Curriculum Vitae

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Personal Details

Name:	Guang-bin Zhang	Gender:	Male
Nationality:	P.R. China	Date of Birth:	Apr. 14, 1983
Marital status:	Married		

Qualifications

09/2006 – 07/2011: Ph.D. in **Soil Science** in Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China.
Advisor: Prof. Hua Xu

09/2002 – 07/2006: B.S. in **Environment and Science**, Dept. of Resource and Environment, Shandong Agricultural University, Taian, China.

Research Experiences

09/2006 – 07/2011
Ph.D. candidate
Supervisor: **Prof. Hua Xu**
Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China.
During the 4-years (2007~2010) field and incubation experiments, I studied the processes of CH_4 emission involved in its production, oxidation and transport by using the stable carbon isotope technique. My PhD thesis is **Water and fertilizer managements affect production, oxidation, and emission of CH_4 in rice fields (In Chinese).**

07/2011 –present
Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China.
Working in C/N Cycling and Global Climate Change Research Group.
Principal investigator: **Prof. Hua Xu**
My major study was the processes of CH_4 emission from rice fields with the stable carbon isotope technique combining with microbes (methanogens and methanotrophs) analyses. Recently, I carried out field experiments to study the mechanism of CH_4 emission from a special kind of rice fields that are permanently flooded with highest fluxes in southeast of China. In addition, pot and incubation experiments were performed to investigate the effect of nitrogen fertilization on production, oxidation and emission of the CH_4 by measuring the stable carbon isotopes, methanogens and methanotrophs. Meanwhile, the integrated effects of nitrogen fertilization and straw application on N_2O emission from paddy soils were observed. I am very interested in soil ecology, microbiology, biogeochemistry, environmental and soil chemistry, and I specially focus on the cycling of C and N in the agricultural ecosystem and the responses to global climate change (CO_2 concentration and temperature enrichment).

12/2005 – 06/2006
Work for Bachelor degree
Supervisor: **Prof. Yu-xin Xu**
School of Resource and Environment, Shandong Agricultural University, Taian, China.
Wastewater Treatment Technologies in the Laboratory
In this work, I have learned some methods for dealing with wastewater from the Lab.

Publications

Curriculum Vitae

1. Zhang GB, Ma J, Yang YT, Yu HY, Shi YP, Xu H. Variations of stable carbon isotopes of CH_4 emission from three typical rice fields in China. Pedosphere, 2017, 27(1): 52-64.
2. Zhang GB, Yu HY, Fan XF, Yang YT, Ma J, Xu H. Drainage and tillage practices in the winter fallow season mitigate CH_4 and N_2O emissions from a double-rice field in China. Atmospheric Chemistry and Physics. 2016, 16(18): 11853-11866.
3. Zhang GB, Yu HY, Fan XF, Ma J, Xu H. Carbon isotope fractionation reveals distinct process of CH_4 emission from different compartments of paddy ecosystem. Scientific Reports, 2016, 6, 27065; doi: 10.1038/srep27065
4. Liu G, Yu HY, Zhang GB, Xu H, Ma J. Combination of wet irrigation and nitrification inhibitor reduced nitrous oxide and methane emissions from a rice cropping system. Environmental Science and Pollution Research, 2016, DOI 10.1007/s11356-016-6936-2.
5. Zhang GB, Yu HY, Fan XF, Liu G, Ma J, Xu H. Effect of rice straw application on stable carbon isotopes, methanogenic pathway, and fraction of CH_4 oxidized in a continuously flooded rice field in winter season. Soil Biology & Biochemistry, 2015, 84: 75-82.
6. Zhang GB, Zhang WX, Yu HY, Ma J, Xu H, Yagi K. Increase in CH_4 emission due to weeds incorporation prior to rice transplanting in a rice-wheat rotation system. Atmospheric Environment, 2015, 116: 83-91.
7. Zhang GB, Zhang WX, Yu HY, Ma J, Xu H, Yagi K. Fraction of CH_4 oxidized in paddy field measured by stable carbon isotopes. Plant and Soil, 2015, 389: 349-359, DOI 10.1007/s11104-014-2365-5.
8. Zhang GB, Ji Y, Liu G, Ma J, Xu H. Carbon isotope fractionation during CH_4 transport in a paddy field. Science China: Earth Sciences, 2014, 57(7):1664-1670, doi: 10.1007/s11430-014-4879-3.
9. Li XL, Ma J, Yao YJ, Liang SL, Zhang GB, Xu H, Yagi K. Methane and nitrous oxide emissions from irrigated lowland rice paddies after wheat straw application and midseason aeration. Nutrient Cycling in Agroecosystems, 2014, 100(1): 65-76, DOI: 10.1007/s10705-014-9627-8.
10. Ji Y, Liu G, Ma J, Zhang GB, Xu H. Effects of Urea and controlled released urea fertilizers on methane emission from paddy fields: A multi-year field study. Pedosphere, 2014, 24(5): 662-673. DOI: 10.1016/S1002-0160(14)60052-7.
11. Zhang GB, Liu G, Zhang Y, Ma J, Xu H, Yagi K. Methanogenic pathway and fraction of CH_4 oxidized in paddy fields: seasonal variation and effect of water management in winter fallow season. PLoS ONE, 2013, 8(9): e73982. doi: 10.1371/journal.pone.0073982.
12. Zhang GB, Ji Y, Ma J, Liu G, Xu H, Yagi K. Pathway of CH_4 production, fraction of CH_4 oxidized, and ^{13}C isotope fractionation in a straw-incorporated rice field. Biogeosciences, 2013, 10(5), 3375-3389.
13. Ma J, Ji Y, Zhang GB, Xu H, Yagi K. Timing of midseason aeration to reduce CH_4 and N_2O emissions from double rice cultivation in China. Soil Science and Plant Nutrition, 2013, 59(1): 35-45. DOI: 10.1080/00380768.2012.730477.
14. Ji Y, Liu G, Ma J, Zhang GB, Xu H, Yagi K. Effect of controlled-release fertilizer on mitigation of N_2O emission from paddy field in South China: a multi-year field observation. Plant and Soil, 2013, 371:473-486, DOI: 10.1007/s11104-013-1700-6.
15. Zhang GB, Ji Y, Ma J, Xu H, Cai ZC, Yagi K. Intermittent irrigation changes production, oxidation, and emission of CH_4 in paddy fields determined with stable carbon isotope technique. Soil Biology & Biochemistry, 2012, 52(9), 108-116.
16. Zhang XY, Zhang GB, Ji Y, Ma J, Xu H, Cai ZC. Straw application altered CH_4 emission, concentration and ^{13}C-isotopic signature of dissolved CH_4 in a rice field. Pedosphere, 2012, 22(1): 13-21.
17. Zhang GB, Zhang XY, Ji Y, Ma J, Xu H, Cai ZC. Carbon isotopic composition, methanogenic pathway and fraction of CH_4 oxidized in a rice field flooded year-round. Journal of Geophysical Research, 2011, 116, G04025, doi: 10.1029/2011JG001696.
18. Zhang GB, Ji Y, Ma J, Xu H, Cai ZC. Case study in effect of water management and rice straw incorporation in rice field on production, oxidation and emission of CH_4 during fallow and following rice seasons. Soil Research, 2011, 49(3): 238-246.
19. Zhang GB, Zhang XY, Ma J, Xu H, Cai ZC. Effect of drainage in the fallow season on reduction of CH_4 production and emission from permanently flooded rice fields. Nutrient Cycling in Agroecosystems, 2011, 89(1): 81-91.
20. Ma ED, Zhang GB, Ma J, Xu H, Cai ZC, Yagi K. Effects of rice straw returning methods on N_2O emission during wheat-growing season. Nutrient Cycling in Agroecosystems, 2010, 88(3): 463-469, doi: 10.1007/s10705- 010-9369-1.
21. Li XL, Zhang GB, Xu H, Cai ZC, Yagi K. Effect of timing of joint application of hydroquinone and dicyandiamide on nitrous oxide emission from irrigated lowland rice paddy field. Chemosphere, 2009, 75(10): 1417-1422.
22. Zhang WX, Yu HY, Zhang GB, Ma J , Xu H. Effect of rice variety on production and emission of CH_4 and $\delta^{13}CH_4$. Ecology and

Environmental Sciences, 2015, 24(2): 196-203. (In Chinese)

23. Yu J, Liu G, Ma J, Zhang GB, Xu H, Cai ZC. CH_4 and N_2O fluxes from winter fallow paddy fields in a hilly area of southeast China. Ecology and Environmental Sciences, 2012, 21(1): 55-58. (In Chinese)
24. Zhang XY, Zhang GB, Ji Y, Ma J, Xu H, Cai ZC. Temporal variation of CH_4 flux and its $\delta^{13}C$ from winter flooded rice field. Acta Pedologica Sinica, 2012, 49(2): 296-302. (In Chinese)
25. Zhang GB, Ma J, Xu H, Cai ZC. Advances on methanogenic pathways in rice fields. Soils, 2011, 43(1): 6-11. (In Chinese)
26. Zhang XY, Ma ED, Zhang GB, Ma J, Xu H, Cai ZC. Effects of rice straw application in wheat season on production, oxidation and emission of CH_4 during the following rice-growing season. Journal of Agro-Environment Science, 2010, 29(9); 1827-1833. (In Chinese)
27. Zhang XY, Zhang GB, Ji Y, Ma J, Xu H, Cai ZC. Study on the rules of CH_4 production, oxidation, and emission and their influencing factors in continuously flooded rice field. Ecology and Environmental Sciences, 2010, 19(11): 2540-2545. (In Chinese)
28. Zhang GB, Zhang XY, Ji Y, Ma J, Li XP, Xu H, Cai ZC. Effects of rice straw application in winter on CH_4 production, oxidation, and emission from continuously flooded rice field during the rice-growing season. Soils, 2010, 42(6): 895-900. (In Chinese)
29. Zhang GB, Zhang XY, Ma ED, Ma J, Xu H, Cai ZC. Effects of land management in winter on production, oxidation and emission of CH_4 during the rice-growing season. Journal of Ecology and Rural Environment, 2010, 26(2): 97-102. (In Chinese)
30. Zhang GB, Ma J, Ma ED, Xu H, Cai ZC. Effects of Urea application on methane production, oxidation and emission from a paddy soil. Soils, 2010, 42 (2): 178-183. (In Chinese)
31. Zhang GB, Ma ED, Zhang XY, Ma J, Xu H, Cai ZC. Effects of rice straw incorporation and land management in winter on methane emission during rice-growing season. Journal of Agro-Environment Science, 2009, 28(12): 2501-2505. (In Chinese)
32. Zhang GB, Ma J, Xu H, Cai ZC. Literature review on estimation of methane emission from paddy fields in China. Acta Pedologica Sinica, 2009, 46(5): 907-916. (In Chinese)
33. Zhang GB, Ma J, Xu H, Cai ZC. Application of stable carbon isotope technique in study of methane emission from rice field. Acta Pedologica Sinica, 2009, 46(4): 676-683. (In Chinese)
34. Zhang GB, Li XL, Ma J, Xu H, Cai ZC. Effects of water management on production, oxidation, and emission of CH_4 from rice paddy soil. Ecology and Environmental Sciences, 2009, 18(3): 1066-1070. (In Chinese)

Presentations

1. 20/09/2016: *Stable carbon isotopes of CH_4 emission from three typical rice fields in China*. Zhang GB, Xu H and Ma J. 2016. Conference on the thirtieth Member Representative of Soil Science Society of China, Xian, China.
2. 19/05/2016: *Stable carbon isotopes of CH_4 emission from three typical rice fields in China*. Zhang GB, Xu H and Ma J. 2016. Conference on the fifteenth session of Chinese Youth Soil Scientists and the tenth session of Chinese Young Plant Nutrition and Fertilizer Science, Shandong Agricultural University, Taian, China.
3. 18/10/2015: *Effects of drainage and tillage in winter fallow season on CH_4 and N_2O emissions from a double-rice field*. Zhang GB, Xu H and Ma J. 2015. Symposium on the eighth session of Chinese Soil Biology and Biochemistry and the third session of Chinese Soil Health, Heyuan, Guangdong, China.
4. 09/26/2012: *Pathway of CH_4 production, fraction of CH_4 oxidized, and ^{13}C isotope fractionation in a straw incorporated rice field*. Zhang GB, Xu H and Ma J. 2012. "MARCO Symposium 2012" focusing on Strengthening Collaboration for Agro-Environmental Challenges in Monsoon Asia. Workshop 1: Agriculture and climate change in Monsoon Asia, Tsukuba, Japan.
5. 10/25/2010: *Effect of straw incorporation on CH_4 production, oxidation and emission from a rice field*. Zhang GB, Xu H and Ma J. 2010. Conference on the twelfth session of Chinese Youth Soil Scientists and the seventh session of Chinese Young Plant Nutrition and Fertilizer Science, Central China Agricultural University, Wuhan, China.

Awards and Honors

2011 Chinese Academy of Sciences Scholarship

2011 The Wu Yisun Scholarship

Curriculum Vitae

2012 Best Paper Award

2016 Award for Outstanding Young Scholars in Soil Science Society of China

Projects

2013 Jiangsu Province Science Foundation for Youths (BK2012497)

2013 National Natural Sciences Foundation of China (41201243)

2014 Young Talent Project (Y412010003)

2015 National Natural Sciences Foundation of China (41571232)

2016 Knowledge Innovation Program of Institute of Soil Science, Chinese Academy of Sciences (ISSASIP1654)