HUA-WEI ZHOU

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RESEARCH INTERESTS

- ✓ Seismic imaging for exploring hydrocarbons and other resources
- ✓ Tomographic velocity model building in applied and earthquake seismology
- ✓ Crustal & mantle seismology – probing the structure and properties of Earth's interior

EDUCATION

Year	Degree/Field	Institution
1989	PhD/Geophysics	California Institute of Technology, Pasadena, CA, U.S.A.
1984	MS/Geology	California State University, Long Beach, CA, U.S.A.
1980	BS/Mathematics	China University of Geosciences, Wuhan, China

PROFESSIONAL EXPERIENCE

Date	Position
9/12 –	Professor, Sheriff Endowed College Professorship, Dept of Earth & Atmospheric Sciences, University of Houston
2/13 – 7/19	Department Chair, Dept. of Earth & Atmospheric Sciences, University of Houston
9/07 – 8/12	Professor and Joe Pevehouse Endowed Chair of Exploration Geophysics, Dept of Geosciences, Texas Tech University, Lubbock, TX
9/98 – 8/07	Associate Professor/Professor, Dept. of Geosciences; Acting/Associate Director of the Allied Geophysical Lab, University of Houston
5/97 – 8/98	Research Specialist, Exxon Production Research Co., Houston, TX
9/95 – 5/97	Associate Professor, Dept. of Geosciences, University of Houston
11/89 – 8/95	Assistant Professor, Dept. of Geosciences, University of Houston

TEACHING & ADVISING

- ➢ **Supervised 37 master students, 46 doctorial students, and 23 post-docs.**
- ➢ **Taught courses at University of Houston and Texas Tech University.**

Undergraduate Courses:

- "Petroleum Geosciences for Petroleum Engineers"
- "Geophysical Signals & Analysis"

Graduate Courses:

- "3-D Seismic Exploration"
- "Geophysical Data Processing"
- "Petroleum Seismology"
- "Seismic Migration"
- "Seismic Tomography & Velocity Model Building"

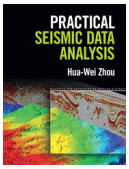
Week-long Short Courses since 2018:

#	Date	Institute | Location	Title of Short Course
1.	2021	UH short course | Houston	Borehole geophysics
2.	Yearly	UH short course | Houston	Petroleum seismology
3.	2018, 2019	Petrobras | Houston	Seismic migration
4.	2018	CUP (Beijing)	Seismic data processing & inversion

PUBLICATIONS

➢ **Published one book and 190 refereed papers and expanded abstracts.**

Books:



1. 2014 **Zhou, H.**, Practical Seismic Data Analysis, Cambridge University Press, 482 pp., 2014.
2. 2017 **Zhou, H.**, Chinese to English translation team leader of "High-resolution seismic exploration" by Qing-Zhong Li, #21 Geophy. Mon. series by SEG, 305 pp., 2017.

Refereed Journal Articles since 2018 (* first author was my student/postdoc):

1. 2018 **Zhou, H.**, H. Hu, Z. Zou, Y. Wo, and O. Youn, Reverse time migration: A prospect of seismic imaging methodology, *Earth-Science Reviews*, *179*, 207-227, 2018.
2. 2018 Zou, Z., **H. Zhou**, H. Gurrola, A. Bian, Z. Huang, and J. Zhang, Impact and solutions of seawater heterogeneity on tomographic inversion of crustal velocity for wide-angle seismic survey in deep marine environment – numerical studies, *J. of Earth Science*, *29*, 1380-1389, 2018.
3. 2019 Wei*, Z., H. Hu, **H. Zhou**, and A. Lau, Characterizing rock facies using machine learning algorithm based on a convolutional neural network and data padding strategy, *Pure & Applied Geophysics*, *176*, 3593-3605, 2019.
4. 2019 Liu, W., F. Wang, and **H. Zhou**, Parallel seismic modeling based on OpenMP+AVX and optimization strategy, *J. of Earth Science*, *30*, 843-848, 2019.
5. 2019 Ding*, Y., **H. Zhou**, Y. Zheng, and Y. Wo, Synthesis of directional wave packets from shot records, *Pure & Applied Geophysics*, *176(10)*, 4321-4333, 2019.
6. 2019 Tong, S.Y., M. Chen, **H. Zhou**, L.W. Li, X.G. Xu, and Z Q. Wu, Reverse-time migration of converted S-waves of varying densities. *J. Ocean University of China*, *18(5)*, 1093-1097, 2019.
7. 2020 Zong*, J., Y. Wo, **H. Zhou**, and N. Dyaur, Inversion for salt flank geometry using transmitted P- and S-wave traveltimes, *IEEE TRANS Geoscience & Remote Sensing*, *58(9)*, 6504-6511, DOI: 10.1109/TGRS.2020.2976953, 2020.

8. 2020 Wo*, Y., **H. Zhou**, H. Hu, J. Zong, and Y. Ding, A layer-cell tomography for near-surface velocity model building using first arrivals, *Pure & Applied Geophysics, 177*, 4161-4175, 2020.
9. 2020 Huang*, X., Z. Guo, **H. Zhou**, Y. Yue, First arrival Q tomography based on adjoint-state method, *J. of Geophysics and Engineering*, *17*, 577-591, 2020.
10. 2020 Thongsang*, P., H. Hu, A. Lau, and **H. Zhou**, Imaging enhancement in angle-domain common-image gathers utilizing connected-component labeling method, *Pure & Applied Geophysics*, *177*, 4897-4912, 2020.
11. 2020 Tang*, S., Y. Ding, **H. Zhou**, and H. Zhou, Reconstruction of sparsely sampled seismic data via residual U-Net, IEEE Geoscience & Remote Sensing Letters, 19, 1-5; doi: 10.1109/LGRS.2020.3035835, 2020.
12. 2020 Alshangiti*, A., and **H. Zhou**, Estimation of interval attenuation from prestack seismic data: A case study from the Arabian Peninsula, Applied Geophysics, 17, 475-488; doi: 10.1007/s11770-020-0835-5, 2020.
13. 2021 **Zhou, H.**, Z. Zou, and Z. Li, Detecting artifacts in seismic profiles, *Reviews of Geophysics and Planetary Physics (in Chinese) 地球与行星物理论评*, *52(1)*, 45-53, 2021.
14. 2021 Wo*, Y., Zong*, J. Zong, H. Hu, **H. Zhou**, and R.R. Stewart, Velocity model building for a single-offset VSP data via deformable-layer tomography: a Texas salt dome example, *Geophysics*, *86(4)*, U63-U73; doi: 10.1190/GEO2020-0394.1, 2021.
15. 2021 Zheng*, J., J. Xu, S. Tong, Y. Huang, and **H. Zhou**, Estimation of seafloor reflectivity in shallow water based on seismic data of sparker sources, Marine Geophysical Research, 42:33, 13 pp.; doi: 10.1007/s11001-021-09456-8, 2021.
16. 2022 Zou, Z., **H. Zhou**, F. Lin, L. Fang, and S. Li, High-resolution teleseismic tomographic crustal imaging for potential seismogenic segment of the central Tan-Lu Fault Zone, Eastern China, *Tectonophysics*, *823*, 11 pp.; doi: 10.1016/j.tecto.2021.229196, 2022.
17. 2022 Liu*, Z., Y. Zheng, and **H. Zhou**, Simultaneous inversion of layered velocity and density profiles using a Direct Waveform Inversion (DWI): 1D case, *Frontiers Earth Science*, *9*, 11 pp.; doi: 10.3389/feart.2021.800312, 2022.
18. 2022 Alzamil*, N., W. Li, **H. Zhou**, and H. Merry, Frequency-dependent SNR effect of distributed acoustic sensing VSP acquisition, *Geophysical Prospecting*, *70(2)*, 377-387; doi: 10.1111/1365-2478.13165, 2022.
19. 2022 Xing, L., H. Lin, D. Zhang, Q., Li, H. Zhou, and H. Liu, Facial characteristics of air gun array wavelets in the time and frequency domain under real conditions, J. Applied Geophysics, 199, 104591; doi: 10.1016/j.jappgeo.2022.104591, 2022.
20. 2022 **Zhou, H.**, Z. Zou, W. Zhang, Q. Liu, and H. Hu, Editorial: Reverse time imaging in solid Earth and exploration geophysics, Frontiers Earth Science, 10, 931127; doi: 10.3389/feart.2022.931127, 2022.
21. 2022 Bian, A., W. Wang, L. Wang, **H. Zhou**, Suppressing position approximation artifacts in full waveform modeling and inversion of marine seismic data, J. Applied Geophysics, 205, 104756; doi: 10.1016/j.jappgeo.2022.104756, 2022.
22. 2022 Contreras1, E., P.J. Garcia, W.W. Sager, S. Thoram, K. Hoernle, R. Sarralde, and **H. Zhou**, Bathymetry of Valdivia Bank, Walvis Ridge, South Atlantic Ocean: Implications for structure and geologic history of a hot spot plateau, Geochemistry, Geophysics, Geosystems, 23, e2022GC010624. https://doi.org/10.1029/2022GC010624, 2022.
23. 2022 Tang*, S.,Y. Zheng, **H. Zhou**, and H. Hu, Earthquake stress drop for a circular crack in an anisotropic medium, Bull. of Seism. Soc. of America; doi: 10.1785/0120220075, 2022.
24. 2023 Bian, A., X. Yu, L. Wang, and **H. Zhou**, Illumination guided sparse geometry optimization for target-oriented full-waveform inversion: An ocean bottom node synthetic study, J. Applied Geophysics, 209, 104915; doi: 10.1016/j.jappgeo.2022.104915, 2023.
25. 2023 Alshangiti*, A., and **H. Zhou**, Estimation of seismic attenuation for reservoirs mapping and inverse Q-filtering: An application on land seismic data, Geophysical Prospecting, 1-16; doi: 10.1111/1365-2478.13325, 2023.

26. 2023 Wu*, B., H. Hu, and **H. Zhou**, Convolutional neural network assisted least-squares migration, Surveys in Geophysics, doi: 10.1007/s10712-023-09777-w, 2023.

Additional 74 Refereed Journal Articles published before 2018.

Refereed Expanded Abstracts since 2018 (* first author was my student/postdoc):

1. 2018 Wo*, Y., and **H. Zhou**, Tomographic velocity model building for complex near surface and its impact on depth imaging, SEG, Expanded Abstract, 37, 2607-2611, Anaheim, 2018.
2. 2018 Thongsang*, P., H. Hu, A. Lau, and **H. Zhou**, Imaging improvement in angle-domain common-image-gathers by a local stack utilizing segmentation method, SEG, Expanded Abstract, 37, 4221-4225, Anaheim, 2018.
3. 2018 Sun, W., Z. Zou, **H. Zhou**, Y. Rui, S. Zhao, Q. Cui, J. Zhang, Velocity model building based on multiscale deformable layer tomography using first-arrival and reflection traveltimes, SEG, Expanded Abstract, 37, 5228-5232, Anaheim, 2018.
4. 2019 **H. Zhou**, Heng Zhou, Boming Wu, and Zhehao Li, Assessing the source radiation pattern (SRP) of onshore seismic data: Preliminary results, SEG, Expanded Abstract, 38, ??, San Antonio, 2019.
5. 2019 Ding*, Y., Y. Zheng, **H. Zhou**, Z. Li, and H. Hu, An asymmetrical reverse time migration scheme to image high-angle faults, SEG, Expanded Abstract, 38, ??, San Antonio, 2019.
6. 2022 Liu*, G., and **H. Zhou**, Triangular impulse tests for stratified gravity inversion, SEG & AAPG 2nd IMAGE, 1165-1169, Houston, 2022.
7. 2022 Li*, Z., **H. Zhou**, and K. Fu, Separation of simultaneous source wavefields using convolutional neural network, SEG & AAPG 2nd IMAGE, 2917-2921, Houston, 2022.

Additional 83 Refereed Expanded Abstracts before 2018, and plus 114 abstracts at national & international conferences