2020

CONFERENCE PRESENTATIONS

- The Crust and Uppermost Mantle Anisotropy Model across Alaska and Alaska Subduction Zone. Passive imaging and monitoring in wave physics workshop, 2024
- Depth-dependent Seismic Azimuthal Anisotropy Beneath the Aleutian Subduction Zone and the Juan de Fuca-Gorda Plates. SSA Meeting (oral), 2024
- Depth-dependent Seismic Azimuthal Anisotropy Beneath the Juan de Fuca-Gorda Plates. AGU Fall Meeting (oral), 2023
- The Contrast of Depth-Dependent Seismic Azimuthal Anisotropy Beneath Alaska-Aleutian and Cascadia Subduction Systems. AGU Fall Meeting (oral), 2022
- Inferring Crustal and Uppermost Mantle Seismic Anisotropy across Alaska with Surface Wave Observations. AGU Fall Meeting (oral), 2021
- Radial and Azimuthal Anisotropy of the Crust and Uppermost Mantle Beneath Alaska Inferred from Surface Waves. AGU Fall Meeting, 2019
- Assimilating New Types of Data in Inversions for Lithospheric Shear Velocity Structure. AGU Fall Meeting, 2018

- Direct Inversion of Surface Wave Dispersion for Three-dimensional Crustal Azimuthal Anisotropy Based on Frequency-Dependent Ray Tracing. AGU Fall Meeting, 2016

TEACHING EXPERIENCE

Guest Lecturer

Physics of the Earth (2024, Spring, UT Austin)

Teaching Assistant

Physics 1110; General Physics I (2020, Spring, CU Boulder)

Physics 1120; General Physics II (2019, Spring, CU Boulder)

Physics 1140; Experimental Physics I (2017, Fall; 2018, Spring, CU Boulder)

PROFESSIONAL SERVICE

Reviewer for Journals: *Journal of Geophysical Research: Solid Earth* (6), *Geophysical Journal International* (7), *Geophysical Research Letters* (3), *Tectonophysics* (1), *Communications Earth & Environment* (3), *Solid Earth* (2), *Geoscience letters* (2), *IEEE Transactions on Geoscience and Remote Sensing* (2), *Scientific Reports* (2), Computers and Geosciences (1)