

Jianwen Zou

Professor of Soil and Environmental Sciences

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Education:

- **Ph.D.** in Ecology, Rice University, Houston, TX, USA. May 2007.
Dissertation advisor: Evan Siemann, Dissertation committee: Carrie Masiello, Nathaniel Holland, and Jennifer Rudgers
- **Ph. D.** in Soil Science, Nanjing Agricultural University, Nanjing, China. July 2005.
Dissertation advisor: Yao Huang, Dissertation committee: Lianggang Zong, Genxing Pan, Zucong Cai, Jianguo Zhu, and Qirong Shen
- **B.S.** in Agronomy, Yangzhou University, Yangzhou, Jiangsu, China. July 1993.

Research interests and expertise:

- Our lab focuses on soil carbon/nitrogen cycling and agricultural greenhouse gases. We are interested in the issues in the following fields: (1) The mechanism and strategies of mitigating the integrated GWPs of CO₂, CH₄ and N₂O emissions from typical agroecosystems in China. We are attempting to assess the mitigation potentials based on field flux measurements and examine the involved soil microbial mechanisms; (2) Effect of shifts in agricultural cropping regime on GHGs. Shifts in agricultural cropping regimes, such as organic versus conventional cropping systems, no/low-tillage versus tillage cropping systems, and rice paddies versus inland aquaculture wetlands would have great impacts on agricultural GHGs emission; (3) The response and feedback of soil GHGs to climate change based on field work and data synthesis.

Current projects:

- Nitrous oxide emissions from acidic soils under long-term green-tea cultivation.
- GHGs fluxes from inland aquaculture wetlands.
- Response and feedback of soil GHGs to climate change.

Current teaching: (Course name, classroom number, spring/autumn term)

- Graduate courses: Global Change Ecology, Statistical Analysis and Ecological Modeling
- Undergraduate courses: Global Change, Ecosystem Ecology

Selected publications:

- Shuwei Liu, Cheng Ji, Cong Wang, Jie Chen, Yaguo Jin, Shuqing Li, Shuli Niu, Jianwen Zou*. 2018. Climatic role of terrestrial ecosystem under elevated CO₂: A bottom-up greenhouse gases budget. *Ecology Letters*, doi: 10.1111/ele.13078.
- Shuwei Liu, Feng Lin, Shuang Wu, Jie Chen, Yi Sun, Yaguo Jin, Shuqing Li, Zhaofu Li, Jianwen Zou*. 2017. A meta-analysis of fertilizer-induced soil NO and combined NO+N₂O emissions. *Global Change Biology*, 23: 2520-2532. doi: 10.1111/gcb.13485.
- Shuwei Liu, Zhiqiang Hu, Shuang Wu, Shuqing Li, Zhaofu Li, Jianwen Zou*. 2016. Methane and nitrous oxide emissions reduced following conversion of rice paddies to inland crab-fish aquaculture in southeast China. *Environmental Science & Technology*, 50: 633-642.
- Shutao Chen, Jianwen Zou*, Zhenghua Hu, Haishan Chen, Yanyu Lu. 2014. Global annual soil respiration in relation to climate, soil properties and vegetation characteristics: Summary of available data. *Agricultural and Forest Meteorology*, 198: 335-346.
- Qingyin Shang, Xiuxia Yang, Cuimin Gao, Pingping Wu, Jinjian Liu, Yangchun Xu, Qirong Shen, Jianwen Zou* and Shiwei Guo. 2011. Net annual global warming potential and greenhouse gas intensity in Chinese double rice-cropping systems: a 3-year measurement in long-term fertilizer experiments. *Global Change Biology*, 17: 2196-2210.

Prizes, awards, honors:

- National Excellent Doctoral Thesis in China, the Ministry of Education, China, 2007.
- New Century Excellent Talents in University, the Ministry of Education, China, 2008.
- Outstanding Young Scientists, Research Fund Supported by the National Natural Science Foundation of China, 2012.
- Professor of Jiangsu Province, the Provincial Office of Talent Working, Jiangsu province, China, 2012.
- Leading Scholar of National Ten-thousand Talents, the National Office of Talent Working, China, 2016.