Xinyu Jiang

Ph.D.
Department of Earth and Environment Sciences, Ludwig-Maximilians-Universität München
E-mail: Jiang.Xinyu@lmu.de Tel: +49-15237168625
ORCID: https://orcid.org/0000-0003-1348-6110
ResearchGate: https://www.researchgate.net/profile/Xinyu-Jiang-39

Educational Background

Peking University Beijing, China 09/2019-07/2024

- Ph.D. in Geophysics (Supervisor: Prof. Xiaodong Song)
- Dissertation: Lithospheric Structure of the Sichuan-Yunnan Region by Joint Adjoint Tomography of Ambient Noise and Regional Earthquakes

EPSS, UCLA 07/2018-09/2018

- Visiting undergraduate, summer internship (Supervisor: Prof. Lingsen Meng)
- Topic: Exploration of Prompt Elasto-Gravity Signal for the 2004 Sumatra Earthquake and 2010 Maule Earthquake

Peking University Beijing, China 09/2015-07/2019

- B.S. in Geophysics (Supervisor: Prof. Yong Zhang)
- Thesis: Joint Inversion of Teleseismic and GPS Data for the Seismic Moment Tensor

Academic Interests

As a geophysicist with expertise in high-performance computing, my postgraduate research centered around the simulation and inversion of seismology problems, specifically on the analysis of the decay of long-period (100-300 s) ***coda waves*** of large earthquakes, which lasted for 140,000 s and ***full-waveform tomography*** with the adjoint method. I am also currently interested in applying ***machine learning*** algorithms and using innovative data sources like ***OBS and DAS***.

Research Experience

Doctoral research: Department of Geophysics, Peking University 09/2019-Present

Advisor: Xiaodong Song (Chair professor)

- The generation and propagation of the long-period coda from large earthquakes
- Determination of magnitude of large earthquakes with long-period coda
- Comparison of seismic velocity models with full waveform calculation in regions like south-eastern Tibet plateau
- Full waveform inversion jointly using regional earthquake records and ambient noise cross-correlations
- Simulation and sensitivity calculation of waveforms related to deep structure, e.g. core-mantle boundary and Earth core heterogeneity

Undergraduate summer intern: EPSS, UCLA 07/2018-09/2018

Advisor: Lingsen Meng (Associate professor)

- Exploration of prompt elasto-gravity signal for 2004 Sumatra Earthquake and 2010 Maule Earthquake

Undergraduate research: Department of Geophysics, Peking University 09/2017-07/2019

Advisor: Yong Zhang (Associate professor)

- Research on far-field surface waves from supershear rupture with data from the 2010 Yushu Earthquake and other events
- Relocation and focal mechanism inversion of events like the M6.1 American Canyon earthquake based on GPS data from NGL
- Joint inversion of teleseismic and GPS data to obtain the seismic moment tensor, source time function and magnitude

Publications

- **Jiang, X.**, Song, X., Li, J., & Zhang, X. (2025). Evaluating Lithospheric Velocity Models in the Sichuan-Yunnan Region of China with Full-Waveform Simulations. (submitted)
- Li, T., Zhang, L., Song, X., Wang, Q., **Jiang, X.**, Zhang, J., & Chen, H. (2024). Intrinsic and Scattering Attenuations of the Sichuan-Yunnan Region in China from S Coda Waves. *Earthquake Science,* 37(1), 51-66.
- **Jiang, X.**, Song, X., Li, T., & Wu, K. (2023). Moment magnitudes of two large Turkish earthquakes on February 6, 2023 from long-period coda. *Earthquake Science*, 36(2), 169-174.
- **Jiang, X.**, & Song, X. (2022). A Method to determine moment magnitudes of large earthquakes based on the long-period coda. *Geophysical Research Letters*, 49(12), e2022GL097801.
- **Jiang, X.**, Song, X., Xia, H. H., & Weaver, R. L. (2021). On the generation and decay of the long-period coda energy of large earthquakes. *Earthquake Science*, 34(2), 103-113.

Paper in Preparation

- Li, T.[†], **Jiang, X.**[†], & Song, X. (2025). Evaluation of Long-Period Coda Moment Magnitude Using Major Earthquakes Since 2000. (in prep.)
- **Jiang, X.**, Song, X., Zhang, X., Zhang, L., Li, J., Wang, X., He, B., Zhu, H. (2025). Lithospheric Structure of the Sichuan-Yunnan Region by Full-waveform Tomography of Regional Earthquakes and Ambient Noise. (in prep.)

Selected Talks and Poster Presentations

- Poster: Jiang, X., Song, X., Li, J., Wang X., He B., Zhu H., & Wu, K. (2023). Lithospheric structure of the Sichuan-Yunnan region by joint adjoint tomography of ambient noise and regional earthquakes. *AGU 2023*.
- Poster: Jiang, X., Song, X., Li, T., & Wu, K. (2023). Magnitude measurements of the two main Turkish earthquakes in February 2023 using long-period coda moment magnitude. *AGU 2023*.
- Poster: Jiang, X., & Song, X. (2022). Long-period coda moment magnitudes of large earthquakes. *AGU 2022*.
- Invited Talk: Jiang, X., & Song, X. (2022). A Method to determine moment magnitudes of large earthquakes based

on the long-period coda. *Chinese Geoscience Union Annual Meeting 2022*.

- Poster: Jiang, X., Song, X., Xia, H. H., & Weaver, R. L. (2021). On the long-period coda energy of large earthquakes: generation, decay and applications. *AGU 2021*.
- Poster: Jiang, X., & Meng, L. (2018). Exploring prompt gravity signals during the 2004 M9. 0 Sumatra and 2010 M8. 8 Maule earthquakes. *AGU 2018*.

Teaching & Outreach

- Participating in the deployment of the short-period dense array in Yunnan Province 08/2023
- Organizing the deployment and mentoring undergraduate students in the project of the *PKU temporary array* 05/2022-06/2022
- Lead the organization of the school badminton competition 05/2022
- Teaching assistant in *Introduction of Earth Science* for freshman 09/2021-12/2021
- Teaching assistant in *Physics of Earth Interior* for graduate students 09/2021-12/2021
- Geomagnetic field observations in Tangshan, Hebei, China 11/2020

Professional Skills

Programming Languages: Python / MATLAB / Shell / C / Fortran

Softwares: SPECFEM3D / AxiSEM / DSM / AxiSEM3D / Ambient noise processing package based on CNCC&AFTAN / GMT / SAC / Paraview / Adobe Illustrator, Photoshop & Premiere / LaTeX / Surfer / ANSYS

Languages: Native in Chinese; Proficient in English