

# Curriculum Vitae

Jing Chen

Homepage: <https://jingchen.netlify.app/>  
MAS-04-07, School of Physical and Mathematical Sciences  
Nanyang Technological University, Singapore, 639798  
[jing.chen@ntu.edu.sg](mailto:jing.chen@ntu.edu.sg)

**Personal Information** Born on 16 March, 1994 in Hubei Province, P.R. China.

## Education Experience

- Division of Mathematical Sciences, School of Physical & Mathematical Sciences, Nanyang Technological University *Sept. 2021 - present*
  - Research fellow
  - Advisor: Associate Prof. Ping Tong
- Department of Mathematical Sciences, Tsinghua University *Aug. 2016 - Jun. 2021*
  - Doctor of Science in Mathematics, Tsinghua University
  - Advisor: Associate Prof. Hao Wu
- Visiting Ph.D Student in GFZ German Research Centre for Geosciences *Sept. 2018 - Sept. 2019*
  - Joint advisor: Senior Scientist Dr. Xiaohui Yuan
- Bachelor of Science in Mathematics, Tsinghua University *Jul. 2016*

## Research Interests

- Seismic Tomography
- Optimal Transport Problems
- Eikonal Equation Solver

## Awards

- [1] "Zhao Fangxiong" Scholarship for PhD Candidate, Tsinghua University, 2021.
- [2] National Scholarship for PhD Candidate, Tsinghua University, 2020.
- [3] The Most Concerned Academic Paper in Beijing, Beijing Association for Science and Technology, 2019.
- [4] Excellent Youth Paper Award, China Society for Industrial and Applied Mathematics, 2017.
- [5] Excellent Youth Paper Award, Annual Meeting of Chinese Geoscience Union, 2017.

## Academic Activities

- Conference Speeches and Posters

- [1] *The American Geophysical Union Fall Meeting 2002*, Chiacago, America, 2022. (**on-line poster presentation**)
- [2] *The Applied Math PhD Seminar*, Fudan University, Shanghai, China, 2021. (**contributed talk**)
- [3] *The 4th Youth Forum in the 18th Annual Meeting of CSIAM*, Online, November, 2020. (**contributed talk**)
- [4] *The 6th Doctoral Forum of Beijing for Computational Mathematics*, Beijing University, Beijing, China, October, 2020. (**contributed talk**)
- [5] *The European Geosciences Union General Assembly 2019*, Vienna, Austria, April, 2019. (**poster presentation**)
- [6] *Doctoral Forum of GFZ German Research Centre*, Potsdam, Germany, March, 2019. (**poster presentation**)
- [7] *The 2017 Annual Meeting of Chinese Geoscience Union Mini-symposium on “Topic 50. Seismic Wave Propagation and Imaging”*, Beijing, China, October, 2017. (**contributed talk**)
- [8] *Youth Forum in the 15th Annual Meeting of CSIAM*, Qingdao, China, October, 2017. (**contributed talk & poster presentation**)
- [9] *Doctoral Forum of Tsinghua University*, Sanbao, Beijing, China, March, 2017. (**contributed talk**)

- Conference Attended

- [1] *The Workshop of Computational Geophysics and Partial Differential Equation Inverse Problems*, Northwestern Polytechnical University (Online), November, 2020.
- [2] *The Forum of Tsinghua University for Computational Mathematics and Operations Research*, Tsinghua University, Beijing, China, November, 2020.
- [3] *The 17th Annual Meeting of CSIAM*, Foshan, China, September, 2019
- [4] *The 2017 Annual Meeting of NSFC Key Project Computational Methods for Multi-scale, Multi-physics Transport Problems in Hyperbolic Vehicles*, Shanghai Jiao Tong University, Shanghai, China, May, 2017.
- [5] *2016 Workshop of Beijing-Tianjin-Hebei Society for Computational Mathematics*, Tianjing, China, Sep, 2016.
- [6] *Computational Seismology*, Tsinghua Sanya International Mathematics Forum, Sanya, Hainan, China, Jan, 2016.

## Publications

- [1] Guoxu Chen, Jing Chen, Carl Tape, Hao Wu, Ping Tong (2023). *Double-difference adjoint tomography of the crust and uppermost mantle beneath Alaska*. Journal of Geophysical Research: Solid Earth, 128, e2022JB025168. <https://doi.org/10.1029/2022JB025168>
- [2] Qichen Liao, Jing Chen, Zihao Wang, Bo Bai, Shi Jin, and Hao Wu (2022). *Fast Sinkhorn I: An  $O(N)$  algorithm for the Wasserstein-1 metric*. Communications in Mathematical Sciences, 20 (7), 2053-2067. <https://doi.org/10.4310/CMS.2022.v20.n7.a11>

- [3] Jing Chen, Guoxu Chen, Hao Wu, Jiayuan Yao, and Ping Tong (2022). *Adjoint Tomography of Northeast Japan Revealed by Common-Source Double-Difference Travel-Time Data*. Seismological Research Letters, 93 (3), 1835-1851. <https://doi.org/10.1785/0220210317>
- [4] Jing Chen, Sofia-Katerina Kufner, Xiaohui Yuan, Benjamin Heit, Hao Wu, Dinghui Yang, Bernd Schurr, and Suzanne Kay (2020). *Lithospheric delamination beneath the southern Puna plateau resolved by local earthquake tomography*. Journal of Geophysical Research: Solid Earth, 125, e2019JB019040. <https://doi.org/10.1029/2019JB019040>
- [5] Jing Chen, Hao Jing, Ping Tong, Hao Wu, and Dinghui Yang (2020). *The auxiliary function method for waveform based earthquake location*. Journal of Computational Physics, 413, 109453. <https://doi.org/10.1016/j.jcp.2020.109453>
- [6] Jing Chen, Yifan Chen, Hao Wu, and Dinghui Yang (2018). *The quadratic Wasserstein metric for earthquake location*. Journal of Computational Physics, 373, 188-209. <https://doi.org/10.1016/j.jcp.2018.06.066>
- [7] Hao Wu, Jing Chen, Xueyuan Huang, and Dinghui Yang (2018). *A new earthquake location method based on the waveform inversion*. Communications in Computational Physics. 23(1), 118-141. <https://doi.org/10.4208/cicp.OA-2016-0203>
- [8] Ping Tong, Tianjue Li, Jing Chen, *Adjoint state double-difference travelttime tomography*. Submitted.
- [9] Jing Chen, Guoxu Chen, Masaru Nagaso, Ping Tong, *Adjoint state travelttime tomography for azimuthally anisotropic media in spherical coordinates*. Submitted.
- [10] Qichen Liao, Zihao Wang, Jing Chen, Bo Bai, Shi Jin, Hao Wu. *Fast Sinkhorn II: Collinear Triangular Matrix and Linear Time Accurate Computation of Optimal Transport*. arXiv:2202.10042. Submitted.
- [11] Zhengyang Li, Yijia Tang, Jing Chen, Hao Wu. *The quadratic Wasserstein metric with squaring scaling for seismic velocity inversion*. Submitted.