



Hongling Chen

Personal Information

Name: Hongling Chen

Gender: Female

Date of Birth: 11th August, 1992

Place of Birth: Harbin, Heilongjiang, China

Business Address: No.28 of Xianning West Road, Xi'an, Shaanxi, 710049

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Research Focus

- Seismic signal processing
- Deep learning in seismic inversion
- Deblending of simultaneous-source data

Education

University of Alberta

Aug. 2021 –Now

Visiting Student sponsored by Government

Supervisor: Mauricio D. Sacchi

Xi'an Jiaotong University

Sep. 2018 –Now

Ph.D. student of Information and Communication Engineering

Supervisor: Jinghuai Gao

China University of Petroleum-Beijing

Sep. 2015 – Jul.2018

Master of Engineering in Geophysics Exploration

Supervisor: Siyuan Cao

- Weighted Average Score: 91.0, Ranking: 1/39
- Course Work: Reservoir Geophysics, Advanced Well Logging, computational geophysics, Seismic Modeling and Imaging, Seismic Inversion and interpretation, Rock Physics, Solid Earth Principles, et al.
- Thesis: Deblending of simultaneous-source data based on sparse inversion

Northeast Petroleum University

Sep. 2011 - Jul. 2015

Bachelor of Geophysics

- Major GPA: 4.54/5.0, Ranking: 1/55
- Thesis: Research on reservoir prediction using seismic inversion method based on Jason software

Extracurricular Activities

Participated in *HIT International Summer School on Artificial Intelligence*

2018

Participated in *Madagascar school of reproducible computational geophysics*

2017

Participated in *HIT International Summer School on Pure and Applied Mathematics*

2015

- Obtained 3 credits at Harbin Institute of Technology, Harbin, China

School Training and Social Experience

Geophysical prospecting institute internship

2015

- Field trips.



- Listened to some reports by geophysical experts.

Participated in National oil and gas geophysical exploration outstanding college students summer camp 2014

- Communicated with Chinese top geophysics scholars

The software training course 2014

- Studied the software including Forward and Landmark

Logging production internship, Daqing, Heilongjiang province, China 2013

- Field trips, understood well logging process.
- Knew well logging instrument.

Seismic Exploration Principle field practice, Qinhuangdao, Hubei province 2012

- Carried on a 7-day field practice, and this activity was titled outstanding.
- Analyzed the petrographic and geochemical nature.

Microcomputer Principle internship 2012

Publications and Keynote Presentations

1. **H. Chen**, J. Gao, W. Zhang and P. Yang, Seismic Acoustic Impedance Inversion via Optimization-Inspired Semi-supervised Deep Learning, in IEEE Transactions on Geoscience and Remote Sensing, 60, 1-11, 2022.
2. **H. Chen**, J. Gao, X. Jiang, Z. Gao, and W. Zhang, Optimization-inspired Deep Learning High-Resolution Inversion for Seismic Data, in GEOPHYSICS, 86 (3), R265-R276, 2021.
3. **H. Chen**, J. Gao, Z. Gao, D. Chen and T. Yang, A Sequential Iterative Deep Learning Seismic Blind High-Resolution Inversion, in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 14, 7817-7829, 2021.
4. **H. Chen**, J. Gao and B. Zhang, An Adaptive Time-Varying Seismic Super-Resolution Inversion Based on Lp Regularization, in IEEE Geoscience and Remote Sensing Letters, 18 (8), 1481-1485, 2021.
5. **H. Chen**, J. Gao, N. Liu and Y. Yang, Multitrace Semiblind Nonstationary Deconvolution, in IEEE Geoscience and Remote Sensing Letters, 16 (8), 1195-1199, 2019.
6. J. Gao, **H. Chen**, L. Wang and B. Zhang, Super-Resolution Inversion of Non-Stationary Seismic Traces, in CSIAM Transactions on Applied Mathematics, 2 (1), 131-161.
7. **H. Chen**, S. Cao, S. Yuan and S. Zu, Iterative Attenuation of Interference via A Rank Reduction Algorithm, in Journal of Applied Geophysics, 155, 62-69, 2018.
8. **H. Chen**, S. Cao, S. Zu, B. Yang, S. Shen and X. Sun, Iterative Deblending Using the POCS Algorithm in the Approximate Flattened Domain, in Journal of Geophysics and Engineering, 15 (4), 1104-1119, 2018.
9. X. Xu, J. Gao, B. Zhang, **H. Chen** and Y. Yang, Multichannel Reflectivity Inversion With Sparse Group Regularization Based on HPPSG Algorithm, in IEEE Geoscience and Remote Sensing Letters, 17 (5), 784-788, 2020.
10. W. Zhang, J. Gao, Z. Gao and **H. Chen**, Adjoint-Driven Deep-Learning Seismic Full-Waveform Inversion, in IEEE Transactions on Geoscience and Remote, 59(10), 8913-8932, 2020.
11. Z. Gao, S. Hu, C. Li, **H. Chen** et al., A Deep-Learning-Based Generalized Convolutional Model For Seismic Data and Its Application in Seismic Deconvolution, in IEEE Transactions on Geoscience and Remote Sensing, 60, 1-17, 2022.
12. Z. Wang, J. Gao, H. Zhao and **H. Chen**, A new approximation to the reflection coefficient of the diffusive-viscous wave equation and its evaluation for frequency-dependent AVA inversion, in Journal of Applied Geophysics, 201, 104636, 2022.
13. **H. Chen**, M. Sacchi and J. Gao, Model-driven Deep Learning Nonstationary Seismic Reflectivity Inversion Method, in GeoConvention 2022.
14. **H. Chen**, J. Gao, Z. Gao, S. Shen, et al., HQS-HRINet: An unrolled deep learning method for seismic high-resolution inversion with an inaccurate wavelet, in 82nd EAGE Annual Conference & Exhibition, 2021.
15. **H. Chen**, J. Gao and Y. Yang, Seismic Super Resolution Inversion Based on Model-driven Deep Learning, in 14th International Conference on Theoretical and Computational Acoustics, 2019.
16. **H. Chen**, S. Cao, S. Yuan, Z. Wang, et al., Nonstationary sparse deconvolution with the SPGL1 algorithm, in International Geophysical Conference, 2017.
17. **H. Chen**, S. Cao, S. Yuan, S. Zu, et al., Robust iterative deblending of simultaneous-source data, in SEG



International Exposition and Annual Meeting, 2017.

18. **H. Chen**, S. Cao, S. Yuan, X. Pan, et al., Nonstationary sparse reflectivity inversion with EADTV Regularization, in 79th EAGE Conference and Exhibition, 2017.

Awards

National scholarship	2021
Best student paper award in the 2019 ICTAC	2019
2nd Prize in China post-graduate mathematical contest in modeling	2018
CNPC enterprise scholarship	2018
Excellent Graduate by China University of Petroleum - Beijing (CUPB)	2018
3rd Prize in China post-graduate mathematical contest in modeling	2017
3rd Prize in National Exploration Geophysics Competition by Society of Exploration Geophysicists (SEG)	2017
1st prize Academic scholarship by CUPB	2016
2nd Prize in National Exploration Geophysics Competition by SEG	2016
Advanced individuals in scientific and technological innovation by CUPB	2016
Excellent Graduate and Excellent Graduation Thesis by Northeast Petroleum University (NPU)	2015
3rd Prize in Innovation Cup Competition by Northeast Petroleum University (NPU)	2014
National scholarship	2013
National Endeavor Fellowship	2012

Self-assessment

Studious, self-motivated, with honest personality and high sense of responsibility; With a pleasant mature attitude; Keen on reading books, cooking and outdoor activities.