Yao Jiayuan

Associate Professor

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Education

2018	Ph.D in Geophysics, University of Science and Technology of China, China
2012	B.S. in Geophysics, University of Science and Technology of China, China

Academic Positions

2021/11 – Present	Associate Professor, China University of Geosciences (Wuhan), China
2021/04 – 2021/09	Research Fellow, Earth Observatory of Singapore, Singapore
2018/08 – 2021/03	Research Fellow, Nanyang Technological University, Singapore

Research Interests

- Structures of the Earth's Deep Interior
- Seismic Imaging
- Seismic Monitoring

Teaching Experience

2019 Fall	Mathematics A (Teaching Assistant, Nanyang Technological University)
2019 Spring	Calculus II (Teaching Assistant, Nanyang Technological University)

Professional Societies & Activities

2012 – present	Member of the American Geophysical Union (AGU)
2018 – present	Peer-reviewer of scientific journals: *Seismological Research Letters* (2), *Journal of Asian Earth Sciences* (1)
2018 – 2019	Judge for the Outstanding Student Paper Award, AGU Fall Meeting
2018/07/03	Instructor for the workshop *Seismic Algorithm and Program at University of Science and Technology of China*
2020 – present	Founder and primary contributor of seismo-learn

Awards & Honors

2018 Outstanding Graduate Students with Good Conduct, Education Office of Anhui Province [*top 4%*]

2018 Outstanding Graduate Student, University of Science and Technology of China, China [*top 15%*]

2016 Championship of University Football League in Anhui Province

2015 Laolei Scholarship for Graduate Students

2014 National Scholarship for Graduate Students, Ministry of Education, China

Peer-reviewed Publications

[#]co-first author.

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*. doi: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 Traveltime Data. *Journal of Geophysical Research: Solid Earth*, *126*, e2020JB020164. doi: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

9. Lythgoe, K., Inggrid, 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

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

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

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

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

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

3. Wen, L., Tian, D., & **Yao, J.**(2018). Seismic structure and dynamic process of the Earth's inner core and its boundary. *Chinese Journal of Geophysics*, *61*(3), 803–818. doi:10.6038/cjg2018L0500 [in Chinese]

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

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

Papers under Review

1. Li, T., **Yao, J.**, Wu, S., & Tong, P. Moho complexity in southern California revealed by local PmP and teleseismic Pms waves. doi:https://doi.org/10.1002/essoar.10507807.1

Papers in Preparation

1. **Yao, J.**, Sun, L., & Wen, L. Global temporal change of Earth's inner core boundary from repeating earthquakes

Chinese Translations

1. E. Vance (2018), Earthquakes in the sky, 11, *Huanqiukexue* (Chinese version of *Scientific American*).

Meeting Abstracts

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).

Talks

12. **Yao, J.** Slab models beneath central Myanmar revealed by body-wave traveltime tomography. *The Academic Forum about Tectonics and Geophysics for Young Scientists in Nanjing University*, Nanjing, China. Jan. 7, 2021.

11. **Yao, J.** Slab morphology beneath central Myanmar revealed by body-wave traveltime tomography. *The 5th International Academic Forum for Young Scientist in Tongji University*, Shanghai, China. May 30, 2020.

10. **Yao, J.** Joint regional earthquake and teleseismic traveltime tomography of Myanmar. *2019 AGU Fall Meeting, San Francisco*, CA, USA. Dec. 9, 2019.

9. **Yao, J.** Seismic monitoring of North Korea's 2017 nuclear test and its triggered seismicity. *Institute of Geodesy and Geophysics, Chinese Academy of Sciences*, Wuhan, China. May 30, 2019. **[invited]**

8. **Yao, J.** Seismic monitoring of North Korea's 2017 nuclear test and its triggered seismicity. *Center for Gravitational Experiments, Huazhong University of Science and Technology*, Wuhan, China. May 30, 2019.

7. **Yao, J.** Detection and location of small seismic events. *a workshop of seismic algorithm and program at University of Science and Technology of China*, Hefei, China. Jul. 3, 2018. **[invited]**

6. **Yao, J.** Seismic monitoring of North Korea's 3 September nuclear test. *Institute of Geology and Geophysics, Chinese Academy of Sciences*, Beijing, China. Jun. 15, 2018. **[invited]**

5. **Yao, J.** Temporal change of seismic Earth's inner core phases: inner core differential rotation or temporal change of inner core surface?. *Institute of Geology and Geophysics, Chinese Academy of Sciences*, Beijing, China. Jun. 15, 2018. **[invited]**

4. **Yao, J.** Temporal change of the Earth's inner core surface and seismic monitoring of North Korea's 3 September nuclear test. *Institute of Earthquake Forcasting, China Earthquake Administration*, Beijing, China. Jun. 14, 2018.

3. **Yao, J.** Seismic monitoring of North Korea's 3 September nuclear test. *China Earthquake Networks Center*, Beijing, China. Jun. 12, 2018.

2. **Yao, J.** Temporal change of seismic Earth's inner core phases: inner core differential rotation or temporal change of inner core surface?. *2017 Annual Meeting of Chinese Geoscience Union (CGU)*, Beijing, China. Oct. 17, 2017. **[invited]**

1. **Yao, J.** Temporal change of the Earth's inner core boundary. *China Earthquake Networks Center*, Beijing, China. Jun. 30, 2016. **[invited]**

Open Source Software

**Year indicates when the project was started. All projects are currently ongoing.*

2015 **repeating-earthquake** – A C program used to search repeating earthquakes

Manuals

**Year indicates when the manual was started. All manuals are currently maintained.*

2020 **software** – Reference Manual for commonly used Seismological Software

2020 **seismology101** – Quickstart Seismological Reserach Tutorial

Websites

**Year indicates when the website was started. All websites are currently maintained.*

2018 **Seismo Links** – Links for Geophysics & Seismology research

2020 **seismo-learn** – Website for seismo-learn

Field Experience

- Dense array in Singapore, 02/26/2019, installing 20 short-period seismic stations.

Expertise & Skills

Languages	Mandarin Chinese (native), English.
Programming	C, Fortran, Python, Perl, Shell.
Seismological Tools	SAC, ObsPy, SOD, GMT, TauP.
Seismic Source	Smalll Event Detection and Location, Double Difference Location.
Seismic Wave	Generalized Ray Theory, GRT-FD Hybrid Method.
Seismic Imaging	Body-wave Traveltime Tomography, Ambient Noise Tomography, Single Station Imaging.
Data Analysis	Single Station Data Analysis, Array Data Analysis.