

Chenyi Tu

Ph.D. Candidate in Earth and Planetary Sciences, University of California, Riverside
900 University Avenue, Riverside, CA, 92521
ctu017@ucr.edu | [Google Scholar](#) | ORCID [0000-0001-6270-3041](#)

Education

Ph.D., Earth Science, University of California, Riverside September 2018-Present
Advisor: Dr. Timothy Lyons

B.S., Geology (National Science Talent Training Base) 2011-2015
China University of Geosciences (Wuhan)
Overall: 91.4/100, Specialized Courses: 94.7/100
Excellent Graduate Award & Distinguished Senior Thesis

Fellowships & Scholarships

NASA Postdoctoral Fellowship (advisor: Dr. Michael Kipp) 2024
Dissertation Completion Fellowship Award (UC Riverside) 2024
UCR Dean's Distinguished Fellowship 2018
Ruiming Alumni Scholarship 2014
National Scholarship (Top 1%) 2013
National Scholarship (Top 1%) 2012

Honors & Awards

Distinguished Senior Thesis (in Hubei Province) (Top 2%) 2015
Excellent Graduate Award (CUG) 2015
The Third Prize, the 10th "Challenge Cup" Academic Competition in Hubei 2015
Excellent Student, School of Earth Sciences, CUG 2014
Excellent Student of CUG 2013

Teaching Experience

Teaching Assistant for GEO 003 – Headlines in the History of Life (Instructor: Mary Droser) Spring 2023
Teaching Assistant for GEO 009 – Oceanography (Instructor: Sandy Turner) Fall 2022
Teaching Assistant for GEO 002 – Earth's Climate Through Time (Instructor: Tim Lyons) Winter 2022
Teaching Assistant for GEO 009 – Oceanography (Instructor: Sandy Turner) Fall 2021
Teaching Assistant for GEO 002 – Earth's Climate Through Time (Instructor: Tim Lyons) Winter 2021
Teaching Assistant for GEO 009 – Oceanography (Instructor: Gordon Love) Fall 2020
Teaching Assistant for GEO 002 – Earth's Climate Through Time (Instructor: Tim Lyons) Winter 2020
Teaching Assistant for GEO 009 – Oceanography (Instructor: Maryjo Brounce) Fall 2019

Mentoring Experience

Undergraduate students mentored (UC Riverside): Terry Li, Joseph Feldman-Peterson, and Elise Cottrell

Leadership

Leading the organizing committee for the Hewett Seminar (Earth and Planet. Sci., UCR) 2022-2023
Co-organize the 18th Annual Southern California Geobiology Symposium (hosted at UCR) 2022

Conference Presentations

Oral presentations

8. Tu, C., Ghnahalla, M., El Albani, A., Tino, C.J., Owens, J.D. and Lyons, T.W., Revisiting the mid-Proterozoic Marine Oxygenation Event at ~1.1 Ga. *Goldschmidt, 2023*
7. Tu, C., Ghnahalla, M., El Albani, A., Tino, C.J. and Lyons, T.W., Effects of Thermal Alteration on Paleoredox-relevant Proxies in Black Shales: A Cautionary Tale. *GSA Meeting, 2022*
6. Tu, C., Diamond, C.W., Stüeken, E.E. and Lyons, T.W., Dynamic Evolution of Marine Productivity, Redox, and Biogeochemical Cycling Linked to Waxing and Waning Cryogenian Glaciation. *Southern California Geobiology Symposium, 2022*
5. Tu, C., Diamond, C.W., Stüeken, E.E. and Lyons, T.W., Dynamic Evolution of Marine Chemistry Linked to Wax and Wane of the Glaciations in a Restricted Cryogenian Basin. *GSA Meeting, 2021*

Poster presentations

4. Tu, C., Ghnahalla, M., El Albani, A., Tino, C.J., Owens, J.D. and Lyons, T.W., Revisiting the mid-Proterozoic Marine Oxygenation Event at ~1.1 Ga and A Cautionary Tale of Thermal Alteration Effects on Paleoredox-relevant Proxies in Black Shales. *Southern California Geobiology Symposium, 2023*
3. Tu, C., Ghnahalla, M., El Albani, A. and Lyons, T.W., Co-evolving Redox and Ecosystem Structures in the Early Oceans: Probing the Earliest Environmental Controls and Consequences of Complex Life. *Gordon Geobiology Research Seminar, 2022*
2. Tu, C., Ghnahalla, M., El Albani, A. and Lyons, T.W., Co-evolving Redox and Ecosystem Structures in the Early Oceans: Probing the Earliest Environmental Controls and Consequences of Complex Life. *Goldschmidt, 2022*
1. Tu, C., Diamond, C.W., Edwards, C.T., Saltzman, M. and Lyons, T.W., Ocean Chemistry Constraints on the Eve of the Great Ordovician Biodiversification Event. *AGU Fall Meeting, 2019*

Prior to 2018:

4. Oral & poster: *GSA Meeting, 2016* (Colorado, USA)
3. Oral: *The 2nd International Palaeogeography Conference, 2015* (Beijing, China)
2. Poster: *The 28th Annual Meeting of Paleontological Society of China, 2015* (Shenyang, China)
1. Poster: *Chinese Sedimentology Congress, 2015* (Wuhan, China)

Memberships

Geochemical Society, European Association of Geochemistry, Geological Society of America, American Geophysical Union

Professional Service

Manuscript reviews: Earth and Space Science (2023), Geobiology (2023), Precambrian Research (2023), Gondwana Research (2024), Geology (2024a, b)

Session convener: *Goldschmidt 2024*, Causes and Consequences of Planetary Habitability: Co-evolution of the Geosphere and Biosphere across Major Precambrian Transitions and Beyond

Publications

Google Scholar statistics: total citations = 429, h-index = 8, i10-index = 7

To be submitted

Tu, C., Ghnahlalla, M., El Albani, A., Tino, C.J., Owens, J.D., Lin, Y. and Lyons, T.W. Revisiting a possible mid-Proterozoic Marine Oxygenation Event at ~1.1 Ga: Local Versus Global Controls on Geochemical Records. To be submitted to *Geology*.

Jones, C.K., Leung, M., **Tu, C.**, Ebadirad, S., Marshall, N.L., Tan, L. and Lyons, T.W. Setting the stage: Building and maintaining a habitable world and the early conditions that could favor life's beginnings on Earth and beyond (book chapter).

In preparation

Tu, C., Ghnahlalla, M., El Albani, A., Tino, C.J., Kendall, B., Lin, Y. and Lyons, T.W. Effects of Thermal Alteration on Paleoredox-relevant Proxies in Black Shales: A Cautionary Tale

Tu, C., Kozik, N.P., Young, S.A., Owens, J.D., Ahlberg, P. and Lyons, T.W. Decoupling of Redox Conditions Between the Surface and Deep Ocean Over the Early Middle Ordovician.

13. **Tu, C.**, Diamond, C.W., Stüeken, E.E., Cao, M., Pan, W. and Lyons, T.W. (2024) Dynamic evolution of marine productivity, redox, and biogeochemical cycling track local and global controls on Cryogenian sea-level change. *Geochim. Cosmochim. Acta* 365, 114–135.
12. Lyons, T.W., **Tu, C.** and Hancock, L. (2023) Giving some tooth to Precambrian carbonates and the tales they tell about ancient oceans. *J. Geophys. Res. Biogeosci.*, 128, e2023JG007491.
11. Ghnahlalla, M., Bankole, O.M., Abd Elmola, A., Poujol, M., Fontaine, C., Sabar, M.S., Trentesaux, A., **Tu, C.**, Lyons, T.W. and El Albani, A. (2023) Tracing the sedimentary provenance of the Mesoproterozoic rocks from Taoudeni Basin (~1.1 Ga) Mauritania: Evidence from Sm/Nd and elemental geochemistry. *Precamb. Res.* 388, 107003.
10. Zhang, J., Li, C., Fang, X., Li, W., Deng, Y., **Tu, C.**, Lyons, T.W., Algeo, T.J. and Zhang, Y. (2022) Progressive expansion of seafloor anoxia in the Middle to Late Ordovician Yangtze Sea: Implications for concurrent decline of invertebrate diversity. *Earth Planet. Sci. Lett.* 598, 117858.
9. Jing, Y., **Tu, C.** and Chen, Z.Q. (2022) A late Paleoproterozoic microfossil community from siliceous granules, Dahongyu Formation, North China. *Precamb. Res.* 377, 106723.
8. Ghnahlalla, M., El Albani, A., Abd Elmola, A., Bankole, O.M., Fontaine, C., Salem Sabar, M., Trentesaux, A., Laforest, C., Meunier, A., Boissard, C., **Tu, C.** and Lyons, T.W. (2022) Post-depositional transformations in sedimentary rocks and implications for paleoenvironmental studies:

- Evidence from the Mesoproterozoic (~1.1 Ga) of the Taoudeni Basin, Mauritania. *Am. J. Sci.* 322, 898–937.
7. Evans, S., **Tu, C.**, Rizzo, A., Surprenant, R., Boan, P., McCandless, H., Marshall, N., Xiao, S. and Droser, M. (2022) Environmental drivers of the first major animal extinction across the Ediacaran White Sea-Nama transition. *Proc. Natl. Acad. Sci.* 119, 2207475119.
 6. Feng, X., Chen, Z.Q., Bottjer, D.J., Wu, S., Zhao, L., Xu, Y., Shi, G.R., Huang, Y., Fang, Y. and **Tu, C.** (2019) Unusual shallow marine matground-adapted benthic biofacies from the Lower Triassic of the northern Paleotethys: Implications for biotic recovery following the end-Permian mass extinction. *Earth Sci. Rev.* 189, 194–219.
 5. Chen, Z.Q., **Tu, C.**, Pei, Y., Ogg, J., Fang, Y., Wu, S., Feng, X., Huang, Y., Guo, Z. and Yang, H. (2019) Biosedimentological features of major microbe-metazoan transitions (MMTs) from Precambrian to Cenozoic. *Earth Sci. Rev.* 189, 21–50.
 4. Xu, Y.L., Chen, Z.Q., Feng, X.Q., Wu, S.Q., Shi, G.R. and **Tu, C.** (2017) Proliferation of MISS-related microbial mats following the end-Permian mass extinction in northern margins of the Palaeo-Tethys Ocean: Evidence from southern Qilianshan region, western China. *Palaeogeogr. Palaeoclimatol. Palaeoecol.* 474, 198–213.
 3. **Tu, C.**, Chen, Z.Q., Retallack, G.J., Huang, Y.G. and Fang, Y.H. (2016) Proliferation of MISS-related microbial mats following the end-Permian mass extinction in terrestrial ecosystems: Evidence from the Lower Triassic of the Yiyang area, Henan Province, North China. *Sediment. Geol.* 333, 50–69.
 2. **Tu, C.**, Chen, Z.Q. and Harper, D.A.T. (2016) Permian–Triassic evolution of the Bivalvia: extinction-recovery patterns linked to ecologic and taxonomic selectivity. *Palaeogeogr. Palaeoclimatol. Palaeoecol.* 459, 53–62.
 1. Chen, Z.Q., Yang, H., Luo, M., Benton, M.J., Kaiho, K., Zhao, L.S., Huang, Y.G., Zhang, K.X., Fang, Y.H., Jiang, H.S., Qiu, H., Li, Y., **Tu, C.**, Shi, L., Zhang, L., Feng, X.Q. and Chen, L. (2015) Complete biotic and sedimentary records of the Permian–Triassic transition from Meishan section, South China: Ecologically assessing mass extinction and its aftermath. *Earth Sci. Rev.* 149, 67–107.

Selected Media Coverage

“Earth might be experiencing 7th mass extinction, not 6th” 2022
<https://news.ucr.edu/articles/2022/11/22/earth-might-be-experiencing-7th-mass-extinction-not-6th>

“Geobiologists shine new light on Earth’s first known mass extinction event 550 million years ago” 2022
https://news.vt.edu/articles/2022/11/science-ediacaran_first_mass_extinction_event_scott_evans.html

Outreach

Member of the Comparative Analysis Committee, assisting in the nomination process for the Nilpena Region, Australia into the UNESCO World Heritage List