

MING TANG

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EXPERIENCE

PROFESSOR , PEKING UNIVERSITY	2023-2 TO PRESENT
ASSOCIATE PROFESSOR , PEKING UNIVERSITY	2022-8 TO 2023-1
ASSISTANT PROFESSOR , PEKING UNIVERSITY	2019-12 TO 2022-7
POST-DOC , RICE UNIVERSITY Advisor: Cin-Ty A. Lee	2016-10 TO 2019-12
POST-DOC , UNIVERSITY OF MARYLAND, COLLEGE PARK Advisors: Roberta L. Rudnick, William F. McDonough	2016-6 TO 2016-9

EDUCATION

PH.D. , UNIVERSITY OF MARYLAND, COLLEGE PARK Supervisors: William F. McDonough, Roberta L. Rudnick	2016-5
B.S. , NANJING UNIVERSITY	2011-6

GRANTS

NATIONAL NATURAL SCIENCE FOUNDATION OF CHINA (42125302)

- Geochemical processes in continent evolution, ¥4,000,000 (~\$600,000), 2022-2026, PI

NATIONAL TALENT PROGRAM (2021002979)

- ¥3,000,000 (~\$450,000), 2021-2024, PI

NATIONAL NATURAL SCIENCE FOUNDATION OF CHINA (42073026)

- Endogenic oxidation during continental crust formation and its impact on early Earth surface environment, ¥620,000 (~\$100,000), 2021-2024, PI

PEKING UNIVERSITY START-UP FUND (7101302669)

- ¥2,000,000 (~\$300,000), 2021, PI

NATIONAL SCIENCE FOUNDATION, USA (EAR-1850832)

- Synmagmatic crustal thickening and the importance of garnet fractionation in making continental crust, \$172,684, 2019-2021, co-I

NATIONAL NATURAL SCIENCE FOUNDATION OF CHINA (41888101)

- Co-evolution of the continents and monsoon system, 2019-2023, participant

STATE KEY LABORATORY OF LITHOSPHERE EVOLUTION, CAS (Z201706)

- Carbon flux in Gangdese arc, southern Tibet-constraints from petrology, structure geology and numerical modelling, 2018-2021, participant

AWARDS

Shen-Su Sun Award	2024
F.G. Houtermans Award (EAG)	2023
National Science Fund for Distinguished Young Scholars (highly prestigious in China, < 8% approval rate)	2021
AGU Hisashi Kuno Award (first Chinese awardee)	2021
Xplorer Prize (a non-governmental and public interest award for scientists and technicians aged < 45)	2021
GAO SHAN Early Career Scientist Award	2019
Charles A. Caramello Distinguished Dissertation Award	2017
Ann G. Wylie Dissertation Fellowship	2015

INVITED TALKS

• Goldschmidt Meeting	2026
• EGU meeting	2025
• Goldschmidt Meeting (Shen-su Sun medalist talk)	2024
• Goldschmidt Meeting (F.G. Houtermans medalist talk)	2023

• University of Washington	2021
• Jadavpur University	2021
• Carnegie Institution of Science	2019
• AGU Fall Meeting	2019
• Goldschmidt Meeting	2018
• GSA Fall Meeting	2018
• Stanford University	2018
• Florida University	2018
• University of Southern California	2018
• Woods Hole Oceanographic Institution	2017
• Harvard University	2016
• University of California, Santa Barbara	2016
• Geological Society of Washington	2016

PROFESSIONAL MEMBERSHIPS

- American Geophysical Union (AGU)
- Geological Society of America (GSA)
- Geochemical Society (GS)

PROFESSIONAL SERVICES

• Goldschmidt Meeting, session convener	2024
• Earth and Planetary Science Letter, editorial board	2023
• Acta Petrologica Sinica, editorial board	2023
• Goldschmidt Meeting, session convener	2021
• China Youth Forum for Geosciences, session convener	2021
• China Society for Mineralogy Petrology and Geochemistry, fall meeting session convener	2021
• National Science Review, editorial group member	2021
• Goldschmidt Meeting, session convener	2020
• Goldschmidt Meeting, session convener	2019

SUPERVISED STUDENTS AND POST-DOCS

- Runwu Li (post-doc)
 - Ziyi Guo (Ph.D. candidate)
 - Jiazhen Wang (Ph.D. candidate)
 - Zi Ye (Ph.D. candidate)
 - Junteng Lyu (Ph.D. candidate)
 - Xuyang Zheng (Ph.D. candidate)
 - Lihan Yu (Ph.D. candidate)
 - Weizhe Qin (undergraduate student)
 - Jiayi Wang (undergraduate student)
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- Hao Chen (former Ph.D., now as a post-doc at the University of Tennessee, Knoxville)
 - Xuanyu Liu (former MS, now at Washington University in St. Louis)
 - Dongwei Guo (former Ph.D.)
 - Ziqi Yang (former undergraduate student, now at University of Michigan)
 - Zitong Xue (former undergraduate student)
 - Jiahou Sun (former undergraduate student)
 - Danqiu Chen (former undergraduate student, now at University of Washington)

PUBLICATIONS

1. **Tang, M.**, Ye, Z., Chu, X. (2026). Hot Archean orogens suppressed voluminous S-type granite formation. Earth and Planetary Science Letters 696, 120409.
2. Zheng, X., **Tang, M.**, Chen, H. and Guo, Z. (2026). Coevolution between crustal thickness and sulfur oxidation state in Gangdese felsic magmas. Earth and Planetary Science Letters 691, 120220. (**STUDENT PAPER**)

3. Wang, J., **Tang, M.**, Chen, H., Wang, X-L., Wu, B. (2026). Sulfur contents in zircon-hosted and separated apatite in Archean TTGs: implications for the redox state of Archean felsic magmas. *Geochimica et Cosmochimica Acta*. (STUDENT PAPER)
4. Ye, Z., **Tang, M.**, Chu, X. (2026). Extreme negative Eu anomalies in peraluminous granites of South China: Implications for extensive fluid extraction. *Geochimica et Cosmochimica Acta*. (STUDENT PAPER)
5. Guo, Z., **Tang, M.**, Jiang, H., Zheng, X. (2026). A Mesozoic high-elevation plateau in eastern North China? Evidence from detrital zircons. *Geochimica et Cosmochimica Acta*. (STUDENT PAPER)
6. Li, R., **Tang, M.**, Wang, J. (2025). A lower mantle origin for the young mare basalts returned by Chang'e-5? *Earth and Planetary Science Letters* 671, 119650. (STUDENT PAPER)
7. Lyu, J., Guo, Z., **Tang, M.** (2025). Compositional evolution of the Archean subaerial crust revisited using machine learning constraints. *Chemical Geology*, 693, 122986. (STUDENT PAPER)
8. **Tang, M.**, Chen, H., Lee, C-T., Cao, W. (2024). Subaerial crust emergence hindered by phase-driven lower crust densification on early Earth. *Science Advances*, 10, adq1952.
9. **Tang, M.**, Guo, Z., Cao, W., Chu, X. (2024). Revisiting zircon Eu anomaly as a proxy for crustal thickness: A case study of the Sierra Nevada Batholith. *Earth and Planetary Science Letters*, 643, 118897.
10. **Tang, M.**, Chen, H., Song, S-G., Sun, G-Z., Wang, C. (2024). Zircon Eu/Eu* in Archean TTGs with implications for the role of endogenic oxidation in Archean crustal differentiation. *Geochimica et Cosmochimica Acta*, 378, 259-269.
11. **Tang, M.**, Wang, J., Lee, C-T. (2024). Reevaluating the oxidation effect of garnet crystallization. *Lithos*, 470-471, 107537.
12. Chen, H., **Tang, M.**, Wu, S-T., Liu, X. (2024). Determination of ultra-trace rare earth elements in olivine by laser ablation-sector field-inductively coupled plasma-mass spectrometry. *Journal of Analytical Atomic Spectrometry*, 39, 1571. (STUDENT PAPER)
13. Liu X., **Tang, M.**, Cao, W., Ji, W., Chen, H. (2024). Sluggish rise of the western Gangdese mountains after India-Eurasia collision. *Lithos*, 478-479, 107640. (STUDENT PAPER)
14. Zhou, Z., Chu, X., **Tang, M.**, Leybourne, M. (2024). Exploring hindered decarbonation in contact metamorphism: A glimpse into marble aureoles in Southern Tibet. *Earth and Planetary Science Letters*, 626, 118519.
15. **Tang, M.**, Liu, X-Y., Chen, K. (2023). High Mg# of the continental crust explained by calc-alkaline differentiation. *National Science Review*, 10, nwac258.
16. Chen, K., **Tang, M.**, Hu, Z-C., Liu, Y-S. (2023). Generation of tholeiitic and calc-alkaline arc magmas and its implications for continental growth. *Geochimica et Cosmochimica Acta*, 355, 173-183.
17. Chen, H., **Tang, M.**, Song, S-G. (2023). Catastrophic craton destruction via wholesale lithosphere delamination. *Geology*, 51, 460-464. (STUDENT PAPER)
18. Wu, G.H., Chu, X., **Tang, M.**, Li, W. and Chen, F. (2023). Distinct tectono-magmatism on the margins of Rodinia and Gondwana. *Earth and Planetary Science Letters*, 609, p.118099.
19. Chen, J., Jiang, H., **Tang, M.**, Hao, J., Tian, M., Chu, X. (2022). Venus' light slab hinders its development of planetary-scale subduction. *Nature Communications*, 13, 1-9.
20. Wang, X., **Tang, M.**, Moyen, J., Wang, D., Kröner, A., Hawkesworth, C., Xia, X., Xie, H., Anhaeusser, C., Hofmann, A. and Li, J. (2022). The onset of deep recycling of supracrustal materials at the Paleo-Mesoarchean boundary. *National Science Review*, nwab136.
21. Du, D-H., **Tang, M.**, Li, W., Kay, S.M., Wang, X-L. (2022). What drives Fe depletion in calc-alkaline magma differentiation: Insights from Fe isotopes. *Geology*, 50, 552-556.
22. Brudner, A., Jiang, H., Chu, X., **Tang, M.** (2022). Crustal thickness of the Grenville orogen: A Mesoproterozoic Tibet? *Geology*, 50, 402-406.
23. Chen, Y., Meng, J., Liu, H., Wang, C., **Tang, M.**, Liu, T., Zhao, Y. (2022). Detrital zircons record the evolution of the Cathaysian Coastal Mountains along the South China margin. *Basin Research*, 34, 688-701.
24. **Tang, M.**, Chu, X., Hao, J-H., Shen, B. (2021). Orogenic quiescence in Earth's middle age. *Science*, 371, 728-731.
25. **Tang, M.**, Ji, W-Q., Chu, X., Wu, A., Chen, C. (2021). Reconstructing crustal thickness evolution from europium anomalies in detrital zircons. *Geology*, 49, 76-80.
26. Li, J.Y., **Tang, M.**, Lee, C.T.A., Wang, X.L., Gu, Z.D., Xia, X.P., Wang, D., Du, D.H. and Li, L.S. (2021). Rapid endogenic rock recycling in magmatic arcs. *Nature Communications*, 12(1), 1-7.
27. Shu, X., Liao, S., **Tang, M.**, Hong, W., Li, J. (2021). Different water contents lead to contrasting magmatic differentiation pathways: A case study of two coeval rock suites. *Lithos*, 386-387, 10600.
28. Sun, G., Liu, S., Cawood, P., **Tang, M.**, Hunen, Jv, Gao, L., Hu, Y., Hu, F. (2021). Thermal state and evolving geodynamic regimes of the Meso- to Neoproterozoic North China Craton. *Nature Communications*, 12: 3888.
29. **Tang, M.** (2020). Composition of the Earth's Crust, in *Reference Module in Earth Systems and Environmental Sciences*, Elsevier.

30. Marschall, H., **Tang, M.** (2020). High-Temperature Processes: Is it Time for Lithium Isotopes? *Elements*, 16(4), 247-252.
31. **Tang, M.**, Lee, C.-T., Ji, W.-Q., Wang, R., Costin, G. (2020). Crustal thickening and endogenic oxidation of magmatic sulfur. *Science Advances*, 6, eaba6342.
32. **Tang, M.**, Lee, C.-T., Rudnick, R., Condie, K. (2020). Rapid mantle convection drove massive crustal thickening in the late Archean. *Geochimica et Cosmochimica Acta*, 278, 6-15.
33. Chen, K., **Tang, M.**, Lee, C.-T., Wang, Z., Zou, Z., Hu, Z., Liu, Y. (2020). Sulfide-bearing cumulates in deep continental arcs: The missing copper reservoir. *Earth and Planetary Science Letters*, 531, 115971.
34. Lee, C.-T., **Tang, M.** (2020). How to make porphyry copper deposits. *Earth and Planetary Science Letters*, 529, 115868.
35. Chen, K., Rudnick, R.L., Wang, Z., **Tang, M.**, Gaschnig, R.M., Zou, Z., He, T., Hu, Z., Liu, Y. (2020). How mafic was the Archean upper continental crust? Insights from Cu and Ag in ancient glacial diamictites. *Geochimica et Cosmochimica Acta*, 278, 16-29.
36. Chen, C., Lee, C. T. A., **Tang, M.**, Biddle, K., Sun, W. (2020). Lithium systematics in global arc magmas and the importance of crustal thickening for lithium enrichment. *Nature communications*, 11, 1-8.
37. **Tang, M.**, Lee, C.-T., Costin, G., Höfer, H. (2019). Recycling reduced iron at the base of magmatic orogens. *Earth and Planetary Science Letters*, 528, 115827.
38. **Tang, M.**, Lee, C.-T., Chen, K., Erdman, M., Costin, G., Jiang, H. (2019). Nb/Ta systematics in arc magma differentiation and the role of arclogites in continent formation. *Nature Communications*, 10, 235.
39. Liu, H., Sun, W.D., Zartman, R., **Tang, M.** (2019). Continuous plate subduction marked by the rise of alkali magmatism 2.1 billion years ago. *Nature Communications*, 10, 3408.
40. Chen, X., Lee, C.-T. A., Wang, X.-L., **Tang, M.** (2019). Influence of water on granite generation: modeling and perspective, *Journal of Asian Earth Sciences*, 174, 126-134.
41. **Tang, M.**, Erdman, M., Eldridge, G., Lee, C.-T. (2018). The redox 'filter' beneath magmatic orogens and the formation of continental crust. *Science Advances*, 4, eaar4444.
42. **Tang, M.**, Rudnick, L.R., McDonough, F.W., Bose, M., Goreva, Y. (2017). Multi-mode Li diffusion in natural zircons: evidence for diffusion in the presence of step-function concentration boundaries. *Earth and Planetary Science Letters*, 474, 110-119.
43. **Tang, M.**, McDonough, F.W., Ash, R. (2017). Europium and strontium anomalies in the MORB source mantle. *Geochimica et Cosmochimica Acta*, 197, 132-141.
44. **Tang, M.**, Chen, K., Rudnick, L.R. (2016). Archean upper crust transition from mafic to felsic marks the onset of plate tectonics. *Science*, 351(6271), 372-375.
45. Chen, K., Walker, J.R., Rudnick, L.R., Gao, S., Gaschnig, M.R., Puchtel, S.P., **Tang, M.**, Hu, Z.C. (2016). Platinum-group element abundances and Re-Os isotopic systematics of the upper continental crust through time: Evidence from glacial diamictites. *Geochimica et Cosmochimica Acta*, 191, 1-16.
46. **Tang, M.**, Arevalo, R. Jr., Goreva, Y., McDonough, F.W. (2015). Elemental fractionation during condensation of plasma plumes generated by laser ablation: a ToF-SIMS study of condensate blankets. *Journal of Analytical Atomic spectrometry*, 30(11), 2316-2322.
47. Sauzeat, L., Rudnick, R.L., Chauvel, C., Garçon, M. and **Tang, M.** (2015) New perspectives on the Li isotopic composition of the upper continental crust and its weathering signature. *Earth and Planetary Science Letters*, 428, 182-191.
48. **Tang, M.**, Rudnick, L.R., McDonough, F.W., Gaschnig, R.M., Huang, Y. (2015). Europium anomalies constrain the mass of recycled lower continental crust. *Geology*, 43(8), 703-706.
49. **Tang, M.**, Rudnick, L.R., Chauvel, C. (2014). Sedimentary input to the source of Martinique lavas: a Li perspective. *Geochimica et Cosmochimica Acta*, 144, 43-58.
50. **Tang, M.**, McDonough, F. W., Arevalo, R., Jr. (2014) High-precision measurement of Eu/Eu* in geological glasses via LA-ICP-MS analysis. *Journal of Analytical Atomic spectrometry*, 29(10), 1835-1843.
51. **Tang, M.**, Wang, X. L., Shu, X. J., Wang, D., Yang, T., & Gopon, P. (2014). Hafnium isotopic heterogeneity in zircons from granitic rocks: Geochemical evaluation and modeling of 'zircon effect' in crustal anatexis. *Earth and Planetary Science Letters*, 389, 188-199.
52. **Tang, M.**, Wang, X. L., Xu, X. S., Zhu, C., Cheng, T., & Yu, Y. (2012). Neoproterozoic subducted materials in the generation of Mesozoic Luzong volcanic rocks: Evidence from apatite geochemistry and Hf-Nd isotopic decoupling. *Gondwana Research*, 21(1), 266-280.
53. Wang, X. L., Shu, X. J., Xu, X., **Tang, M.**, Gaschnig, R. (2012). Petrogenesis of the Early Cretaceous adakite-like porphyries and associated basaltic andesites in the eastern Jiangnan orogen, southern China. *Journal of Asian Earth Sciences*, 61, 243-256.

54. Wang, X. L., Shu, L. S., Xing, G. F., Zhou, J. C., **Tang, M.**, Shu, X. J., ... & Hu, Y. H. (2012). Post-orogenic extension in the eastern part of the Jiangnan orogen: Evidence from ca 800-760Ma volcanic rocks. *Precambrian Research*, 222-223, 404-423.