Yang Cui

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Department of Earth Sciences, Uppsala University, Sweden

Education

2026–Now **Ph.D. Candidate in Geophysics**, Uppsala University, Sweden
Supervisors: Dr. Myrto Papadopoulou and Dr. Ayse Kaslilar Sisman

2024–2026 **M.Sc. in Geophysics**, King Fahd University of Petroleum & Minerals, Saudi Arabia
Supervisors: Dr. Umair bin Waheed and Dr. Yangkang Chen
Thesis: *Advanced Deep Learning Approaches for Distributed Acoustic Sensing Data Processing*

2019–2023 **B.Eng. in Exploration Technology and Engineering**, Yangtze University, China
Supervisor: Prof. Min Bai
Thesis: *Seismic Random Noise Suppression Based on Deep Convolutional Neural Network*

Research Interests

Research Scientific Machine Learning for Geophysics (AI4GEO); Distributed Acoustic Sensing (DAS); Surface-wave Processing and Inversion; Neural Operators; Earthquake Seismology; Full Waveform Inversion (FWI).

Field Experience

Oct 2025 **2D Land Streamer Acquisition**, ARGAS, Saudi Arabia
Performed a 4 km long 2D survey using the SmartSolo land streamer in the desert.

Nov 2024 **3D Seismic Data Acquisition Intern**, Saudi Aramco & BGP, Saudi Arabia
Participated in deploying a 3D seismic observation system and learned the seismic data processing and interpretation workflow.

Dec 2021 **Comprehensive Geology Intern**, Yangtze University, Hubei, China
Conducted field measurements and geological outcrop identification. Produced a comprehensive geological map of the Liujiachang area, Songzi, Hubei.

Publications

G Google Scholar
† → Equal contribution

Journal Articles

First Author

1. **Cui, Yang**, Anikiev, D., Waheed, U. B. & Chen, Y. Learning from Imperfect Labels: A Physics-Aware Neural Operator with Application to DAS Data Denoising. *arXiv preprint arXiv:2511.15638* (2025).
2. **Cui, Yang**, Bai, M., Wu, J. & Chen, Y. Earthquake signal detection using a multiscale feature fusion network with hybrid attention mechanism. *Geophysical Journal International* **240,** 988–1008 (2025).
3. **Cui, Yang**, Waheed, U. B. & Chen, Y. Unsupervised deep learning for DAS-VSP denoising using attention-based deep image prior. *IEEE Transactions on Geoscience and Remote Sensing* **63,** 1–14 (2025).
4. **Cui, Yang**, Bai, M., Zhou, Z. & Chen, Y. One-dimensional dictionary learning with variational sparse representation for single-channel seismic denoising. *IEEE Transactions on Geoscience and Remote Sensing* **62,** 1–13 (2024).
5. **Cui, Yang**, Wu, J., Bai, M. & Chen, Y. Ground-truth-free deep learning for 3D seismic denoising and reconstruction with channel attention mechanism. *Geophysics* **89,** V503–V520 (2024).

Co-Author

1. Al-Qadasi, B., **Cui, Yang**, Waheed, U. B. & Wang, H. F. A novel deep-learning model to convert DAS strain to geophone particle velocity: application to PoroTomo data from the Brady geothermal field. *Scientific Reports* (2026).
2. Traversa, A., **Cui, Yang**†, Waheed, U. B. & Chen, Y. SeisReconNO: Leveraging a U–Net-Enhanced Fourier neural operator for 3D seismic reconstruction. *Artificial Intelligence in Geosciences*, 100212 (2026).
3. Zhao, J., Waheed, U. b., Sun, J., **Cui, Yang**, Savva, N. & Verschuur, E. Parameter-Efficient Adaptation of Pre-Trained Vision Foundation Models for Active and Passive Seismic Data Denoising. *arXiv preprint arXiv:2605.10953* (2026).
4. Bai, M., Yang, B., Wu, J., Zhou, Z., **Cui, Yang**, Ma, Z. & Zeng, Y. Efficient Convolutional Sparse Coding Based on Penalized Weighted Least Squares for Seismic Data Denoising. *IEEE Transactions on Geoscience and Remote Sensing* **62,** 1–12 (2024).
5. Zhou, Z., Bai, M., Wu, J. & **Cui, Yang**. Coherent noise attenuation by kurtosis-guided adaptive dictionary learning based on variational sparse representation. *IEEE Transactions on Geoscience and Remote Sensing* **61,** 1–10 (2023).

Awards & Honors

2026	**3rd Place**, 10th SEG Europe Virtual Student Conference, SEG, Europe
2025	**Finalist**, Machine Learning Competition, KFUPM, Saudi Arabia
2024	**National Scholarship** (Top 3%), Yangtze University, China
2023	**Excellent Bachelor's Thesis** (Top 4%), Yangtze University, China
2023	**Outstanding Graduate**, Yangtze University, China

2023 **Third Prize**, National College Students Geophysics Knowledge Competition, China
2023 **Second Prize**, 10th "BGP CUP" National Geophysics Competition, China
2022 **National Encouragement Scholarship** (Top 10%), Yangtze University, China
2021 **National Encouragement Scholarship** (Top 10%), Yangtze University, China

Presentations

Conferences

1. Abdullin, A., Waheed, U. & **Cui, Y**. *Seismic Event Detection with Fourier Neural Operator* in *86th EAGE Annual Conference & Exhibition* **2025** (2025), 1–5.
2. **Cui, Y**, Huff, O., Waheed, U., Lie, J., Evensen, A. & Bugge, A. *Marine Seismic Near Offset Data Reconstruction Using a KAN-Powered FNO* in *86th EAGE Annual Conference & Exhibition* **2025** (2025), 1–5.
3. **Cui, Y**, Waheed, U. & Chen, Y. *Robust DAS Denoising Using a Self-Supervised Method with Kurtosis-Based Feature Selection* in *86th EAGE Annual Conference & Exhibition* **2025** (2025), 1–5.
4. **Cui, Yang**, Bin Waheed, U., Song, C. & Chen, Y. *Leveraging Kolmogorov-Arnold network empowered Fourier neural operator to solve Eikonal equation* in *SEG International Exposition and Annual Meeting* (2025), SEG–2025.
5. Traversa, A., **Cui, Y** & Waheed, U. *Learning a Robust 3D Seismic Data Reconstruction Operator using UFNO* in *86th EAGE Annual Conference & Exhibition* **2025** (2025), 1–5.
6. **Cui, Yang**, Waheed, U. b. & Chen, Y. *Background noise suppression for DAS-VSP data using attention-based deep image prior* in *SEG International Exposition and Annual Meeting* (2024), SEG–2024.
7. Waheed, U. b., Al-Qadasi, B. & **Cui, Yang**. *Evaluating seismic array processing using a novel Deep Learning-based converted DAS strain-ground particle velocity at Brady geothermal field* in *AGU Fall Meeting Abstracts* **2024** (2024), S21G–3487.
8. Zhou, Y., **Cui, Yang** & Hanafy, S. *Super-virtual interferometry for noise elimination on vertical seismic profiling (VSP)* in *SEG International Exposition and Annual Meeting* (2024), SEG–2024.

Teaching

Uppsala University

2026 Spring TA, *Inversion of Geophysical Data*

King Fahd University of Petroleum & Minerals

2025 Autumn TA, *Special Topic: Deep Learning in Geophysics*
2025 Spring TA, *Special Topic: Introduction to Machine Learning*
2024 Autumn TA, *Special Topic: Deep Learning in Geophysics*

Academic Service

Journal Reviewer

Journal of Geophysical Research: Machine Learning and Computation
Geophysics
Computers & Geosciences
Geophysical Journal International
IEEE Transactions on Geoscience and Remote Sensing
Geophysical Prospecting
Journal of Applied Geophysics
Geoenergy Science and Engineering
International Journal of Machine Learning and Cybernetics
Scientific Reports
2026 IMAGE Extended Abstract Reviewer

Membership

SEG
SPE
EAGE

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