Curriculum Vitae – Yun-Chuan Zeng

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Education and Professional Work Experience

01/2020-present Associate professor, China University of Geosciences, Beijing

10/2019-12/2019 Associate professor, China University of Geosciences, Beijing

06/2018-05/2019 Visiting scholar, University of Arizona, advisor Mihai N Ducea

07/2017-10/2019 Postdoc, China University of Geosciences, Beijing, advisor Xuanxue Mo

09/2012-06/2017 Ph.D. Guangzhou Institute of Geochemistry, CAS, advisor Jifeng Xu and Jianlin Chen

2009/2008-06/2012 B.S, China University of Geosciences, Beijing, advisor Zhidan Zhao

Research Interests and Awards Granted

I am an igneous petrologist and geochemist engaged in investigating the tectonic evolution of the Himalayan-Tibetan Plateau. My research interests in recent years include: (1) Tibetan ophiolites to study how Tethyan oceanic basins were formed and initially subducted; (2) The architecture, composition, and evolution of Mesozoic magmatic arcs in southern-central Tibet; and (3) post-collisional igneous rocks to study the continental lithospheric evolution and geodynamics since Indian-Asian collision and the surface response.

I have successfully applied for grants from different ministries of China as below:

1. Exhumation and hydrothermal circulation of fossil oceanic lithosphere: A contrastive investigation between the Tibetan and Troodos ophiolites, Joint NSFC-ISF Research Grant, 2024/01-2026/12, co-PI with Navot Morag as the Israeli PI, ￥4,000,000 in total with ￥700,000 to Yunchuan.
2. The composition, evolution and geodynamic process of Early Cretaceous continent arc crust of northern Lhasa Terrane, Tibetan Plateau, NSFC, 2023/01-2026/12, sole PI, ￥580,000.
3. Does remnant of Cretaceous fossil oceanic crust exist within the Bangong-Nujiang Suture Zone: Evidence from the Kangqiong Ophiolite, NSFC, 2018/01-2021/12, sole PI, ￥260,000.
4. The cause and consequence of Tethyan mantle heterogeneity, Awards to Outstanding Yong Scientist of CUGB, 2021/01-2023/12, sole PI, ￥600,000.
5. The composition, evolution and deep process of Tibetan lithosphere, Second Tibetan Plateau Scientific Expedition Program (2019QZKK0702), 2019/12-2025/12, co-PI, ￥15,000,000 in total with ￥4000,000 to Yunchuan.
6. Evolution of the overthickened crust in the India-Asia collision zone, Innovation Group Project of the NSFC, 2022/01-2026/12, co-investigator.
7. Fractionation mechanism of Mo isotopes in magmatic hydrothermal systems and indication of genesis to porphyry deposits. Key projects of the NSFC, 2019/12-2025/12, co-PI,.
8. The formation age, origin and geodynamic implication of the Songwori Volcanic Formation on the northern Lhasa Terrane. The Chinese Postdoctoral Science Foundation, 2018/05-2019/10, sole PI, ￥80,000.

Peer-reviewed publication (*student as first author; #correspongding author)

1. **Zeng, Y.C**#., Xu, J.F., Huang, F., Liu, X.J., Li, M.J., Huang, Q.T., Li, Z.L., 2024. Central Tibetan adakitic rocks archive the critical impact of water on the Nb/Ta variation in deep crustal melts. **Geochimica et Cosmochimica Acta**. https://doi.org/10.1016/j.gca.2024.08.003.
2. Li, M.J*., **Zeng, Y.C**#., Tiepolo, M., Xu, J.F., Cannaò, E., Forni, F., and Huang, F., 2024. The capability of amphibole in tracing the physicochemical processes of magma mixing. **Geophysical Research Letters,** 51(14), e2024GL108906.
3. **Zeng, Y.C**#., Xu, J.F., Chen, J.L., Wang, B.D., Huang, F., Yu, H.X., 2024. Paleocene oceanic-island basalt–type magmatism in the Lhasa Block attests to decoupled mantle-crust deformation during Indian-Asian collision. **GSA Bulletin**, 136(7-8), 3018-3026.
4. Fan, X. R*., **Zeng, Y. C**#., Xu, J. F., Huang, F., Li, M. J., Liu, X. J., Yu, H. X., and Hu, J., 2024. Petrogenesis of Early Permian within-plate-type gabbros in the Western Qiangtang Terrane, Tibet: partial melting of lithospheric mantle metasomatized by subducted oceanic sediments on the northern margin of the Gondwana. **International Geology Review**, 1-16.
5. Li, M.J*., **Zeng, Y.C**#., Tiepolo, M., Farina, F., Xu, J.F., Huang, F., Liu, X.J., Chen, Q., and Ma, Y., 2023. Grain-scale zircon Hf isotope heterogeneity inherited from sediment-metasomatized mantle: Geochemical and Nd-Hf-Pb-O isotopic constrains on Early Cretaceous intrusions in central Lhasa Terrane, Tibetan Plateau. American Mineralogist. **American Mineralogist,** 108(9), 1692-1707.
6. Zhang, H*., **Zeng, Y. C#**., Chen, Q., Xu, J. F., Li, M. J., & Huang, F. (2023). Petrogenesis of Late Cretaceous gabbronorites in southwestern Lhasa Terrane, Tibetan Plateau, China: Sediment melt-mantle interaction and magmatic flare-up in response to Neo-Tethys slab roll-back. **Journal of Asian Earth Sciences**, 105875.
7. Chai, X.H*., **Zeng, Y.C**#., Xu, J.F., Li, M.J., Huang, F., Liu, X.J., Chen, Q., Yu, H.X., Ren, S. H. Crustal thickening and uplift of the northwestern Lhasa Terrane, central Tibetan Plateau: Insights from Mid-Eocene volcanic rocks in the Gerze Region. **Lithos**, 2023,107157.
8. **Zeng, Y.C**#., Xu, J.F., Chen, J.L., Wang, B.D., and Huang, F., How and how much did western central Tibet raise by India-Asia collision?. **Geophysical Research Letters**, 2022, 49, e2022GL101206.
9. Ren, S.H*., Chen, Q*., **Zeng, Y.C**#., Xu, J.F., Li, M.J., Huang, F., Lv, M.D. Identification of Jurassic pure sediment-derived granites in the Central Lhasa Terrane, Tibetan Plateau: Implications for continental crustal reworking during Mesozoic Tethyan subduction. **Lithos**, 2022, 434–435, 106927.
10. **Zeng, Y.C**., Ducea, M.N., Xu, J.F#., Chen J.L., Dong, Y.H., Negligible surface uplift following foundering of thickened central Tibetan lower crust: **Geology**, 2021, 49, 45-50.
11. **Zeng, Y.C**#., Xu, J. F., Li, M. J., Chen, J. L., Wang, B. D., Huang, F., and Ren, S. H., Late Eocene two-pyroxene trachydacites from the southern Qiangtang Terrane, central Tibetan Plateau: High-temperature melting of overthickened and dehydrated lower crust. **Journal of Petrology**, 2021, 62(11), egab080.
12. **Zeng, Y.C**., Xu, J.F#., Chen, J.L., Wang, B.D., Xia, X.P., Huang, F., Li, M.J., Early Cretaceous (~138–134 Ma) forearc ophiolite and tectonomagmatic patterns in central Tibet: subduction termination and re-initiation of Meso-Tethys Ocean caused by collision of an oceanic plateau at the continental margin?: **Tectonics**, 2021, 42(3), e2020TC006423.
13. **Zeng, Y.C**., Xu, J.F#., Huang, F., Li, M.J., Chen, Q., Generation of the 105-100 Ma Dagze volcanic rocks in the north Lhasa Terrane by lower crustal melting at different temperature

and depth: Implications for tectonic transition. **GSA Bulletin**, 2020, 132(5-6), 1257-1272.

14. Li, M.J*., **Zeng, Y.C**#., Xu, J.F., Huang, F., Chen, Q., Petrogenesis of Early Jurassic (ca. 181 Ma) dacitic–rhyolitic volcanic rocks in the Amdo ophiolite mélange, central Tibetan Plateau: low-pressure partial melts of Bangong–Nujiang Tethys Oceanic crust?. **Geological Journal**, 2020, 55(5), 3283-3296.
15. **Zeng, Y.C**., Xu, J.F#., Ducea, M.N., Chen, J.L., Huang, F., Initial rifting of the Lhasa Terrane from Gondwana: insights from the Permian (~262) Ma amphibole-rich lithospheric mantle-derived Yawa basanitic intrusions in southern Tibet. **Journal of Geophysical Research: Solid Earth**, 2019, 124, 2564-2581.
16. **Zeng, YC**., Xu, J.F#., Chen, J.L., Wang, B.D., Huang, F., Yu, H.X., Chen X.F., Zhao P.P., Breakup of Eastern Gondwana as inferred from the Lower Cretaceous Charong Dolerites in the central Tethyan Himalaya, southern Tibet, **Palaeogeography, Palaeoclimatology, Palaeoecology**, 2019, 515, 70-82.
17. **Zeng, Y.C**., Xu, J.F#., Chen, J.L., Wang, B.D., Kang, Z.Q., Huang, F, Geochronological and geochemical constraints on the origin of the Yunzhug ophiolite in the Shiquanhe–Yunzhug–Namu Tso ophiolite belt, Lhasa Terrane, Tibetan Plateau. **Lithos**, 2018, 300, 250-260.
18. **Zeng, Y.C#**., Chen, Q., Xu, J.F#., Chen, J.L., Huang, F., Yu, H.X., Zhao, P.P. Petrogenesis and geodynamic significance of Neoproterozoic (~925 Ma) high-Fe–Ti gabbros of the RenTso ophiolite, Lhasa Terrane, central Tibet. **Precambrian Research**, 2018, 314, 160-169.
19. **Zeng, Y.C**., Chen, J.L#., Xu, J.F., Lei, M., Xiong, Q.W. Origin of Miocene Cu-bearing porphyries in the Zhunuo region of the southern Lhasa subterrane: Constraints from geochronology and geochemistry. G**ondwana Research**, 2017, 41, 51-64.
20. **Zeng, Y.C**., Chen, J.L., Xu, J.F#., Wang, B.D., Huang, F., Sediment melting during subduction initiation: Geochronological and geochemical evidence from the Darutso high-Mg andesites within ophiolite mélange, central Tibet, **Geochemistry, Geophysics, Geosystems.** 2016,17(12),4859-4877.

As co-author：

21. Tao, Z., Yin, J., Spencer, C. J., Sun, M., Xiao, W., Kerr, A. C., Wang, T., Huangfu, P.P., Zeng, Y.C., & Chen, W. (2024). Subduction polarity reversal facilitated by plate coupling during arc-continent collision: Evidence from the Western Kunlun orogenic belt, northwest Tibetan Plateau. Geology, 52(4), 308-313.
22. . Tang, W.-L, Huang, F., Qin, Z.-W., Zeng, Y.C.-C., Xu, J.-F., Early Cretaceous magmatism archives crustal architecture of northern Lhasa Terrane, central Tibetan Plateau. Lithos, 2024, 472-473, 107559.
23. Zhang, S., Huang, F., Xu, J., Zeng, Y.C., Lv, M., Su, C., Tian, Y., Tian, Y., Fan, H., Wang, S., Geodynamics and nature of the basement of the northern Lhasa Terrane: Insights from Early Cretaceous highly fractionated I-type granites in the Beila and Dongga areas, central Tibetan Plateau. Journal of Asian Earth Sciences, 2024, 264, 106078.
24. Huang, F., Liu, Y., Xu, J., Liu, F., Lv, M., Zeng, Y.C., Zhang, Z., Mg-Ca-Fe isotopes of post-collisional magmatic rocks record the crust-mantle interaction processes beneath southern Tibet. Chemical Geology, 2024, 648, 121930.
25. Tang, W., Huang, F., Xu, J., Zeng, Y.C., Liu, X., Cretaceous magmatism in the northern Lhasa Terrane: Implications for the tectonic evolution and crustal growth tempos of central

Tibet. GSA Bulletin, 2024, doi: 10.1130/B36986.1.
26. Zhang, Y., Huang, F., Xu, J., Liu, H., Li, M., Zeng, Y.C., Hu, J., Lv, M., Liu, X., Extremely enriched lithospheric mantle–derived magmas in the central Lhasa Terrane, southern Tibet. International Geology Review, 2024, 66(4), 971-991.
27. Yang, X., Huang, F., Xu, J., Liu, X., Zhang, L., Zhang, Z., Xu, B., Zhang, M., Zeng, Y.C., Liu, Q., Lv, M., Paleo-Pacific Plate rollback triggered Early Cretaceous intermediate-felsic magmatism in the northern North China Craton. Journal of Asian Earth Sciences, 2024, 259, 105873.
28. Huang, F., Li, J., Xu, J., Chen, J., Wang, B., Hu, P., Xu, R., Zeng, Y.C., Zhang, L., Zhou, T., Mo isotopes archive oceanic sediments in post-orogenic lithospheric mantle. Geochimica et Cosmochimica Acta, 2023, 341, 75-89.
29. Zhang, Z., Huang, F., Xu, J., Liu, X., Zhang, L., Zhang, M., Yang, X., Zeng, Y.C., Liu, Q., Development of Songliao Basin by Paleo-Pacific slab rollback: Evidence from Early Cretaceous rhyolites in SK2 Borehole, NE China. Geological Journal, 2023, 58(4), 1342-1365.
30. Zhang, Y., Huang, F., Xu, J., Zeng, Y.C., Wang, B., Lv, M., Zhang, L., Li, M., Zhang, Z., Tian, Y., Liu, Q., Zhang, L., Origin of the volcanic rocks in Dianzhong Formation, central Lhasa Terrane, Tibet: Implication for the genesis of syn-collisional magmatism and Neo-Tethyan slab roll-back. International Geology Review, 2023, 65(1), 21-39.
31. Fan, H., Zhang, M., Huang, F., Xu, J., Liu, X., Zeng, Y.C., Zhang, S., Liu, Q., Lv, M., Yu, H., Tian, Y., Zhang, L., Zhou, T., Li, Z., Zhang, Y., Subducted oceanic plateau fed crustal growth: Insights from Amdo dacites in central Tibetan Plateau. Lithos, 2022, 434-435, 106944.
32. 张钊, 黄丰, 许继峰, 曾云川, 张丽莹, 杨旭立, 张蔓. 松科二井早白垩世早期玄武安山岩的发现及地质意义. 岩石学报, 2022, 38(6):1756-1770.
33. Tian, Y., Huang, F., Xu, J., Zeng, Y.C., Hu, P., Yu, H., Tian, Y., Yang, Z., Yang, X., Petrogenesis and geodynamic mechanisms of the Late Cretaceous magmatic 'flare-up' in the southern Lhasa Terrane, Tibet. Lithos, 2022, 424-425, 106766.
34. Yang, C., Huang, F., Xu, J., Zeng, Y.C., Liu, Q., Liu, X., Yu, H., Tian, Y., Zhang, Z., Zhang, L., Zhang, Y., Wen, Y., Crustal reworking and growth during India–Asia continental collision: Insights from early Cenozoic granitoids in the central Lhasa Terrane, Tibet. Geological Journal, 2022, 57(1), 79-98.
35. Liu, H., Wang, B. D., Chen, L., Huang, F., Zeng, Y. C., & Wang, L. Q. (2022). Reply to the comment by Shi and Wang on "Silurian intermediate–felsic complex in the Xiangtaohu area of central Qiangtang, northern Tibet: Evidence for southward subduction of the Longmuco–Shuanghu Prototethys oceanic plate". Lithos, 418, 106634.
36. Huang, F., Rooney, T. O., Xu, J., Zeng, Y.C., Magmatic record of continuous Neo-Tethyan subduction after initial India-Asia collision in the central part of southern Tibet. GSA Bulletin, 2021, 133(7-8),1600-1612.
37. Huang, F., Zhang, Z., Xu, J., Li, X., Zeng, Y.C., Xu, R., Liu, X., Zhang, L., Zhang, M., Yang, C., Zhang, L., Yu, H., Yang, X. Lithospheric extension in response to subduction of the Paleo-Pacific Plate: Insights from Early Jurassic intraplate volcanic rocks in the Sk2 Borehole, Songliao Basin, NE China. Lithos, 2021, 380-381, 105871.
38. Tian, Y., Huang, F., Xu, J., Wang, B., Liu, H., Zeng, Y.C., Liu, X., Yang, C., Yu, H., Wen, Y., Zhang, Z., Zhang, L., Zhang, Y., Neo-Tethyan slab tearing constrained by Paleocene N-MORB-like magmatism in the southern Tibet. Geological Journal, 2021, 56(1), 205-223.

39. Liu, H., Wang, B., Chen, L., Huang, F., Zeng, Y., Wang, L., Silurian intermediate–felsic complex in the Xiangtaohu area of central Qiangtang, northern Tibet: Evidence for southward subduction of the Longmuco–Shuanghu Prototethys oceanic plate. Lithos, 2021, 404, 106465.
40. Han, J., Hollings, P., Jourdan, F., Zeng, Y., & Chen, H. (2020). Inherited Eocene magmatic tourmaline captured by the Miocene Himalayan leucogranites. American Mineralogist, 105(9), 1436-1440.
41. Lei, M., Chen, J. L., Xu, J. F., Zeng, Y. C., & Xiong, Q. W. (2020). Late Cretaceous magmatism in the NW Lhasa Terrane, southern Tibet: Implications for crustal thickening and initial surface uplift. GSA Bulletin, 132(1-2), 334-352.
42. 黄思华,陈建林,曾云川,等.拉萨地块西北部早白垩世岩浆岩地球化学特征及其对高原南部早期地壳生长的指示.地球化学,2020,49(01):21-35.
43. 黄丰, 许继峰, 王保弟, 曾云川, 刘希军, 刘函, 余红霞, 印度-亚洲大陆碰撞过程中新特提斯洋岩石圈的命运. 地球科学, 2020, 45(8): 2785-2804.
44. Huang, F., Zhang, Z., Xu, J., Li, X., Zeng, Y.C., Wang, B., Li, X., Xu, R., Fan, Z., Tian, Y., Fluid flux in the lithosphere beneath southern Tibet during Neo-Tethyan slab breakoff: Evidence from an appinite–granite suite. Lithos, 2019, 344-345, 324-338.
45. Huang, F., Li, M., Xu, J., Zeng, Y.C., Chen, J., Wang, B., Yu, H., Chen, L., Zhao, P., Zhang, Z., Geodynamic transition from subduction to extension: evidence from the geochronology and geochemistry of granitoids in the Sangsang area, southern Lhasa Terrane, Tibet. International Journal of Earth Sciences, 2019, 108(5), 1663-1681.
46. 张丽莹, 黄丰, 许继峰, 曾云川, 龚小晗, 张钊, 西藏山南地区花岗质岩石成因及其对地壳结构变化的记录. 地球科学, 2019, 44 (6): 1822-1833.
47. 邹洁琼, 余红霞, 王保弟, 黄丰, 曾云川, 黄文龙, 文雅倩, 张钊, 范子尘, 谈荣钰, 南拉萨地块中部早侏罗世仁钦则花岗闪长岩成因及其地质意义. 地球科学, 2018, 43 (8): 2795-2810.
48. 呼建雄,陈建林,姚胜,曾云川,雷鸣,熊秋伟,刘希军.冈底斯弧西部林子宗群年波组火山岩锆石U-Pb年代学、岩石成因及其指示.地球学, 2018,47(06):699-711.
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52. 黄文龙, 许继峰, 陈建林, 黄丰, 曾云川, 皮桥辉, 蔡永丰, 蒋兴洲, 云南个旧杂岩体年代学与地球化学:岩石成因和幔源岩浆对锡成矿贡献. 岩石学报, 2016, 32(8): 2330-2346.
53. 熊秋伟, 陈建林, 许继峰, 黄丰, 陈雪峰, 曾云川, 雷鸣, 拉萨地块南部得明顶地区叶巴组火山岩LA-ICP-MS锆石U-Pb年龄、地球化学特征及其成因. 地质通报, 2015, 34(9): 1645-1655.
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特征指示:加厚下地壳的拆沉?.地质通报, 2015,34:337-346.
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