Stanford



Haipeng Li

Ph.D. Student in Geophysics, admitted Autumn 2022

Bio

BIO

Haipeng Li is a Ph.D. candidate in geophysics at the Stanford Earth imaging Project (SEP), beginning in the fall of 2022. His research interests include studying the Earth's interior structures and monitoring related dynamics. He uses and develops time-lapse seismic waveform inversion methods to address real-life problems, including hydrocarbon exploration, CO2 sequestration, and urban environment monitoring, often using Distributed Acoustic Sensing data. He is also interested in leveraging SciML techniques to advance inverse problems and uncertainty quantification.

HONORS AND AWARDS

- Shirley A. & Stanley H. Ward Scholarship, SEG (June 2022)
- Foundation/Chevron Scholarship, SEG (May 2021)
- Michael C. Forrest Scholarship, SEG (June 2020)
- Honorary International Exchange Student, Gov of Oklahoma (April 2019)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Member, Society of Exploration Geophysicists (2019 - present)

EDUCATION AND CERTIFICATIONS

- M.S., University of Science and Technology of China , Geophysics (2022)
- B.S., China University of Petroleum (East China) , Geophysics (2019)

Publications

PUBLICATIONS

- **Urban Monitoring Using Preexisting Telecommunication Fiber-Optic Networks for Distributed Acoustic Sensing: A Review** *IEEE SENSORS JOURNAL*
  Liu, J., Li, H., Li, J., Hwang, D., Aggarwal, J., Biondi, B., Noh, H.
  2025; 25 (21): 39353-39370
- **Fiber-Optic Seismic Full Waveform Monitoring of Groundwater Dynamics** *GEOPHYSICAL RESEARCH LETTERS*
  Li, H., Liu, J., Mao, S., Yuan, S., Clapp, R. G., Biondi, B. L.
  2025; 52 (20)
- **Characterizing Vehicle-Induced Distributed Acoustic Sensing Signals for Accurate Urban Near-Surface Imaging** *SEISMOLOGICAL RESEARCH LETTERS*
  Liu, J., Li, H., Yuan, S., Noh, H., Biondi, B.
  2025; 96 (5): 2867-2880

- **Near-surface imaging and monitoring enabled by urban distributed acoustic sensing seismic arrays** *LEADING EDGE*
  Li, H., Liu, J., Biondi, B. L.
  2025; 44 (8): 588-597

- **Preliminary study of the tectonic structure and seismogenic environment of the M4.7 Feidong earthquake sequence on September 18, 2024 in Hefei** *EARTHQUAKE SCIENCE*
  Ni, H., Li, J., Yao, H., Huang, X., Li, L., Zhou, D., Wang, X., Yu, S., Lu, Y., Yu, J., Zheng, H., Zhou, G., Zou, et al
  2025; 38 (3): 234-252

- **Urban sensing using existing fiber-optic networks.** *Nature communications*
  Liu, J., Li, H., Noh, H. Y., Santi, P., Biondi, B., Ratti, C.
  2025; 16 (1): 3091

- **Future SMART Cities Enabled by Fiber Sensing**
  Biondi, B., Li, H., IEEE
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- **Shallow crustal structure of the northern Longmen Shan fault zone revealed by a dense seismic array with ambient noise analysis** *JOURNAL OF ASIAN EARTH SCIENCES*
  Wang, J., Li, H., Zhang, Y., Li, H., Li, Y., Ma, Z., Xiang, Y.
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- **Application of active-source full waveform inversion in multi -resource exploration in Juyanhai depression of Inner Mongolia** *CHINESE JOURNAL OF GEOPHYSICS-CHINESE EDITION*
  Zheng XueJing, Li JunLun, Xiong QiangQing, Xie JianJian, Li HaiPeng, Tan Jing, Liu ZengQi, Duan Tao
  2024; 67 (8): 3120-3135

- **Continent-Continent Collision Between the South and North China Plates Revealed by Seismic Refraction and Reflection at the Southern Segment of the Tanlu Fault Zone** *Journal of Geophysical Research: Solid Earth*
  Li, H., Li, J., Luo, S., Bem, T. S., Yao, H., Huang, X.
  2023; 128 (1): e2022JB025748

- **Elastic Transmitted Wave Reverse Time Migration for Imaging Earth's Interior Discontinuities: A Numerical Study** *Bulletin of the Seismological Society of America*
  Li, H., Li, J.
  2022

- **A MULTI-AXIAL PERFECTLY MATCHED LAYER FOR FINITE-ELEMENT TIME-DOMAIN SIMULATION OF ANISOTROPIC ELASTIC WAVE PROPAGATION** *JOURNAL OF SEISMIC EXPLORATION*
  Li, H., Chen, J., Zhao, Z., Li, J.
  2021; 30 (2): 173-200

- **Application of full-waveform tomography on deep seismic profiling dataset for tectonic fault characterization** *Haipeng Li*
  Li, H., Li, J., Liu, B., Huang, X.
  2021: 657-661

- **Ambient Noise Surface Wave Reverse Time Migration for Fault Imaging** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
  Li, H., Li, J., Gu, N., Gao, J., Zhang, H.
  2020; 125 (12)

- **Forward modeling of ocean-bottom cable data and wave-mode separation in fluid-solid elastic media with irregular seabed** *APPLIED GEOPHYSICS*
  Qu Ying-Ming, Sun Jun-Zhi, Li Zhen-Chun, Huang Jian-Ping, Li Hai-Peng, Sun Wen-Zhi
  2018; 15 (3-4): 432-447