



Curriculum Vitae-Ji Liu

Personal details

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Education

01/09/2017- 31/01/2021	<u>Ph.D. in Ecology</u> , University of Chinese Academy of Sciences, China.
01/09/2014- 30/06/2016	<u>Visiting M.S. in Ecology</u> , Institute of Subtropical Agriculture, Chinese Academy of Sciences, China.
01/09/2013- 30/06/2016	<u>M.S. in Ecology</u> , Hunan Agricultural University, China.
01/09/2009- 30/06/2013	<u>Bachelor in Land Management</u> , Hunan Agricultural University, China.

Professional history

01/06/2025- Present	<u>Marie Curie Postdoctoral Fellow</u> , Centre for Ecological Research and Forestry Applications – Spanish National Research Council
02/02/2024- Present	<u>Associate Researcher</u> , Institute of Earth Environment, Chinese Academy of Sciences, China
01/04/2021- 01/02/2024	<u>Associate Professor</u> , College of Urban and Environmental Sciences, Central China Normal University, China.
01/04/2022- 31/05/2023	<u>Humboldt Research Fellow</u> , Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Germany
01/09/2016- 31/08/2017	<u>Research Assistant</u> , Institute of Subtropical Agriculture, Chinese Academy of Sciences, China

Publications (peer-review)

As the lead author (*corresponding author)

- (1) **Liu, J.**, Wang, H., Mou, J., Penuelas, J., Delgado-Baquerizo, M., Martiny, A., Zhou, G., Hutchins, D., Inomura, K., Lomas, M., Mojtaba, F., Pellegrini, A., Kohler, T., Deutsch, C., Planavsky, N., Lapointe, B., Zhang, Y., Li, Y., Zhou, J., Zhang, Y., Sun, S., Li, Y., Zhang, W., Cao, J., Chen, J. 2025. Global-scale shifts in marine ecological stoichiometry over the past 50 years. *Nature Geoscience*, <https://doi.org/10.1038/s41561-025-01735-y>
- (2) **Liu, J.**, Wang, H., Penuelas, J., Mou, J., Delgado-Baquerizo, M., Sardans, J., Coello, F., Quan, Z., Qiu, T.Y., Li, Y.Y., Guo, Y.H., Hu, Z.Y., Ying, Y.R., Lv, J.Y., Zhang, Y.F., Tan, W.F., Zhou, G.Y., Li, L.J., Fang, L.C. 2025. Global-scale prevalence of low nutrient use efficiency across major crops. *Nature Communications*. <https://doi.org/10.1038/s41467-025-66019-w>
- (3) Huang, D., **Liu, J.**^{*}, Wang, C., Zhou, J., Cui, Y., Wang, X., Chen, J. 2025 Long-term Warming Induces a Shift in Microbial Nutrient Limitation in Alpine Meadow Soils. *Environmental science*, 1-16. <https://doi.org/10.13227/j.hjlx.202411260>.
- (4) Li, Y., Gao, X., **Liu, J.**^{*}, Shen, J., Chen, J., Zeng, F. 2025 Enhanced efficiency n nitrogen fertilizers suppress soil methane uptake from a mulch drip-irrigation system in an arid region. *Journal of Environmental Management*, 380(2):125092. <https://doi.org/10.1016/j.jenvman.2025.125092>.
- (5) **Liu, J.**, Chen, J. 2024. Developing an ecological stoichiometry-based framework for tracing the sources of soil organic matter. *Global Change Biology*, 30(6): e17384. <https://doi.org/10.1111/gcb.17384>.
- (6) **Liu, J.**, Qiu, T., Peñuelas, J., Sardans, J., Tan, W., Wei, X., Cui, Y., Cui, Q., Wu, C., Liu, L., Zhou, B., He, H., Fang, L. 2023. Crop residue return sustains global soil ecological stoichiometry balance. *Global Change Biology*, 29(8): 2203-2226. <https://doi.org/10.1111/gcb.16584>. (Highly Cited Papers; Cover Paper)
- (7) **Liu, J.**, Fang, L., Qiu, T., Chen, J., Wang, H., Liu, M., Yi, J., Zhang, H., Wang, C., Sardans, J., Chen, L., Huang, M., Peñuelas, J. 2023. Crop residue return achieves environmental mitigation and enhances grain yield: a global meta-analysis. *Agronomy for Sustainable Development*, 43(6): 78. <https://doi.org/10.1007/s13593-023-00928-2>.
- (8) **Liu, J.**, Wang, Y., Li, Y., Peñuelas, J., Zhao, Y., Sardans, J., Tetzlaff, D., Liu, J., Liu, X., Yuan, H., Li, Y., Chen, J., Wu, J. 2023. Soil ecological stoichiometry synchronously regulates stream nitrogen and phosphorus concentrations and ratios. *Catena*, 231(231): 107357. <https://doi.org/10.1016/j.catena.2023.107357>. (Hot Papers)
- (9) **Liu, J.**, Fang, L., Qiu, T., Bing, H., Cui, Y., Sardans, J., Du, E., Chen, J., Tan, W., Delgado-Baquerizo, M., Zhou, G., Cui, Q., Peñuelas, J. 2023. Disconnection between plant–microbial nutrient limitation across forest biomes. *Functional Ecology*, 37(8): 2271-2281. <https://doi.org/10.1111/1365-2435.14361>. (Hot Papers)
- (10) **Liu, J.**, Tetzlaff, D., Goldammer, T., Wu, S., Soulsby, C. 2023. Quantifying changes and trends of NO₃ concentrations and concentration-discharge relationships in a complex, heavily managed, drought-sensitive river system. *Journal of Hydrology*, 622: 129750. <https://doi.org/10.1016/j.jhydrol.2023.129750>.

- (11) **Liu, J.**, Liu, X., Wang, Y., Li, Y., Li, Y., Yuan, H., Fang, L., Wu, J. **2022**. Upstream 2000 ha is the boundary of the stream water nitrogen and phosphorus saturation concentration threshold in the subtropical agricultural catchment. *Catena*, 211(9): 105960. <https://doi.org/10.1016/j.catena.2021.105960>.
- (12) **Liu, J.**, Jiang, B., Shen, J., Zhu, X., Yi, W., Li, Y., Wu, J. **2021**. Contrasting effects of straw and straw-derived biochar applications on soil carbon accumulation and nitrogen use efficiency in double-rice cropping systems. *Agriculture, Ecosystems & Environment*, 311(6): 107286. <https://doi.org/10.1016/j.agee.2020.107286>.
- (13) **Liu, J.**, Liu, X., Wang, Y., Li, Y., Jiang, Y., Fu, Y., Wu, J. **2020a**. Landscape composition or configuration: which contributes more to catchment hydrological flows and variations? *Landscape Ecology*, 35(4): 1531–1551. <https://doi.org/10.1007/s10980-020-01035-3>.
- (14) **Liu, J.**, Liu, X., Wang, Y., Li, Y., Jiang, Y., Wang, M., Wu, J. **2020b**. Landscape pattern at the class level regulates the stream water nitrogen and phosphorus levels in a Chinese subtropical agricultural catchment. *Agriculture, Ecosystems & Environment*, 295: 106897. <https://doi.org/10.1016/j.agee.2020.106897>.
- (15) **Liu, J.**, Ouyang, X., Shen, J., Li, Y., Sun, W., Jiang, W., Wu, J. **2020c**. Nitrogen and phosphorus runoff losses were influenced by chemical fertilization but not by pesticide application in a double rice-cropping system in the subtropical hilly region of China. *Science of the Total Environment*, 715: 136852. <https://doi.org/10.1016/j.scitotenv.2020.136852>.
- (16) **Liu, J.**, Wang, Y., Li, Y., Liu, X., Jiang, Y., Fu, Y., Jin, W., Wu, J. **2020d**. Ecosystem N:P stoichiometric ratios determine the catchment surface water N:P ratio through subsurface hydrological processes. *Catena*, 194(6):104740. <https://doi.org/10.1016/j.catena.2020.104740>.
- (17) **Liu, J.**, Li, W., Wang, Y., Li, Q., Li, Y., Wu, J. **2016**. Effects of landscape pattern on hydrological processes in the central subtropical hilly agricultural catchments. *Journal of Ecology and Rural Environment*, 32(3): 424-431. <https://doi.org/10.11934/j.issn.1673-4831.2016.03.014>

Book Chapters and Encyclopedias

- (18) Shen Jianlin, Wang Cong, Jiang Bingshen, **Liu Ji**, Li Yanyan, Li Yong, Wu Jinshui **2023**. Management of Soil Constraints in China with a Biochar Amendment. *Soil Constraints and Productivity. Taylor & Francis eBook*. Chapter 26. <https://doi.org/10.1201/9781003093565>.

DATASET (open access)

- (19) **Liu, J.** 2023. Meta-data for “Crop residue return achieves environmental mitigation and enhances grain yield” <https://doi.org/10.6084/m9.figshare.22707691> (global data set on soil carbon, nitrogen and phosphorus stocks in 0-60 cm and grain yields for crop residue return comparison inorganic fertilizer treatments)
- (20) **Liu, J.** 2023. Field observation data for “Soil ecological stoichiometry synchronously regulates stream nitrogen and phosphorus concentrations and ratios” <https://doi.org/10.6084/m9.figshare.21967277.v2> (7-year observational dataset of soil and stream carbon, nitrogen, and phosphorus concentrations and ecological stoichiometry in subtropical agricultural catchments)

- (21) **Liu, J.** 2023. Meta-data for “Crop residue return sustains global soil ecological stoichiometry balance” <https://doi.org/10.6084/m9.figshare.21814911.v1> (global data set on soil carbon, nitrogen and phosphorus concentrations, ecological stoichiometry ratios and grain yields for crop residue return comparison inorganic fertilizer treatments)
- (22) **Liu, J.** 2022. Field observation data for “Disconnection between plant-microbial nutrient limitation across forest biomes” <https://doi.org/10.6084/m9.figshare.21711155> (Chinese scale plant-microbial nitrogen and phosphorus limitation data set)

Prizes and Awards

- 1) The Three Qin Talents. **2025**
- 2) Marie Skłodowska-Curie Fellow. **2025**
- 3) Shaanxi Provincial Science and Technology Rising Star. **2024**
- 4) Chinese Academy of Sciences Hundred Talent Program. **2024**
- 5) Humboldt Research Fellow. **2022**
- 6) Chinese Academy of Sciences Presidential Scholarship. **2020**
(the highest honor given to doctoral students by the Chinese Academy of Science)
- 7) Chinese postgraduate National Scholarships. **2020**
(the highest honor given to doctoral students by the Ministry of Education of China)
- 8) Merit Student of the University of Chinese Academy of Sciences. **2020**

Funding received so far

As the primary investigator (PI)

- 1) The Three Qin Talents Introduction Program. **2025-2027**. ¥900,000 (€ 113,130). PI.
- 2) National Natural Science Foundation of China, Characteristics of Soil Legacy Nitrogen and Its Mechanism of Influence on Runoff Nitrogen Load. **2026-2030**. ¥490,000 (€ 61,740). PI.
- 3) Marie Skłodowska-Curie Fellow. **2025-2027**. €200,000.
- 4) Chinese Academy of Sciences Hundred Talent Program. **2024-2027**. ¥2,000,000 (€ 251,800). PI.
- 5) Central China Normal University talent introduction start-up funding (31101222120), Patterns and formation mechanisms of soil organic carbon in the Jiangnan Plain. **2021-2025**. ¥200,000 (€ 25,180). PI.
- 6) National Natural Science Foundation of China, Processes and mechanisms of legacy nitrogen export from subtropical agricultural catchments. **2022-2024**. ¥300,000 (€ 37,710). PI.
- 7) Alexander von Humboldt Foundation, Legacy nitrogen tracing in agricultural catchments. **2022-2023**. €190,000. PI.
- 8) Open Fund for Key Laboratories of Chinese Academy of Sciences (ISA2021101), Spatio-temporal heterogeneity of nitrogen loss-transport-removal processes in agricultural catchments. **2021-2023**. ¥50,000 (€ 6,285). PI.