

Curriculum Vitae

Mingsong Li

School of Earth and Space Sciences, Peking University
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Research Interests: Paleoclimatology; Paleohydrology; Astronomical Forcing; Sedimentology; Earth System Modeling; Data Assimilation; Time-Series Analysis; Software Development

1. Education

2016	Ph.D., China University of Geosciences (Wuhan), Geology
2014–2016	Johns Hopkins University (Visiting Ph.D. Student, CSC Fellow)
2012	M.S., Jilin University, China, Paleontology and Stratigraphy
2009	B.S., Jilin University, China, Geology

2. Professional Experience

Assistant Professor, Peking University (2020 –)
 Assistant Research Professor, Pennsylvania State University (2019 – 2020)
 Postdoctoral Researcher, Pennsylvania State University (2017 – 2018)
 Postdoctoral Researcher, George Mason University (2016 – 2017)
 Research Assistant, School of Earth Sciences, China University of Geosciences (2012 – 2016)
 Research Assistant, College of Earth Sciences, Jilin University (2009 – 2012)

3. SELECTED AWARDS AND HONORS

2021 National Young Talents Program
 2021 Peking University Boya Young Fellow
 2021 LIU Tungsheng Lecturer, Institute of Geology and Geophysics, Chinese Academy of Sciences
 2021 AGU's Outstanding Reviewers
 2019 Top Peer Reviewer in Geosciences, Publons, Web of Science Group

4. Publications

Google Scholar: <https://scholar.google.com/citations?user=NYUXDW0AAAAJ>

Jan 8, 2024: h-index: 18, citations: 1880

= *Student Advisee*, * = *Corresponding author*

2023

54. **Mingsong Li***, Haotian Zhang, Meng Wang, Zhijun Jin. **2023**. Astronomically forced changes in groundwater reservoirs and sea level during the greenhouse world. **Chinese Science Bulletin**, <https://doi.org/10.1360/TB-2022-0790>
- # 53. **Meng Wang**, **Mingsong Li***, David Kemp, Jan Landwehrs, Zhijun Jin. **2023**. Late Triassic sedimentary records reveal the hydrological response to climate forcing and the history of the chaotic Solar System. *Earth and Planetary Science Letters*, 607: 118052. <https://doi.org/10.1016/j.epsl.2023.118052>
52. Braun Natália Santos, Ciro Climaco Rodrigues, Daniel Ribeiro Franco, **Mingsong Li**, Mariana Aragão Fernandes, Mariane Candido, Raysa de Magalhães Rocha, Thiago Pereira dos Santos, André De Gasperi, Daniel Galvão Carnier Fragoso, Gabriella Fazio, Ana Natalia Gomes Rodrigues, **2023**. Integration of

- seismic stratigraphy and cyclostratigraphy for high resolution chronostratigraphic correlation: The Albacora Field, Campos Basin, Brazil. *Marine and Petroleum Geology*, 158: 106541. <https://doi.org/10.1016/j.marpetgeo.2023.106541>
51. Dongyang Liu, Chunju Huang, **Mingsong Li**, Wenhan Chen, Runjian Chu. **2023**. Evolution of phosphorus enrichment in the early to middle Middle Triassic Epoch in Southern China's ancient oceans and its response to astronomical forcing. *Quaternary Sciences*, 43(6): 1538-1546.
- # 50. Meng Wang, Qing Li, Yanguang Dou, Feng Cai, **Mingsong Li**. **2023**. Astronomically forced climate changes in the Okinawa Trough since the Late Pleistocene: Evidence from CSHC-15 core. *Quaternary Sciences*, 43(6): 1711-1721.
49. Rui Zhang, Zhijun Jin, **Mingsong Li**, Quanyou Liu, Peng Li, Ren Wei, Meng Wang, Xiangwu He. **2023**. Astronomical regulation of the Middle Triassic organic-rich shales in the Ordos Basin. *Quaternary Sciences*, 43(6): 1547-1561.
48. Rui Zhang, Zhijun Jin, Rukai Zhu, **Mingsong Li**, Xiao Hui, Ren Wei, Xiangwu He, Qian Zhang. **2023**. Investigation of deposition rate of terrestrial organic-rich shales in China and its implications for shale oil exploration. *Oil & Gas Geology*, 2023, 44(4): 829-845.
47. Yiquan Ma, Majie Fan, **Mingsong Li***, James Ogg, Chen Zhang, Jun Feng, Chunhua Zhou, Xiaofeng Liu, Yongchao Lu, Huimin Liu, James Eldrett, Chao Ma*. **2023**. East Asian lake hydrology modulated by global sea-level variations in the Eocene warmhouse. *Earth and Planetary Science Letters*, 602: 117925. <https://doi.org/10.1016/j.epsl.2022.117925>
46. Ren Wei, Zhijun Jin, Rui Zhang, **Mingsong Li**, Yongyun Hu, Xiangwu He, Shuai Yuan. **2023**. Orbitally-paced coastal sedimentary records and global sea-level changes in the early Permian. *Earth and Planetary Science Letters*, 620: 118356. <https://doi.org/10.1016/j.epsl.2023.118356>
45. Rui Zhang, David B Kemp, Nicolas Thibault, Mads E Jelby, **Mingsong Li**, Chunju Huang, Yu Sui, Zhixiang Wang, Dongyang Liu, Shizhen Jia. **2023**. Astrochronology and sedimentary noise modeling of Pliensbachian (Early Jurassic) sea-level changes, Paris Basin, France. *Earth and Planetary Science Letters*, 614: 118199. <https://doi.org/10.1016/j.epsl.2023.118199>
44. Rui Zhang, Zhijun Jin, **Mingsong Li**, Michael Gillman, Shuping Chen, Quanyou Liu, Ren Wei, Juye Shi. **2023**. Long-term periodicity of sedimentary basins in response to astronomical forcing: Review and perspective. *Earth-Science Reviews*, 244: 104533. <https://doi.org/10.1016/j.earscirev.2023.104533>
43. Chun-Sheng Jin, Deke Xu, **Mingsong Li**, Pengxiang Hu, Zhaoxia Jiang, Jianxing Liu, Yunfa Miao, Fuli Wu, Wentian Liang, Qiang Zhang, Bai Su, Qingsong Liu, Ran Zhang, Jimin Sun. **2023**. Tectonic and orbital forcing of the South Asian monsoon in central Tibet during the late Oligocene. *Proceedings of the National Academy of Sciences*, 120(5): 105617. <https://doi.org/10.1073/pnas.2214558120>
42. Ren Wei, **Mingsong Li**, Rui Zhang, Yongyun Hu, James G. Ogg, Guoyong Liu, He Huang, Xiangwu He, Shuai Yuan, Qifan Lin, Zhijun Jin. **2023**. Obliquity forcing of continental aquifers during the late Paleozoic ice age. *Earth and Planetary Science Letters*, 613: 118174. <https://doi.org/10.1016/j.epsl.2023.118174>
41. Ren Wei, Rui Zhang, **Mingsong Li**, Xiaojun Wang, Zhijun Jin. **2023**. Obliquity forcing of lake-level changes and organic carbon burial during the Late Paleozoic Ice Age. *Global and Planetary Change*, 233: 104092. <https://doi.org/10.1016/j.gloplacha.2023.104092>
40. Ruoyuan Qiu, Linhao Fang, Yuanzheng Lu, Yuxuan Chen, Renda Huang, Wenzhi Lei, Pengyuan Zhang, **Mingsong Li**. **2023**. Cyclostratigraphy of the Lower Jurassic (Toarcian) terrestrial successions in the Sichuan Basin, southwestern China. *Journal of Asian Earth Sciences*, 250: 105617. <https://doi.org/10.1016/j.jseaes.2023.105617>

2022

39. **Mingsong Li***, Timothy J Bralower, Lee R Kump, Jean M Self-Trail, James C Zachos, William D Rush, Marci M Robinson. **2022**. Astrochronology of the Paleocene-Eocene Thermal Maximum on the Atlantic Coastal Plain. *Nature communications*, 13(1): 5618. <https://doi.org/10.1038/s41467-022-33390-x>
38. Tan Zhang, Yifan Li*, Tailiang Fan, Anne-Christine Da Silva, Mingzhi Kuang, Wangwei Liu, Chao Ma, Qi Gao, Juye Shi, Zhiqian Gao, **Mingsong Li***. 2022. Orbital forcing of tropical climate dynamics in the Early Cambrian. *Global and Planetary Change*, 219, 103985. <https://doi.org/10.1016/j.gloplacha.2022.103985>
37. Jun Tian, Huaichun Wu, Chunju Huang, **Mingsong Li**, Chao Ma, Pinxian Wang. **2022**. Revisiting the Milankovitch Theory from the Perspective of the 405 ka Long Eccentricity Cycle. *Earth Science*, 47(10): 3543-3568. <https://doi.org/10.3799/dqkx.2022.248> (Chinese)
36. Jessica E Tierney, Jiang Zhu, **Mingsong Li**, Andy Ridgwell, Gregory J Hakim, Christopher J Poulsen, Ross DM Whiteford, James WB Rae, Lee R Kump. **2022**. Spatial patterns of climate change across the Paleocene–Eocene Thermal Maximum. *Proceedings of the National Academy of Sciences*, 119 (42): e2205326119. <https://doi.org/10.1073/pnas.2205326119>
35. Zhifeng Zhang, Yongjian Huang, **Mingsong Li**, Xiang Li, Pengcheng Ju, Chengshan Wang. **2022**. Obliquity-forced aquifer-eustasy during the Late Cretaceous greenhouse world. *Earth and Planetary Science Letters*, 596: 117800. <https://doi.org/10.1016/j.epsl.2022.117800>
- # 34. **Yujing Wu**, Xianjun Fang, Linhua Jiang, Biao Song, Baofu Han, **Mingsong Li***, Jianqing Ji*. **2022**. Very long-term periodicity of episodic zircon production and Earth system evolution. *Earth-Science Reviews*, 233: 104164. <https://doi.org/10.1016/j.earscirev.2022.104164>
33. Xu Yao, Shuang Dai, **Mingsong Li**, Linda Hinnov. **2022**. Orbital eccentricity and inclination metronomes in Middle Miocene lacustrine mudstones of Jiuxi Basin, Tibet: Closing an astrochronology time gap and calibrating global cooling events. *Global and Planetary Change*, 215: 103896. <https://doi.org/10.1016/j.gloplacha.2022.103896>
32. Tan Zhang, Yifan Li*, Tailiang Fan, Anne-Christine Da Silva, Juye Shi, Qi Gao, Mingzhi Kuang, Wangwei Liu, Zhiqian Gao, **Mingsong Li***. 2022. Orbitally-paced climate change in the early Cambrian and its implications for the history of the Solar System. *Earth and Planetary Science Letters*, 583: 117420. <https://doi.org/10.1016/j.epsl.2022.117420>
31. Simin Jin, David B. Kemp, David W. Jolley, Manuel Vieira, James Zachos, Chunju Huang, **Mingsong Li**, Wenhan Chen. **2022**. Large-scale, astronomically paced sediment input to the North Sea Basin during the Paleocene Eocene Thermal Maximum. *Earth and Planetary Science Letters*, 579, 1, 11734. <https://doi.org/10.1016/j.epsl.2021.117340>
- # 30. **Meng Wang**, **Mingsong Li***, David B. Kemp, Slah Boulila, James G. Ogg. 2022. Sedimentary noise modeling of lake-level change in the Late Triassic Newark Basin of North America. *Global and Planetary Change*, 208, 103706. <https://doi.org/10.1016/j.gloplacha.2021.103706>

2021

29. Ying Cui*, **Mingsong Li***, Elsbeth E. van Soelen, Francien Peterse, Wolfram M. Kürschner*. **2021**. Massive and rapid predominantly volcanic CO₂ emission during the end-Permian mass extinction. *Proceedings of the National Academy of Sciences*, 118, 37, p. e2014701118. <https://doi.org/10.1073/pnas.2014701118>
28. Dongyang Liu, Chunju Huang, James G. Ogg, David B. Kemp, **Mingsong Li**, Meiyi Yu, William J. Foster. **2021**. Astronomically Forced Changes in Chemical Weathering and Redox During the Anisian (Middle Triassic): Implications for Marine Ecosystem Recovery Following the End-Permian Mass Extinction. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 569: 110355. <https://doi.org/10.1016/j.palaeo.2021.110355>
27. Dongyang Liu, Chunju Huang, David B. Kemp, **Mingsong Li**, James G. Ogg, Meiyi Yu, William J. Foster. **2021**. Paleoclimate and sea level response to orbital forcing in the Middle Triassic of the eastern Tethys. *Global and Planetary Change*: 103454, <https://doi.org/10.1016/j.gloplacha.2021.103454>

26. Omid Falahatkah, Ali Kadkhodaie*, Ali A. Ciabeghods, **Mingsong Li***. 2021. Cyclostratigraphy of the Lower Triassic Kangan Formation in the Salman gas field, eastern Persian Gulf, Iran. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 561, 110045. <https://doi.org/10.1016/j.palaeo.2020.110045>

2017-2020

25. Haocheng Yu, Kunfeng Qiu, **Mingsong Li**, M. Santosh, Z.G. Zhao, Y.Q. Huang. 2020. Record of the late Paleozoic ice age from Tarim, China. *Geochemistry, Geophysics, Geosystems*, e2020GC009237. <https://doi.org/10.1029/2020GC009237>
24. Zheng Gong, **Mingsong Li**. 2020. Astrochronology of the Ediacaran Shuram Carbon Isotope Excursion, Oman. *Earth and Planetary Science Letters*, 547, 116462. <https://doi.org/10.1016/j.epsl.2020.116462>
23. J. Fred Read, **Mingsong Li**, Linda A. Hinnov, Campbell S. Nelson, Steven Hood. 2020. Testing for astronomical forcing of cycles and gamma ray signals in outer shelf/upper slope, mixed siliciclastic-carbonates: Upper Oligocene, New Zealand. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 555, <https://doi.org/10.1016/j.palaeo.2020.109821>
22. Yang Zhang, James G. Ogg, Matthias Franz, Gerhard H. Bachmann, Michael Szurlies, Heinz-Gerd Röhring, **Mingsong Li**, Christian Rolf, Karsten Obst. 2020. Carnian (Late Triassic) magnetostratigraphy from the Germanic Basin allowing global correlation of the Mid-Carnian Episode, *Earth and Planetary Science Letters*, 541, 116275, <https://doi.org/10.1016/j.epsl.2020.116275>
21. Chao Ma, **Mingsong Li**. 2020. Astronomical time scale of the Turonian constrained by multiple paleoclimate proxies. *Geoscience Frontiers*. 11, 1345-1352, <https://doi.org/10.1016/j.gsf.2020.01.013>
- # 20. Meng Wang, Honghan Chen*, Chunju Huang, David B. Kemp, Tianwu Xu, Hongan Zhang, **Mingsong Li***. 2020. Astronomical forcing and sedimentary noise modeling of lake-level changes in the Paleogene Dongpu Depression of North China. *Earth and Planetary Science Letters*, 535: 116116, <https://doi.org/10.1016/j.epsl.2020.116116>
19. Tan Zhang, Changmin Zhang, Tailiang Fan, Lei Zhang, Rui Zhu, Jinyu Tao, **Mingsong Li**. 2020. Cyclostratigraphy of Lower Triassic terrestrial successions in the Junggar Basin, northwestern China. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 109493. <https://doi.org/10.1016/j.palaeo.2019.109493>
18. **Mingsong Li**, Hubert L. Barnes. 2019. Astronomically forced sphalerite growth in the upper Mississippi Valley District. *Geochemical Perspectives Letters*, 12, 18-22, <https://doi.org/10.7185/geochemlet.1929> [Cover Story]
17. Peng Gao, Junsheng Nie, **Mingsong Li**, Pu Li. 2019. Confirmation of a late Miocene subchron C4n.2n-1r from the eastern Qaidam Basin in the NE Tibetan Plateau. *Journal of Geophysical Research: Solid Earth*, <https://doi.org/10.1029/2019JB017936>
16. Matthias Sinnesael, David De Vleeschouwer, Christian Zeeden, Sietske J. Batenburg, Da Silva Anne-Christine, Niels J. de Winter, Jaume Dinarès-Turell, Anna Joy Drury, Gabriele Gambacorta, Frits Hilgen, Linda Hinnov, Alexander J.L. Hudson, David B. Kemp, Margriet Lantink, Jiri Laurin, **Mingsong Li**, Diederik Liebrand, Chao Ma, Stephen Meyers, Johannes Monkenbusch, Sandro Montanari, Theresa Nohl, Heiko Pälike, Damien Pas, Micha Ruhl, Nicolas Thibault, Maximilian Vahlenkamp, Luis Valero, Sébastien Wouters, Huaichun Wu, Philippe Claeys. 2019. The Cyclostratigraphy Intercomparison Project (CIP): consistency, merits and pitfalls. *Earth-Science Reviews*, <https://doi.org/10.1016/j.earscirev.2019.102965>
15. Qingda Su, Junsheng Nie, Zeng Luo, **Mingsong Li**, Richard Heermance, Carmala Garziona. 2019. Detection of strong precession cycles from the late Pliocene sedimentary records of northeastern Tibetan Plateau. *Geochemistry, Geophysics, Geosystems*, <https://doi.org/10.1029/2019GC008447>
14. **Mingsong Li**, Chunju Huang, James Ogg, Yang Zhang, Linda Hinnov, Huaichun Wu, Zhong-Qiang Chen, Zhuoyan Zou. 2019. Paleoclimate proxies for cyclostratigraphy: Comparative analysis

- using a Lower Triassic marine section in South China. *Earth-Science Reviews*, 189, 125-146, <https://doi.org/10.1016/j.earscirev.2019.01.011>
13. **Mingsong Li**, Linda Hinnov, Lee Kump. 2019. *Acycle*: Time-series analysis software for paleoclimate research and education. *Computers & Geosciences*, 127, 12-22, <https://doi.org/10.1016/j.cageo.2019.02.011>
 12. **Mingsong Li**, Linda Hinnov, Chunju Huang, James Ogg. 2018. Sedimentary noise and sea levels linked to land-ocean water exchange and obliquity forcing. *Nature Communications*, 9, 1004, <https://doi.org/10.1038/s41467-018-03454-y>
 11. **Mingsong Li**, Lee Kump, Linda Hinnov, Michael Mann. 2018. Tracking variable sedimentation rates and astronomical forcing in Phanerozoic paleoclimate proxy series with evolutionary correlation coefficients and hypothesis testing. *Earth and Planetary Science Letters*, 501, 165-179, <https://doi.org/10.1016/j.epsl.2018.08.041>
 10. **Mingsong Li**, Chunju Huang, Weizhe Chen, Linda Hinnov, James Ogg, Wei Tian. 2018. Astrochronology of the Anisian Stage (Middle Triassic) of Guandao section, South China. *Earth and Planetary Science Letters*. 482, 591-606, <https://doi.org/10.1016/j.epsl.2017.11.042>
 9. **Mingsong Li**, Yang, Zhang, Chunju Huang, James Ogg, Linda Hinnov, Yongdong Wang, Zhuoyan Zou, Liqin Li. 2017. Astronomical tuning and magnetostratigraphy of the Xujiache Formation in South China and Newark Supergroup in North America: implications for the Late Triassic time scale. *Earth and Planetary Science Letters*. 475, 207-223, <https://doi.org/10.1016/j.epsl.2017.07.015>

2010-2016

8. **Mingsong Li**, Chunju Huang, Linda Hinnov, James Ogg, Zhong-Qiang Chen, Yang Zhang. 2016. Obliquity-forced climate during the Early Triassic hothouse in China. *Geology*, 44(8), 623-726, <https://doi.org/10.1130/G37970> [Cover Story]
7. **Mingsong Li**, James Ogg, Yang Zhang, Chunju Huang, Linda Hinnov, Zhong-Qiang Chen, Zhuoyan Zou. 2016. Astronomical tuning of the end-Permian extinction and the Early Triassic Epoch of South China and Germany. *Earth and Planetary Science Letters*, 441, 10-25, <https://doi.org/10.1016/j.epsl.2016.02.017>
6. Zhuoyan Zou, Chunju Huang, **Mingsong Li**, Yang Zhang. 2016. Climate response to astronomical forcing during the Oligocene-Miocene transition in the equatorial Atlantic (ODP Site 926), *Science China Earth Sciences*, 59(8), 1665-1673, <https://doi.org/10.1007/s11430-016-5311-y>
5. Yang Zhang, **Mingsong Li**, James Ogg, Paul Montgomery, Chunju Huang, Zhong-Qiang Chen, Zhiqiang Shi, Paul Enos, Daniel J. Lehrmann. 2015. Cycle-calibrated magnetostratigraphy of middle Carnian from South China: Implications for Late Triassic time scale and termination of the Yangtze Platform. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 436, 135-166, <https://doi.org/10.1016/j.palaeo.2015.05.033>
4. Yuewu Sun, **Mingsong Li**, Wenchun Ge, Yanlong Zhang, Dejun Zhang. 2013. Eastward termination of the Solonker–Xar Moron River Suture determined by detrital zircon U–Pb isotopic dating and Permian floristics. *Journal of Asian Earth Sciences*, 75, 243-250, <https://doi.org/10.1016/j.jseaes.2013.07.018>
3. Yuewu Sun, **Mingsong Li**, Guowei Zhao. 2012. A new terrestrial lithostratigraphic unit of the Cisuralian (Early Permian) in the Yanbian area, Jilin Province. *Journal of Stratigraphy*, 36, 89-96
2. **Mingsong Li**, Yuewu Sun, Guowei Zhao. 2011. Discovery of Early Permian Cathaysia flora from Daxinggou of Wangqing County, Yanbian area, Jilin Province, China and its geological significance. *Advances in Earth Science*, 26, 339-346
1. Shuqin Zhang, Yuying Liu, **Mingsong Li**. 2010. Eocene-Miocene palynological assemblages in Wanchang area of Jilin and their stratigraphic significance. *Global Geology*, 29, 357-362

5. Speaking Engagements

31. Institute of Atmospheric Physics, Chinese Academy of Sciences, Sept. 15, 2023. **Invited Speaker.**
30. Institute of Tibetan Plateau Research, Chinese Academy of Sciences. Apr. 19, 2023. **Invited Speaker.**
29. Institute of Earth Environment, Chinese Academy of Sciences, “Legend of Past and Present” Forum. Apr. 13, 2023. **Invited Speaker.**
28. Paleoclimatology Group Seminar. Feb. 5, 2023. **Invited Speaker.**
27. Solid Earth Science Key Laboratory Alliance 2022 Academic Committee Meeting. Dec. 18, 2022. **Invited Speaker.**
26. National Natural Science Foundation of China, Continental Evolution and Monsoon System Evolution Basic Science Center Project, Online Academic Seminar Series. Oct. 15, 2022. **Invited Speaker.**
25. Jilin University, May 9, 2022. **Invited Speaker.**
24. Cloud Meeting on Paleomagnetism. Dec. 5, 2021. **Invited Speaker.**
23. Peking University. Oct. 27, 2021. **Invited Speaker.**
22. Southern University of Science and Technology. Oct. 23, 2021. **Invited Speaker.**
21. Montclair State University. Oct. 11, 2021. **Invited Speaker.**
20. Tongji University. Oct. 11, 2021. **Invited Speaker.**
19. Peking University. Jun. 11, 2021.
18. Peking University. May 26, 2021.
17. Tongji University. Apr. 19, 2021. **Invited Speaker.**
16. China University of Geosciences (Beijing). Apr. 16, 2021. **Invited Speaker.**
15. Virginia Tech. Blacksburg, Virginia, USA. Mar. 18, 2021. **Invited Speaker.**
14. Institute of Geology and Geophysics, Chinese Academy of Sciences. Beijing, China. Mar. 16, 2021. **Invited LIU Tungsheng Lecture.**
13. Virginia Tech. Blacksburg, Virginia, USA. Mar. 11, 2021. **Invited Speaker.**
12. Pennsylvania State University. State College, USA. Feb. 14, 2020.
11. Lehigh University. Department of Earth and Environmental Sciences, Bethlehem, USA. Sept. 5, 2019. **Invited Speaker.**
10. George Mason University. Department of Atmospheric, Oceanic and Earth Sciences, Geology Seminar Series. Fairfax, Virginia, USA. Mar. 28, 2019. **Invited Speaker.**
9. Pennsylvania State University. State College, Pennsylvania, USA. Sept. 21, 2018.
8. Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences. Nanjing, Jiangsu, China. May 11, 2018. **Invited Speaker.**
7. Nanjing University. Nanjing, Jiangsu, China. May 9, 2018. **Invited Speaker.**
6. China University of Geosciences. Wuhan, Hubei, China. Mar. 26, 2018. **Invited Speaker.**
5. Purdue University. West Lafayette, Indiana, USA. Jan. 18, 2018. **Invited Speaker.**
4. Peking University. Beijing, China. Oct. 19, 2017. **Invited Speaker.**
3. Pennsylvania State University. State College, Pennsylvania, USA. Apr. 14, 2017
2. China University of Geosciences. Wuhan, Hubei, China. Mar. 19, 2017. **Invited Speaker.**
1. George Mason University. Department of Atmospheric, Oceanic and Earth Sciences, Geology Seminar Series. Fairfax, Virginia, USA. Oct. 8, 2015

7. Teaching Experience

Fall 2023 Instructor, Peking University

01232010 Data Science for Geoscience (Undergraduate, Credits: 2)

Fall 2023 Instructor, Peking University

01201270 Deep-Time Earth Data Analysis and Visualization (Graduate, Credits: 2)

Fall 2022 Instructor, Peking University

01201270 Deep-Time Earth Data Analysis and Visualization (Graduate, Credits: 2)

Spring 2021, Spring 2022 Instructor, Peking University

Advances in Paleontology and Stratigraphy (Graduate, Credits: 2, co-teach)

Fall 2019 Interim Instructor, Pennsylvania State University

GEOSC 204-Geobiology: Co-designing and teaching lectures on paleoclimate and mass extinctions.

Sept. 2019 Invited Short Course, Lehigh University

Acycle: Time-series analysis software for paleoclimate research and education.

Spring 2016 Interim Instructor, George Mason University

GEOL304-Sedimentary Geology: Analysis and interpretation of sediment, sedimentary rocks and strata: Taught 10+ students to implement chronostratigraphic analysis using MATLAB and Excel to understand cyclical patterns of climate change in the Newark Basin.

Spring 2016 Interim Instructor, George Mason University

GEOL565/CLIM759-Paleoceanography: Investigation of ocean evolution through geologic time: Taught 10+ students to understand the basics of geologic time.

2014 Teaching assistant, China University of Geosciences (Wuhan)

Astronomical Forcing of the Paleoclimate System: Guided 25+ students to understand astronomical forcing of the climate and cyclostratigraphy via hands-on astrochronological lab work and the interpretation of chronostratigraphic information.

8. Student & PostDoc Mentorship

Peking University

Hanyu Zhu: Ph.D. student, since Sept. 2023; supervisor

Xiaoyu Zhang: Ph.D. student, since Sept. 2022; supervisor

Haotian Zhang: Ph.D. student, since Sept. 2021; supervisor

Haoxun Zhang: Master student, since Sept. 2021; supervisor

Qingqing Jiang: Master student, since Sept. 2022; supervisor

Zhixin Wang: Undergraduate student

Zhidan Xiang: Undergraduate student

Xinwen Zhang: Undergraduate student

Jiahao Liu: Undergraduate student

Mariana Aragao Fernandes: Master student, National Observatory in Rio de Janeiro - Brazil, since Sept. 2020; associate supervisor

PostDoc

Kaixuan Ji, Peking University, since Dec 2022

Meng Wang, Peking University, since July 2021

Pennsylvania State University

Meng Wang: visiting Ph.D. student from China University of Geosciences, Wuhan, China, July 2019 – Sept. 2020; host and advisor

Past Lab Members

Yujing Wu, 2021-2023. Ph.D. degree – now a postdoc at IMCCE, Observatoire de Paris (advisor Jacques Laskar)

Ciro Clímaco Rodrigues: 2020-2022. Master's Degree, associate supervisor, now at Petrobras

9. Projects

Since 2021 (Total: ¥7,973,300 = ~\$1,130,500)

17. Dec. 2022 – Nov. 2027, National Key R&D Program of China (2022YFF0802900), “Temporal and spatial evolution of orbital scale ocean deoxygenation during the Paleocene-Eocene Thermal Maximum”, PI, RMB 4,000,000

16. Nov. 2021 – Oct. 2026, National Key R&D Program of China (2021YFA0718200) “Metal stable isotope geochemical technique for tracing the evolution of the Earth's habitability in the middle Proterozoic”, Co-PI, RMB 1,333,300

15. Jan. 2022 – Dec. 2025, National Natural Science Foundation of China “Astrochronology and past global change”, PI, RMB 1,000,000
14. Jan. 2021 – Dec. 2024, National Natural Science Foundation of China (No. 42072040) “Study on the mechanism of lake level and sea level changes in the Early Triassic of China and Germany based on sedimentary noise modeling”, PI, RMB 610,000
13. Jan. 2021 – Dec. 2022, the Fundamental Research Funds for the Central Universities (No. 7100603368) “High resolution astrochronology and paleoclimate change”, PI
12. July. 2021 – June. 2022, Hubei Key Laboratory of Critical Zone Evolution, China University of Geosciences, Wuhan (No. 2021F07) “Sea level reconstruction from the Lower Triassic Xiejiacao section of Guangan, Sichuan”, PI, RMB 30,000

Before 2021

11. Mar. 2017 – Dec. 2020, Heising-Simons Foundation award (No. 2016-011), “Paleoclimate Data Assimilation for Deep Time”, took part
10. Sept. 2016 – Feb. 2017, NSF-Standard Grant-OCE-1303605, “Collaborative Research: The relationship between multi-year droughts in California, coupled ocean-atmosphere climate oscillations and climate forcing”, took part
9. Sept. 2014 – Aug. 2016 China Scholarship Council (Grant No. 201406410029) “Astrochronology of Triassic Type Stratigraphic Sections in South China”, PI
8. Jan. 2014 – Dec. 2016, National Science Fund of China for Excellent Young Scholars (No. 41322013), “Astronomical cycles and Deep-time Global Change”, took part
7. Jan. 2014 – Dec. 2016, National Science Foundation for Young Scientists of China (No. 41302113), “Recognition of Milankovitch cycles from the Xujiahe Formation in the Western Sichuan basin and the establishment of astronomical time scale”, took part
6. Jan. 2012 – Dec. 2014, National Science Foundation for Young Scientists of China (No. 41102004), “Study of the Carboniferous conodont in the central Jilin area”, took part
5. Sept. 2012 – Dec. 2014 The National Basic Research Program (973 Program), “Climate and Environment Evolution in the late Mesozoic Greenhouse” (No. 2012CB822000-G), took part
4. 2011 – 2012 Program of Key Laboratory of Ministry of Education, China, “Late Paleozoic Phytogeography of Yanbian area, Jilin”, Co-PI
3. 2011 – 2012 China Geological Survey. “Stratigraphic Correlation of the Carboniferous-Permian in Tianshan-Xingmeng Tectonic Region”, took part
2. 2011 – 2012 Institute of Mineral Resources, Chinese Academy of Geological Sciences. “Stratigraphy of the Devonian-Carboniferous in the Northeastern China and Prospects of Hydrocarbon Resources”, took part
1. Sept. 2009 – June 2012 National Strategic Research Center of Oil & Gas. “Hydrocarbon Resources Investigation in the Late Paleozoic in Songliao Basin and adjacent area” (14B09XQ1201), took part

10. Software Package

Acycle: Time-series analysis software for paleoclimate research and education

<https://github.com/mingsongli/acycle> or <https://acycle.org>

A comprehensive and easy-to-use desktop application on MacOS and Windows

Facilitating research of 1000+ scientists at Yale, Princeton, Columbia University, University of Calgary, Australian National University, Chinese Academy of Sciences, Utrecht University, University of Padova, University of Zaragoza, National Observatory (Brazil), etc.

11. Professional Activities

(1) Committee

2022- *Committee Member, Anthropocene Research Society, Geological Society of China*

(2) Editorial Board

2021-2025 *Editorial Group Member, National Science Review*

(3) Conference chair and convener

- 2022 AGU Fall Meeting. **Chair and Primary Convener**, PP019. *Cyclostratigraphy and Astronomical Forcing of Earth's Paleoclimate System I, II*
- 2023 Conference on Earth System Science (Shanghai), **Chair and Convener**, Session 36 Long-period orbital forcing of Earth system evolution
- 2023 Conference on Earth System Science (Shanghai), **Chair and Convener**, Session 37 Paleoenvironmental reconstruction during periods of global warming
- 2022 AGU Fall Meeting. **Chair and Primary Convener**, PP11C. *Cyclostratigraphy and Astronomical Forcing of Earth's Paleoclimate System I Online Poster Discussion*
- 2022 AGU Fall Meeting. **Chair and Primary Convener**, PP13B. *Cyclostratigraphy and Astronomical Forcing of Earth's Paleoclimate System II Oral*
- 2022 AGU Fall Meeting. **Chair and Primary Convener**, PP25D. *Cyclostratigraphy and Astronomical Forcing of Earth's Paleoclimate System III Poster*
- 2022 AGU Fall Meeting. **Co-chair and co-convener**, PP14A. *Ocean Deoxygenation During Past Hyperthermals I Online Poster Discussion*
- 2022 AGU Fall Meeting. **Co-chair and co-convener**, PP22D. *PP22D - Ocean Deoxygenation During Past Hyperthermals II Poster*
- 2021 AGU Fall Meeting. **Primary Convener**, PP006. *Cyclostratigraphy and Astronomical Forcing of Earth's Paleoclimate System*
- 2021 GSA Annual Meeting. **Co-convener**, T171. *Data-Driven Approaches Deciphering Water and Carbon Cycles in Earth-Surface Systems*
- 2021 Virtual European Geosciences Union General Assembly. **Co-Convener**, CL1.8/SSP2.4: *Climate response to orbital forcing*
- 2020 AGU Fall Meeting. **Chair and Primary Convener**, *Topical Session: Astronomical Forcing and Past Climate Cycles*
- 2020 Goldschmidt Conference. **Co-chair and co-convener**, *Topical Session: New Developments in Deep-Time Paleoceanography: Geochemical Proxies, Cyclostratigraphy & Data Analysis*
- 2019 AGU Fall Meeting. **Chair and Primary Convener**, *Topical Session: Cyclostratigraphy and Astronomical Forcing of Past Climates*
- 2019 AGU Fall Meeting. **Chair and Primary Convener**, *Topical Session: Chrono-stratigraphy using Magnetic Methods*
- 2018 AGU Fall Meeting. **Chair and Primary Convener**, *Topical Session: Cyclostratigraphy and Astrochronology in Deep Time*
- 2018 International Symposium on Deep-time Environmental & Climatic Extremes and Biotic Responses, Wuhan, China. **Co-Chair**, *Session: Triassic*
- 2018 European Geosciences Union General Assembly 2018. **Co-Convener**, *Session CL1.31: Climate response to orbital forcing*
- 2017 AGU Fall Meeting. **Co-chair and co-convener**, *Topical Session PP42B: Cyclostratigraphy and Astronomical Forcing of Past Climates*
- 2017 GSA Annual Meeting. **Co-chair and co-convener**, *Topical Session T47: Recent Developments in Cyclostratigraphy*

(4) Proposal Referee

National Natural Science Foundation of China; US National Science Foundation, Deutsche Forschungsgemeinschaft (German Research Foundation, DFG), Polish National Science Centre

(5) Journal Referee (90+ review reports):

Publons: <https://publons.com/researcher/1455928/mingsong-li/peer-review/>

(23) *Palaeogeography, Palaeoclimatology, Palaeoecology*, (5) *Journal of Asian Earth Sciences*, (4) *Marine and Petroleum Geology*, (3) *Earth and Planetary Science Letters*, (3) *Geology*, (2) *Computers & Geosciences*, (2) *Cretaceous Research*, (2) *Geological Journal*, (2) *Geophysical Research Letters*, (2) *Global and Planetary Change*, (2) *Journal of King Saud University - Science*, (1) *Arabian Journal of Geosciences*, (1) *Earth-Science Reviews*, (1) *GSA Bulletin*, (1) *Geoscience Frontiers*, (1) *Gondwana Research*, (1) *Journal of Ocean University of China*, (1) *Nature Communications*, (1) *Paleoceanography*, (1) *Paleoceanography and Paleoclimatology*, (1) *Precambrian Research*, (1) *Quaternary Science Reviews*, (1) *Science*, (1) *Scientific Reports*, (1) *Sedimentology*

(6) Judge

2019 Outstanding Student Presentation Award (OSPA), AGU

2018 Outstanding Student Presentation Award (OSPA), AGU

2017 Tenth Annual Postdoc Research Exhibition, Penn State

12. Selected News & Interviews

- 2022 北京大学新闻网, 地空学院李明松研究员在古新世-始新世极热事件研究中取得进展,
<https://news.pku.edu.cn/jxky/20c6bb15765e489ba497b0ed382b38e7.htm>
- 2022 Penn State, Sciencedaily, Phys.org: Changes in Earth's Orbit May Have Triggered Ancient Warming Event <https://www.psu.edu/news/research/story/changes-earths-orbit-may-have-triggered-ancient-warming-event>
- 2022 Épisode hyperthermique du Paléocène-Éocène : et si la cause était astronomique ?
<https://sciencepost.fr/episode-hyperthermique-du-paleocene-eocene-et-si-la-cause-etait-astronomique/>
- 2022 LOS CAMBIOS EN LA ÓRBITA DE LA TIERRA PUEDEN HABER DESENCADENADO UN ANTIGUO EVENTO DE CALENTAMIENTO <https://noticiasdelatierra.com/los-cambios-en-la-orbita-de-la-tierra-pueden-haber-desencadenado-un-antiguo-evento-de-calemtamiento/>
- 2022 Une modification dans l'orbite de la Terre a causé le plus grand réchauffement climatique jamais connu <https://www.futura-sciences.com/planete/actualites/rechauffement-climatique-modification-orbite-terre-cause-plus-grand-rechauffement-climatique-jamais-connu-102342/#xtor%3DRSS-8>
- 2022 Ученые выяснили последствия изменений орбиты Земли
<https://cursorinfo.co.il/interest/uchenye-vyyasnili-posledstviya-izmenenij-orbity-zemli/>
- 2022 Выявлены причины древнего глобального потепления
<https://lenta.ru/news/2022/12/15/orbital/>
- 2022 Maps of the past may shed light on our climate future <https://phys.org/news/2022-10-climate-future.html>
- 2022 中国科学报, 学术论文中, 署名应该遵守什么规范,
<https://news.sciencenet.cn/htmlnews/2022/5/479615.shtm>
- 2021 ThePaper, PKU News, Physics News, Courthouse News Service, "Volcanic eruptions that caused Permian mass extinction also brought huge spike in global temperatures"
<https://phys.org/news/2021-09-mass-extinction-lethal-temperatures-due.html>
- 2021 lenta.ru, Названа причина крупнейшей катастрофы в истории Земли,
<https://lenta.ru/news/2021/09/09/traps/>
- 2021 MSN, Yahoo, Le CO2 en cause dans la pire catastrophe de l'Histoire de la Terre,
<https://www.msn.com/fr-fr/actualite/technologie-et-sciences/le-co2-en-cause-dans-la-pire-catastrophe-de-lhistoire-de-la-terre/ar-AAOcuZ8?li=BB0JvSH>, <https://fr.news.yahoo.com/co2-cause-pire-catastrophe-l-014500489.html>

- 2021 nrc.nl, Siberische vulkanen zorgden voor massaal uitsterven, <https://www.nrc.nl/nieuws/2021/09/06/siberische-vulkanen-zorgden-voor-massaal-uitsterven-a4057312>
- 2021 澎湃新闻、科学网, “史上最大物种灭绝罪魁祸首找到了: 火山二氧化碳, 海水被酸化” https://www.thepaper.cn/newsDetail_forward_14391612, <http://news.sciencenet.cn/htmlnews/2021/9/464658.shtm>
- Mar 2020 Newsweek: “Days on Earth When Dinosaurs Lived Were Half an Hour Shorter Than They Are Now, Ancient Fossil Reveals” <https://www.newsweek.com/days-earth-dinosaurs-half-hour-shorter-ancient-fossil-1491422>
- Oct 2019 Penn State Today, Science Daily, Physics News: “Ancient rain gauge: New evidence links groundwater, climate changes in deep time” <https://phys.org/news/2019-11-ancient-gauge-evidence-links-groundwater.html>
- April 2018 Penn State Today, Science Daily, Physics News, and EurekAlert: “*Connection of sea level and groundwater missing link in climate response*” <https://www.sciencedaily.com/releases/2018/04/180403120002.htm>
- April 2018 Europa Press: “*La inclinación terrestre altera el nivel del mar sin hielo en los polos*” <http://www.europapress.es/ciencia/habitat-y-clima/noticia-inclinacion-terrestre-altera-nivel-mar-hielo-polos-20180403143840.html>
- Sept 2017 Chinese Academy of Sciences: “*A Step Toward A Complete Triassic Time Scale: Proposal from China*” http://english.cas.cn/newsroom/research_news/201709/t20170905_182756.shtml
- Sept 2017 Xinhua News Agency: “*New evidence for the Geological Time Scale from China*” http://news.xinhuanet.com/tech/2017-09/06/c_1121616041.htm
- Sept 2017 People.cn and China University of Geosciences (Wuhan): “*Scientists make progress in the area of the Triassic timescale*” <http://hb.people.com.cn/n2/2017/0903/c337099-30687078.html> <http://www.cug.edu.cn/info/10506/88848.htm>
- July 2016 Science Daily: “*Researchers of the China University of Geosciences: Astronomically forced catastrophes during the Early Triassic*” http://news.sciencenet.cn/dz/dznews_photo.aspx?id=25812
- July 2016 People.cn: “*Status of Earth's time: 22-hour length-of-day and a 398-day year 250 million years ago*” <http://hb.people.com.cn/n2/2016/0702/c337099-28599380.html>