

熊正琴，1973年6月生于中国重庆市涪陵区，汉族，2008年1月作为留学引进人才被南京农业大学特聘为资源与环境科学学院土壤学（国家重点学科）教授，美国波特兰州立大学物理系兼职研究教授，主要研究领域为碳氮循环与生态环境。

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一、教育经历:

1999/9 - 2002/6, 中国科学院, 植物营养学, 博士, 导师: 朱兆良院士

1996/9 - 1999/8, 南京农业大学, 蔬菜学, 硕士, 导师: 李式军教授

1992/9 - 1996/7, 南京农业大学, 园艺, 学士

二、工作经历:

2008/1 - 至今, 南京农业大学, 资源与环境科学学院, 教授, 博士生导师

2007/6 - 2007/12, 美国波特兰州立大学, 物理系, 助理研究教授

2005/1 - 2007/12, 美国波特兰州立大学, 物理系, 高级访问学者、博士后

2002/7 - 2005/1, 中国科学院南京土壤研究所, 助理研究员

三、获奖情况

① 国家教育部2019年度高等学校科学研究优秀成果奖—自然科学一等奖“稻田温室气体排放与生物质炭减排潜力” 邹建文、潘根兴、熊正琴、张阿凤、王金阳

② 江苏省十大青年科技之星 2014.

③ 国家教育部新世纪优秀人才(NCET-10-0475) 2009.

④ 江苏省科学技术进步奖一等奖 2004.

⑤ 江苏省第一届优秀硕士学位论文奖 2000.

四、主持或参加科研项目及人才计划项目情况:

(1) 主持人才计划项目情况:

① 教育部新世纪优秀人才计划, NCET-10-0475, 农田生态系统温室气体排放规律研究, 2010/01-2012/12, 50 万元, 已结题, 主持。

② 南京农业大学引进杰出人才基金, 030804094, 氮素循环与生态环境, 2008/01-2010/12, 50 万元, 已结题, 主持。

(2) 主持国家自然科学基金项目情况:

① 国家自然科学基金面上项目, 41977078, 菜地氧化亚氮产生过程辨析及羟胺和亚硝态氮的潜在贡献, 2020/01-2023/12, 62 万元, 在研, 主持。

② 国家自然科学基金面上项目, 41471192, 生物炭对菜地土壤 N₂O 产生过程的影响机理研究, 2015/01-2018/12, 90 万元, 已结题, 主持。

③ 国家自然科学基金面上项目, 41171238, 农业生物质循环利用减缓稻田综合净温室效应潜力观测与评估, 2012/01-2015/12, 70 万元, 已结题, 主持。

④ 国家自然科学基金面上项目, 40971139, 水旱轮作体系中土壤剖面 N₂O 行为过程及机理研究, 2010/01-2012/12, 40 万元, 已结题, 主持。

(3) 主持其他科研项目情况:

- ① 公益性行业（农业）科研专项，201503106，“化肥面源污染农田综合治理技术方案”课题-气态损失过程阻控研究与集成示范，2015/01-2019/12，138 万元，在研，课题主持。
- ② 公益性行业（农业）科研专项，200903003，“气候变化对农业生产的影响及应对技术研究”课题—气候变化对稻麦轮作系统养分管理的影响及应对技术研究，2009/01-2013/12，71.4 万元，已结题，课题主持。
- ③ 国家科技支撑计划，2013BAD11B01，子课题菜地氧化亚氮减排技术研发，2013/01-2016/12,78 万元，在研，子课题主持。
- ④ 国家科技部 973 计划，2009CB118603，“主要粮食作物高产栽培与资源高效利用的基础研究”子课题—南方高产高效稻田体系综合温室效应观测研究，2009/01-2013/12，15 万元，已结题，子课题主持。
- ⑤ 高等学校博士学科点专项科研基金博导类资助课题，20110097110001，集约化种植模式下蔬菜地生态系统碳收支及净温室效应的观测与评估，2012/01-2014/12，12 万元，已结题，主持。
- ⑥ 国际合作项目，DE-FG02-08ER64515，甲烷和氧化亚氮收支缺口研究，2008/01-2010/12，55 万元，已结题，主持。
- ⑦ 国际合作项目，DE-FG02-04ER63913，稻田温室气体排放，2005/04-2007/09，83 万元，已结题，主持。

(4) 参与科研项目情况：

- ① 高等学校学科创新引智计划，B12009，农业资源与环境学科生物学研究创新引智基地，2012/01-2016/12，450 万元，已结题，骨干参与。

- ② 国家自然科学基金重点项目，40830528，稻田土壤有机碳固定与稳定化过程及机制：土壤-作物-微生物相互作用研究，2009/01-2012/12，175 万元，已结题，骨干参与。
- ③ 国家自然科学基金“十·五”重大项目，30390080，主要农田生态系统氮素行为与氮肥高效利用的基础研究，2003/01-2006/12，800 万元，已结题，骨干参与。

五、发表论文

发表 SCI 文章 (*通讯作者):

1. **Xiong Z.Q.***, Xing G.X., Tsuruta H., Shen G.Y., Shi S.L., Du L.J. (2002) Measurement of nitrous oxide emissions from two rice-based cropping systems in China. *Nutrient Cycling in Agroecosystems* 64: 125–133.
2. **Xiong Z.***, Xing G., Tsuruta H., Shen G., Shi S., Du L. (2002) Field study on nitrous oxide emissions from upland cropping systems in China. *Soil Science and Plant Nutrition* 48: 539–546.
3. Xing G.X.*, Shi S.L., Shen G.Y., Du L.J., **Xiong Z.Q.** (2002) Nitrous oxide emissions from paddy soil in three rice-based cropping systems in China. *Nutrient Cycling in Agroecosystems* 64: 135–143.
4. Xing G.*, Zhu J., **Xiong Z.***, and Yamasaki S. (2004) Ag, Ta, Ru and Ir enrichment in surface soil: Evidence for land pollution of heavy metal from atmospheric deposition. *Global Biogeochemical Cycles* 18(1): GB1046, doi: 10.1029/2003GB002123.
5. Zhu Z.*, **Xiong Z.**, Xing G. (2005) Impacts of population growth and economic development on the nitrogen cycle in Asia. *Science in China (Series C, Life Sciences)* 48 (special issue): 729–737.
6. **Xiong Z.Q.***, Xing G.X., Zhu Z.L. (2006) Water dissolved nitrous oxide from paddy agroecosystem in China. *Geoderma* 136: 524–532. DOI: 10.1016/j.geoderma.2006.04.010
7. **Xiong Z.***, Xie Y., Xing G., Zhu Z. and Butenhoff C. (2006) Measurements of nitrous oxide emissions from vegetable production in China. *Atmospheric Environment* 40: 2225–2234. doi: 10.1016/j.atmosenv.2005.12.008.

8. **Xiong Z.Q.***, Xing G.X., and Zhu Z.L. (2007) Nitrous oxide and methane emissions as affected by water, soil and nitrogen. *Pedosphere* 17(2): 146–155.
9. Xie Y.X., **Xiong Z.Q.**, Xing G.X. *, Sun G.Q., Zhu Z.L. (2007) Assessment of nitrogen pollutant sources in surface waters of Taihu lake region. *Pedosphere* 17(2): 200–208.
10. **Xiong Z.Q.**, Freney J.R., Mosier A.R.*, Zhu Z.L., Lee Y. and Yagi K. (2008) Impacts of population growth, changing food preferences and agricultural practices on the nitrogen cycle in East Asia. *Nutrient Cycling in Agroecosystems* 80:189–198 DOI: 10.1007/s10705-007-9132-4.
11. Xie Y., **Xiong Z.***, Xing G., Yan X., Shi S., Sun G., Zhu Z. (2008) Source of nitrogen in wet deposition to a rice agroecosystem at Tai lake region. *Atmospheric Environment* 42: 5182–5192. doi:10.1016/j.atmosenv.2008.03.008.
12. **Xiong Z.Q. ***, Khalil M.A.K.*, Xing G., Shearer M.J., Butenhoff C. (2009) Isotopic signatures and concentration profiles of nitrous oxide in a rice-based ecosystem during the drained crop-growing season. *J. Geophys. Res.* 114, G02012.
13. Zhao X., Xie Y.X., **Xiong Z.Q.**, Yan X.Y., Xing G.X.*, Zhu Z.L. (2009) Nitrogen fate and environmental consequence in paddy soil under rice-wheat rotation in the Taihu lake region, China. *Plant Soil* 319: 225–234. DOI 10.1007/s11104-008-9865-0
14. Zhao X., Yan X., **Xiong Z.**, Xie Y., Xing G. *, Shi S., Zhu Z. (2009) Spatial and temporal variation of inorganic nitrogen wet deposition to the Yangtze river delta region, China. *Water Air Soil Pollut* 203:277–289. DOI 10.1007/s11270-009-0011-2
15. Yang X., Shang Q., Wu P., Liu J., Shen Q., Guo S.*, **Xiong Z.***.(2010) Methane emissions from double rice agriculture under long-term fertilizing systems in Hunan, China. *Agriculture, Ecosystems and Environment* 137: 308-316. doi:10.1016/j.agee.2010.03.001
16. **Xiong Z.Q***, Huang T.Q., Ma Y.C., Xing G.X. and Zhu Z.L. (2010) Nitrate and ammonium leaching in variable- and permanent-charge paddy soils. *Pedosphere* 20(2): 209–216

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18. Wang J., Zhang M., **Xiong Z.***, Liu P., Pan G. (2011) Effects of biochar addition on N₂O and CO₂ emissions from two paddy soils. *Biology and Fertility of Soils* 47: 887–896. DOI: 10.1007/s00374-011-0595-8
19. Wang J., **Xiong Z.***, Yan X. (2011) Fertilizer-induced emission factors and background emissions of N₂O from vegetable fields in China. *Atmospheric Environment* 45:6923–6929. doi: 10.1016/j.atmosenv.2011.09.045.
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21. Wang J., Zhang X., **Xiong Z.***, Khalil M.A.K., Zhao X., Xie Y., Xing G. (2012) Methane emissions from a rice agroecosystem in South China: Effects of water regime, straw incorporation and nitrogen fertilizer. *Nutr Cycl Agroecosyst* 93:103-112. DOI 10.1007/s10705-012-9503-3
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23. Wang J., Pan X., Liu Y., Zhang X., **Xiong Z.*** (2012) Effects of biochar amendment in two soils on greenhouse gas emissions and crop production. *Plant Soil* 360(1): 287–298. DOI 10.1007/s11104-012-1250-3
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26. Jia J.X., Ma Y.C., **Xiong Z.Q.*** (2012) Net ecosystem carbon budget, net global warming potential and greenhouse gas intensity in intensive vegetable ecosystems in China. *Agriculture, Ecosystems and Environment* 150: 27– 37.
 27. Jia J., Li B., Chen Z., Xie Z. and **Xiong Z.*** (2012) Effects of biochar application on vegetable production and emissions of N₂O and CH₄. *Soil Science and Plant Nutrition* 58: 503–509. DOI:10.1080/00380768.2012.686436
 28. Liu S., Zhang L., Jiang J., Chen N., Yang X., **Xiong Z.**, Zou J.* (2012) Methane and nitrous oxide emissions from rice seedling nurseries under flooding and moist irrigation regimes in Southeast China. *Science of the Total Environment* 426: 166–171.
 29. Wang B., Zhang C., Liu J., Zeng X., Li F., Wu Y., Lin X., **Xiong Z.**, Xu J., Jia Z.* (2012) Microbial community changes along a land-use gradient of desert soil origin. *Pedosphere* 22(5): 593–603.
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 33. Wang J., Chen Z., Ma Y., Sun L., **Xiong Z.***, Huang Q.*, Shen Q. (2013) Methane and nitrous oxide emissions as affected by organic-inorganic

- mixed fertilizer from a rice paddy in southeast China. *J Soils Sediments* 13:1408–1417. DOI 10.1007/s11368-013-0731-1
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 39. Yang B., **Xiong Z.***, Wang J., Xu X., Huang Q.*, Shen Q. (2015). Mitigating net global warming potential and greenhouse gas intensities by substituting chemical nitrogen fertilizers with organic fertilization strategies in rice-wheat annual rotation systems in China: A 3-year field experiment. *Ecological Engineering* 289–297. 10.1016/j.ecoleng.2015.04.071
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42. Li B., Fan C.H., Zhang H., Chen Z.Z., Sun L.Y., **Xiong Z.Q.*** (2015) Combined effects of nitrogen fertilization and biochar on the net global warming potential, greenhouse gas intensity and net ecosystem economic budget in intensive vegetable agriculture in southeastern China. *Atmospheric Environment* 100: 10–19. DOI: 10.1016/j.atmosenv.2014.10.034
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44. Wang J., Chen Z., **Xiong Z.***, Chen C., Xu X., Zhou Q., Kuzyakov Y. (2015) Effects of biochar amendment on greenhouse gas emissions, net ecosystem carbon budget and properties of an acidic soil under intensive vegetable production. *Soil Use and Management*. 31: 375–383. DOI: 10.1111/sum.12202
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六、已授权中国发明专利:

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