Curriculum Vitae

Jing Chen

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

Education Experience

- Division of Mathematical Sciences, School of Physical & Mathematical Sciences, Nanyan 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. **(online 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 Multiscale, 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] Jing Chen, Guoxu Chen, Masaru Nagaso, Ping Tong (2023). *Adjoint-state traveltime tomography for azimuthally anisotropic media in spherical coordinates.* Geophysical Journal International, ggad093. https://doi.org/10.1093/gji/ggad093

[2] Datong Zhou, Jing Chen, Hao Wu, Dinghui Yang (2023). *The Wasserstein-Fisher-Rao metric for waveform based earthquake location.* Journal of Computational Mathematics, 41(3), 417-438. https://doi.org/10.4208/jcm.2109-m2021-0045

[3] Zhengyang Li, Yijia Tang, Jing Chen, Hao Wu (2023). *The quadratic Wasserstein metric with squaring scaling for seismic velocity inversion.* Accepted by Numerical Mathematics: Theory, Methods and Applications.

[4] 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

[5] 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

[6] 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

[7] 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

[8] 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

[9] 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

[10] 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

[11] 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.