

姚家园

特任教授 博士生导师

中国地质大学（武汉）
地球物理与空间信息学院
湖北省武汉市洪山区鲁磨路 388 号
基委楼 205 室

✉ yaojiayuan@cug.edu.cn
ID 0000-0001-7036-4238
🌐 core-man.github.io/academic
🔗 [core-man](#)

教育经历

2018 地球物理学博士，中国科学技术大学，中国
2012 地球物理学学士，中国科学技术大学，中国

工作经历

2021/11 至今 特任教授，中国地质大学（武汉），中国
2021/04–2021/09 博士后，地球观测研究所，新加坡
2018/08–2021/03 博士后，南洋理工大学，新加坡

研究方向及兴趣

- 地球深部结构
- 地震定位
- 地震学成像

荣誉

2018 安徽省普通高等学校品学兼优毕业生
2018 中国科学技术大学优秀毕业生
2016 安徽省大学生足球联赛冠军
2015 劳雷奖学金
2014 硕士研究生国家奖学金

学术服务

- 期刊审稿人: *Seismological Research Letters*、*Journal of Asian Earth Sciences*
- AGU 秋季会议 Outstanding Student Paper Award 评审（2018–2019）
- “地震”学”创办者和核心贡献者（2020 至今）

学术社团

- 美国地球物理联合会 (AGU) 会员（2012 至今）

课题组

本科生

- 罗万鑫（大四），中国地质大学（武汉），2022 – 至今

访问学者

- 张雅茜，中国地震台网中心，2022 – 至今

已发表论文

* 通讯作者，# 共同一作

16. Bai, Y., **Yao, J.**, Wu, S., Wei, S., Wang Y., Rondenay, S., He, Y., Ai, Y., Tong, P., & Jiang, M. (2023). Rapid along-strike variations of shallow crustal structure in response to Indo-Burma subduction: Constraints from multi-type passive seismic data *Earth and Planetary Science Letters*, 610, 118105. doi:[10.1785/0220210292](https://doi.org/10.1785/0220210292).
15. **Yao, J.**, Wu, S., Li, T., Bai, Y., Xiao, X., Hubbard, J., Wang, Y., Thant, M., & Tong, P. (2022). Imaging the upper 10 km crustal shear-wave velocity structure of central Myanmar via a joint inversion of P-wave polarizations and receiver functions. *Seismological Research Letters*. doi:[10.1785/0220210292](https://doi.org/10.1785/0220210292).
14. Chen, J., Chen, G., Wu, H., **Yao, J.**, & Tong, P. (2022). Adjoint tomography of NE Japan revealed by common-source double-difference traveltimes data. *Seismological Research Letters*. doi:[10.1785/0220210317](https://doi.org/10.1785/0220210317).
13. Li, T., **Yao, J.**, Wu, S., Xu, M., & Tong, P. (2022). Moho complexity in southern California revealed by local PmP and teleseismic Ps waves. *Journal of Geophysical Research: Solid Earth*, 127, e2021JB023033. doi:[10.1029/2021JB023033](https://doi.org/10.1029/2021JB023033).
12. Wu, S., **Yao, J.**, Wei, S., Hubbard, J., Wang, Y., Yin, M., Myo, T., Wang, X., Wang, K., Liu, T., Liu, Q., & Tong, P. (2021). New insights into the structural heterogeneity and geodynamics of the Indo-Burma subduction zone from ambient noise tomography. *Earth and Planetary Science Letters*, 562, 116856. doi:[10.1016/j.epsl.2021.116856](https://doi.org/10.1016/j.epsl.2021.116856).
11. **Yao, J.**, Liu, S., Wei, S., Hubbard, J., Huang, B., Chen, M., & Tong, P. (2021). Slab models beneath Central Myanmar revealed by a Joint Inversion of regional and teleseismic traveltimes data. *Journal of Geophysical Research: Solid Earth*, 126, e2020JB020164. doi:[10.1029/2020JB020164](https://doi.org/10.1029/2020JB020164).
10. Tong, P., **Yao, J.**, Liu, Q., Li, T., Wang, K., Liu, S., Cheng, Y., & Wu, S. (2021). Crustal rotation and fluids: Factors for the 2019 Ridgecrest earthquake sequence?. *Geophysical Research Letters*, 48, e2020GL090853. doi:[10.1029/2020GL090853](https://doi.org/10.1029/2020GL090853).
9. Lythgoe, K., Ingrid, M., & **Yao, J.** (2020). On waveform correlation measurement uncertainty with implications for temporal changes in inner core seismic waves. *Physics of the Earth and Planetary Interiors*, 309, 106606. doi:[10.1016/j.pepi.2020.106606](https://doi.org/10.1016/j.pepi.2020.106606).
8. **Yao, J.***, Tian, D., Sun, L., & Wen, L. (2020). Comment on “Origin of temporal changes of inner-core seismic waves” by Yang and Song (2020). *Earth and Planetary Science Letters*, 553, 116640. doi:[10.1016/j.epsl.2020.116640](https://doi.org/10.1016/j.epsl.2020.116640).

7. Yao, J. *, Tian, D., Sun, L., & Wen, L. (2019). Temporal change of seismic Earth's inner core phases: inner core differential rotation or temporal change of inner core surface?. *Journal of Geophysical Research: Solid Earth*, 124, 6720–6736. doi:[10.1029/2019JB017532](https://doi.org/10.1029/2019JB017532).
6. Yao, J. *, Tian, D., Lu, Z., Sun, L., & Wen, L. (2018). Triggered seismicity after North Korea's 3 September 2017 nuclear test. *Seismological Research Letters*, 89(6), 2085–2093. doi:[10.1785/0220180135](https://doi.org/10.1785/0220180135).
5. Yao, J. *, Tian, D., Sun, L., & Wen, L. (2018). Source characteristics of North Korea's 3 September 2017 nuclear test. *Seismological Research Letters*, 89(6), 2078–2084. doi:[10.1785/0220180134](https://doi.org/10.1785/0220180134).
4. Tian, D., Yao, J. #, & Wen, L. (2018). Collapse and earthquake swarm after North Korea's 3 September 2017 nuclear test. *Geophysical Research Letters*, 45(9), 3976–3983. doi:[10.1029/2018GL077649](https://doi.org/10.1029/2018GL077649).
3. 温联星, 田冬冬, 姚家园. (2018). 地球内核及其边界的结构特征和动力学过程. *地球物理学报*, 61(3), 803–818. doi:[10.6038/cjg2018L0500](https://doi.org/10.6038/cjg2018L0500).
2. Yao, J. *, Sun, L., & Wen, L. (2015). Two decades of temporal change of Earth's inner core boundary. *Journal of Geophysical Research: Solid Earth*, 120(9), 6263–6283. doi:[10.1002/2015JB012339](https://doi.org/10.1002/2015JB012339).
1. Yao, J. *, & Wen, L. (2014). Seismic structure and ultra-low velocity zones at the base of the Earth's mantle beneath Southeast Asia. *Physics of the Earth and Planetary Interiors*, 233, 103–111. doi:[10.1016/j.pepi.2014.05.009](https://doi.org/10.1016/j.pepi.2014.05.009).

中文翻译

1. E. Vance (2018), [Earthquakes in the sky](#), 11, 环球科学 (*Scientific American* 中文版).

会议摘要

16. Bai, Y., Yao, J., Wu, S., Wei, S., Wang, Y., Rondenay, S., He, Y., Ai, Y., Tong, P., & Jiang, M. (2022) A 3-D probabilistic shallow velocity model in Myanmar and its implication for subduction tectonics. 2022 AGU Fall Meeting, Chicago, IL, USA ([S52B-05](#)).
15. Li, T., Yao, J., Wu, S., & Tong, P. (2021) Moho topography in southern California revealed by local PmP and teleseismic Pms waves. 2021 AGU Fall Meeting, New Orleans, LA, USA ([S21C-08](#)).
14. Jones, M., Grund, M., Schlitzer, W., Leong, W. J., Tian, D., Yao, J., & Uieda L. (2021) PyGMT: An open-source Python library for geospatial processing, analysis, and visualization. 2021 AGU Fall Meeting, New Orleans, LA, USA ([IN55C-08](#)).
13. Wu, S., Yao, J., Wang, K., Wei, S., Hubbard, J., Wang, Y., Wang, K., Liu, Q., & Tong, P. (2020) An integrated 3d velocity structure and earthquake source imaging in Myanmar region. 2020 AOGS 17th Annual Meeting, Hongcheon, Gangwon, South Korea (SE05-A007). (cancelled due to COVID-19)
12. Wei, S., Wu, S., Yao, J., Fadil, W., Wang, Y., Hubbard, J., & Tong, P. (2020) Subduction dynamics in Myanmar, Southeast Asia revealed by ambient noise tomography. 2020 AOGS 17th Annual Meeting, Hongcheon, Gangwon, South Korea (SE05-A014). (cancelled due to COVID-19)
11. Wu, S., Yao, J., Wang, K., Wei, S., Liu, Q., Hubbard, J., & Tong, P. (2019) 3-D crustal and uppermost mantle shear wave velocity model of Myanmar, Southeast Asia from ambient noise tomography. 2019 AGU Fall Meeting, San Francisco, CA, USA ([S11C-0353](#)).

10. Yao, J., Liu, S., Chen, M., Wei, S., Hubbard, J., & Tong, P. (2019) Joint regional earthquake and teleseismic traveltime tomography of Myanmar. 2019 AGU Fall Meeting, San Francisco, CA, USA (T14B-05, Oral).
9. Yao, J., & Tong, P. (2018) First finite-frequency tomography of Myanmar. 2018 AGU Fall Meeting, Washington, D.C., USA (S53C-0418).
8. Tian, D., Yao, J., & Wen, L. (2017) Collapse and earthquake swarm after North Korea's 3 September 2017 nuclear test. 2017 AGU Fall Meeting, New Orleans, LA, USA (S43H-2968).
7. Yao, J., Tian, D., & Wen, L. (2017) High-precision location, yield and tectonic release of North Korea's 3 September 2017 nuclear test. 2017 AGU Fall Meeting, New Orleans, LA, USA (S43H-2967).
6. Yao, J., Tian, D., Sun, L., & Wen, L. (2017) Temporal change of seismic Earth's inner core phases: inner core differential rotation or temporal change of inner core surface?. 2017 AGU Fall Meeting, New Orleans, LA, USA (DI33B-0405).
5. Yao, J., Tian, D., Sun, L., & Wen, L. (2017) Temporal change of seismic Earth's inner core phases: inner core super-rotation or temporal change of inner core surface?. Gordon Research Conference: Interior of the Earth, South Hadley, MA, USA.
4. Yao, J., & Wen, L. (2015) Temporal change of the Earth's inner core boundary beneath North Pacific and Eurasia. 2015 AGU Fall Meeting, San Francisco, CA, USA (DI33A-2608).
3. Yao, J., & Wen, L. (2014) New seismic evidence for localized temporal change of the Earth's inner core boundary. 2014 AGU Fall Meeting, San Francisco, CA, USA (DI31A-4261).
2. Yao, J., & Wen, L. (2013) Seismic scattering and velocity structure near the Earth's core-mantle boundary beneath the South China Sea and north Indonesia. 2013 AGU Fall Meeting, San Francisco, CA, USA (DI23A-2289).
1. Yao, J., & Wen, L. (2012) Strong seismic scatterers near the Earth's core-mantle Boundary in the location of the past Sunda subduction. 2012 AGU Fall Meeting, San Francisco, CA, USA (DI31B-2395).

学术报告

13. 缅甸区域的天然地震学成像研究. 中国合肥市, 中国科学技术大学. 2023 年 3 月 3 日.
12. 体波走时层析成像揭示缅甸中部俯冲板片结构. 中国南京市, 南京大学构造与地球物理青年学术论坛. 2021 年 1 月 7 日.
11. 体波走时层析成像揭示缅甸中部俯冲板片形态. 中国上海市, 同济大学第五届青年学者国际学术论坛. 2020 年 5 月 30 日.
10. Joint regional earthquake and teleseismic traveltime tomography of Myanmar. 2019 AGU Fall Meeting, San Francisco, CA, USA. Dec. 9, 2019.
9. 朝鲜 2017 年核试验及其触发地震活动的地震学监测. 中国武汉市, 中国科学院测量与地球物理研究所. 2019 年 5 月 30 日.

8. 朝鲜 2017 年核试验及其触发地震活动的地震学监测. 中国武汉市, 华中科技大学引力中心. 2019 年 5 月 30 日.
7. Location and source characteristics of North Korea's 2017 nuclear test and its triggered seismicity. *Earth Observatory of Singapore*, Singapore. Sep. 14, 2018.
6. 朝鲜 2017 年核试验的地震学监测. 中国北京市, 中国科学院地质与地球物理研究所. 2018 年 6 月 15 日.
5. 地球内核震相的时间变化: 内核差速性旋转还是内核表面的时间变化? 中国北京市, 中国科学院地质与地球物理研究所. 2018 年 6 月 15 日.
4. 地球内核表面的时间变化和朝鲜 2017 年核试验的地震学监测. 中国北京市, 中国地震局地震预测研究所. 2018 年 6 月 14 日.
3. 朝鲜 2017 年核试验的地震学监测. 中国北京市, 中国地震台网中心. 2018 年 6 月 12 日.
2. 地球内核震相的时间变化: 内核差速性旋转还是内核表面的时间变化? 中国北京市, 中国地球科学联合学术年会 2017. 2017 年 10 月 17 日.
1. 地球内核表面的时间变化. 中国北京市, 中国地震台网中心. 2016 年 6 月 30 日.

教学经历

课程

- 助教, 高等数学 A, 南洋理工大学 (2019 秋季学期)
- 助教, 微积分 II, 南洋理工大学 (2019 春季学期)

研讨会

- 指导讲师, 中国科学技术大学地震学算法和程序培训班: 匹配定位 (M&L) 地震搜索算法 (2018/07/03)

野外经历

- 武汉-咸宁 SmartSolo 小型台网, 2022/01/06 - 至今, 布设 4 个 IGU-16HR 3C 节点地震仪
- 武汉固体地球-大气耦合地球物理试验场, 2022/12/28 - 至今, 布设 2 个宽频带地震仪和一些地表气象设备
- 新加坡密集台阵, 02/26/2019, 布设 20 个短周期地震台