

CURRICULUM VITAE

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Education

- Ph.D. (2020 to present, degree expected in 2024)
Major: Agricultural Resources and Environment
School: Nanjing Agricultural University
- Master of Agronomy (2018 – 2020)
Major: Soil Science
School: Nanjing Agricultural University
- Bachelor of Agronomy (2014 – 2018)
Major: Agricultural Resources and Environment
School: Nanjing Agricultural University

Research experience

1. July 2018 – May 2019
In situ observations of Nitrous Oxide fluxes from acidic soils following PGPM *Bacillus velezensis* SQR9 addition and analysis of soil physicochemical factors and N-cycling functional genes (*amoA*, *nirK*, fungal *nirK*, *nirS*, *nosZ*).
2. June 2019 – November 2019
In situ observations of Carbon Dioxide, Methane, Nitrous Oxide and Ammonia volatilization from rice and wheat field under different levels of Fe(III) fertilization.
3. December 2019 – May 2020
Analysis of methane cycle functional genes (*mcrA*, *pmoA*) and the interactions between methanogens and methanotrophs with Fe(III) fertilization mediated.
4. June 2020 – June 2021
Conducted laboratory incubations to investigate the residual effects of Fe(III) fertilization on Nitrous Oxide fluxes and microbial communities from paddy soil.
Conducted ¹⁵N-tracing experiment combined with ¹⁵N tracing model to quantify the gross N transformations rates and Nitrous Oxide production pathways in two soils with different concentration of iron.
5. July 2021 to present
Focus on how the biogeochemical cycle of iron mediated the carbon and nitrogen cycles and try to understand new connections between them by microbial ecology.

Journal List

1. **Zhang Y**, Huang M, Zheng F, Guo S, Song X, Liu S, et al. Decreased methane emissions associated with methanogenic and methanotrophic communities in a pig manure windrow composting system under calcium superphosphate amendment. *Int J Environ Res Public Health* 2021; 18.
2. Yu K, Fang X, **Zhang Y**, Miao Y, Liu S, Zou J. Low greenhouse gases emissions associated with high nitrogen use efficiency under optimized fertilization regimes in double-rice cropping systems. *Appl Soil Ecol* 2021; 160: 103846.
3. Geng Y, Yuan Y, Miao Y, Zhi J, Huang M, **Zhang Y**, et al. Decreased nitrous oxide emissions associated with functional microbial genes under bio-organic fertilizer application in vegetable fields. *Pedosphere* 2021; 31: 279–288.
4. Geng Y, Wang J, Sun Z, Ji C, Huang M, **Zhang Y**, et al. Soil N-oxide emissions decrease from intensive greenhouse vegetable fields by substituting synthetic N fertilizer with organic and bio-organic fertilizers. *Geoderma* 2021; 383: 114730.
5. Jin Y, Miao Y, Geng Y, Huang M, **Zhang Y**, Song X, et al. Calcium superphosphate-mediated reshaping of denitrifying bacteria community contributed to N₂O mitigation in pig manure windrow composting. *Int J Environ Res Public Health* 2021; 18: 1–11.
6. Wu J, **Zhang Y**, Huang M, Zou Z, Guo S, Wang J, Zou J. Insight into the effects of antibiotic and degradation product on N₂O emission in soil. *Science of Total Environment*. (Submitted)
7. **Zhang Y**, Huang M, Yu K. Decreased methane emissions associated with changes in methanogens and methanotrophs abundance, community composition and their interactions following Fe(III) fertilization in rice paddies. (Finished)

Research Techniques and Skills

1. Proficient in operating the Agilent 7890A GC to analyze GHGs concentrations, and operating the model 42i chemiluminescence NO-NO₂-NO_x analyzer (Thermo Environmental Instruments Inc., USA) to analyze the NO and NO₂ concentrations.
2. Proficient in operating the StepOnePlus TMReal-Time PCR and PCR-Cycler to analyze *amoA*, *nirK*, *nirS*, *nosZ*, *pmoA* and *mcrA* gene abundances.
3. Physical and chemical properties analysis of soil: NO₃⁻-N, NH₄⁺-N, pH, DOC, SOM, TN and so on.
4. Proficient in statistical analysis software, such as MetaWin version 2.1, JMP version 10.0 and R 3.4.4.

Honor & Awards

1. Performed excellently in the midterm assessment, Nanjing Agricultural University. **June. 2019**
2. Won the university scholarship for three years in succession, Nanjing Agricultural University. **2018-2020**

Foreign Language Abilities

Excellent in reading and listening, well in written and spoken