

Member Profile

Center for Ecosystem Science and Society

Department of Biological Sciences

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Research Interests

- Terrestrial system response to global change
- Earth system modeling
- Nutrient cycling in ecosystems under interactions of soil-plant-microbes
- Organic nitrogen uptake by plants
- Transporters mediating nitrogen uptake from soil

Education

Ph.D. Biological Sciences, 2017– present, Center for Ecosystem Science and Society, Department of Biological Sciences, Northern Arizona University, Flagstaff, USA.

Ph.D. Ecology and Evolutionary Biology, 2015 – 2017 (transferred to NAU), Department of Microbiology and Plant Biology, University of Oklahoma, Norman, USA.

M.S. Plant Physiological Ecology, August 2015, Department of Life Sciences, University of Chinese Academy of Sciences, Beijing, China.

B.S. Biological Sciences, July 2012. Department of Life Sciences, Sichuan Agricultural University, Sichuan, China

Professional Employment

2015 - 2017 : Research Assistant (with Dr. Yiqi Luo), University of Oklahoma

2017 - : Research Assistant (with Dr. Yiqi Luo), Northern Arizona University

Publications

Ma, S., Jiang, J., Huang, Y., Shi, Z., Wilson, R. M., Ricciuto, D., Sebestyen, S. D., Hanson, P. J. & Luo, Y. (2017). Data-constrained projections of methane fluxes in a Northern

Minnesota Peatland in response to elevated CO₂ and warming. *Journal of Geophysical Research: Biogeosciences*, 122. <https://doi.org/10.1002/2017JG003932>

Huang, Y., Jiang, J., **Ma, S.**, Ricciuto, D., Hanson, P. J., & Luo, Y. (2017). Soil thermal dynamics, snow cover and frozen depth under five temperature treatments in an ombrotrophic bog: Constrained forecast with data assimilation. *Journal of Geophysical Research: Biogeosciences*.

Jiang, J., **S. Ma**, Y. Huang, D. Ricciuto, P. J. Hanson, and Y. Luo (2017), Forecasting responses of a northern peatland carbon cycle to elevated CO₂ and a gradient of experimental warming. 2017, *Journal of Geophysical Research: Biogeosciences*. (In revision)

Ma S, Zhu XX, Zhang J, Zhang LR, Che RX, Wang F, Liu HK, Niu HS, Wang SP, Cui XY. Warming decreased and grazing increased plant uptake of amino acids in an alpine meadow. *Ecology and Evolution*, 2015.

Che RX, Wang F, Wang YF, Deng YC, Zhang J, **Ma S**, Cui XY. A review on the methods for measuring total microbial activity in soil. *Acta Ecologica Sinica*, 2015. doi: 10.5846/stxb201410262093. (In Chinese with English abstract)

Wu YB, Che RX, **Ma S**, Deng YC, Zhu MJ, Cui XY. Estimation of root production and turnover in an alpine meadow: comparison of three measurement methods. *Acta Ecologica Sinica*, 2014, 34(13): 3529-3537. (In Chinese with English abstract)

Xue J, **Ma S**, Deng X, Li C, Chen H, Wu Q. Prokaryotic Expression and Reverse Catalytic Activity Characterizations of Phenylalanine Ammonia-Lyase Gene (*Ft PAL*) From *Fagopyrum tataricum*. *Journal of Agricultural Biotechnology*, 2014, 22, 64-70. (In Chinese with English abstract)

Han CC, Wan HF, **Ma S**, Liu DD, He F, Wang JW, Pan ZX, Liu HH, Li L, He Hua, Xu HY, Wei SH, Xu F. Role of mammalian sirtuin 1 (SIRT1) in lipids metabolism and cell proliferation of goose primary hepatocytes. *Molecular and Cellular Endocrinology*, 2014, 382(1): 282-291

Ma, S., Han, C., & Wang, J. (2011). The Complementary DNA Segment Cloning and Bioinformatics Analysis of INTS2 Gene in Goose. In International Conference on Computer Technology and Development, 3rd (ICCTD 2011). ASME Press.

Presentations

Ma S, Jiangjiang, Yiqi Luo. Impacts of seasonal changes in precipitation on carbon sequestration in a tallgrass prairie. 2016 Annual Meeting of Ecological Society of America. (Poster)

Ma S, Jiangjiang, Yuanyuan Huang, Daniel Ricciuto, Paul J. Hanson, Yiqi Luo, Data-constrained projections of methane fluxes in Northern Minnesota Peatland in response to elevated CO₂ and warming. 2016 Annual Meeting of American Geophysical Union. (Poster)

Data products

Shuang Ma, Jiang Jiang, Yuanyuan Huang, Zheng Shi, Rachel M. Wilson, Daniel Ricciuto, Stephen D. Sebestyen, Paul J. Hanson, Yiqi Luo. 2017. SPRUCE Data-constrained Projections of Methane Fluxes in a Northern Minnesota Peatland in Response to Elevated CO₂ and Warming: Modeling Archive. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.046>

Teaching Experience

Teaching assistant, Department of Life Sciences, University of Chinese Academy of Sciences

Courses:

- Population Genetics (Summer 2015)
- Animal Ethology (Spring 2015)
- Introduction to Structural Biology (Fall 2014)