

Name: Manqiang Liu

Professor of Soil Ecology

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Education:

- 2005 Ph.D, Nanjing Agricultural University. Thesis title: Biological properties and physical protection of soil organic matter of paddy soil under different organic management practices
- 2001 Cand Scient (M.Sc.), Soil Science, Nanjing Agricultural University, China. Thesis title: Soil quality and biological indicator assessment of degraded red soil under different vegetation restoration
- 1998 B.Sc., Soil science and plant nutrition, Nanjing Agricultural University, China.

Research interests and expertise:

- Soil biotic interactions and functional stability under global change and agricultural disturbance, particularly the functional traits of soil biota and its ecosystem multifunctionality
- Linkage between above-and below- ground biota via bridging roles of root and shoot traits
- Abiotic and biotic controls of carbon, nitrogen and phosphorus cycling particularly focusing on the roles of soil fauna
- Multi- value and ecological risk of green manure and agricultural waste amendments on soil, crops and environment

Current projects:

- *National Natural Science Foundation of China*: Earthworm mediated soil process on plant growth and resistance against herbivores; Changes of soil community affected by earthworm *Metaphire guillelmi* spanning different spatial and temporal scales; Temporal changes of soil food web structure and functions after comprehensively manipulating soil habitat
- *National Key Research & Development program*: Mechanisms of monoculture on carbon and nutrient use efficiency: integrating fauna, geochemical, microbial and plant mechanisms
- *China Agriculture Research System*: Green manure growth and association with soil community, soil function and sustainability

Current teaching:

- Courses for undergraduates: Ecology, Soil Ecology, Soil Biology and Ecology
- Courses for graduates: Soil Ecology, Advances of Ecology

Selected publications:

- Zheng, Y., Wang, S., Bonkowski, M., Chen, X., Griffiths, B., Hu, F., **Liu, M.**, 2018. Litter chemistry influences earthworm effects on soil carbon loss and microbial carbon acquisition. *Soil Biology and Biochemistry* 123, 105-114.
- Gong, X., Jiang, Y., Zheng, Y., Chen, X., Li, H., Hu, F., **Liu, M.**, Scheu, S., 2018. Earthworms differentially modify the microbiome of arable soils varying in residue management. *Soil Biology and Biochemistry* 121, 120-129.
- Hu, Z., Zhu, C., Chen, X., Bonkowski, M., Griffiths, B., Chen, F., Zhu, J., Hu, S., Hu, F., **Liu, M.**, 2017. Responses of rice paddy micro-food webs to elevated CO₂ are modulated by nitrogen fertilization and crop cultivars. *Soil Biology and Biochemistry* 114: 104-113.
- Wu, D., **Liu, M.**, Song, X., Jiao, J., Li, H., Hu, F., 2015. Earthworm ecosystem service and dis-service in an N-enriched agroecosystem: increase of plant production leads to no effects on yield-scaled N₂O emissions. *Soil Biology and Biochemistry* 82, 1-8
- Huang, J., **Liu, M.**, Chen, X., Chen, J., Li, H., Hu, F., 2015. Effects of intraspecific variation in rice resistance to aboveground herbivore, brown planthopper, and rice root nematodes on plant yield, labile pools of plant and rhizosphere soil. *Biology and Fertility of Soils* 51, 417-425

Prizes, awards, honors:

- Interaction between soil fauna and microorganisms and associated ecosystem functions. First Prize of the 5th China of Soil Science Society of China, Science and Technology Award (year of 2010)