浙江省科学技术奖公示信息表（单位提名）

提名奖项：自然科学奖

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| 成果名称 | 酸化土壤的微生物功能退变及生态修复机理 |
| 提名等级 | 一等 |
| 提名书相关内容（附表） | 1. Zhongmin Dai; Weiqin Su; Huaihai Chen; Albert Barberán; Haochun Zhao; Mengjie Yu; Lu Yu; Philip C. Brookes; Christopher W. Schadt; Scott X. Chang; Jianming Xu. Long‐term nitrogen fertilization decreases bacterial diversity and favors the growth of Actinobacteria and Proteobacteria in agro‐ecosystems across the globe. *Global Change Biology, 2018,* 24(8): 3452-3461.
2. Bin Ma; Haizhen Wang; Melissa Dsouza; Jun Lou; Yan He; Zhongmin Dai; Philip C Brookes; Jianming Xu; Jack A Gilbert. Geographic patterns of co-occurrence network topological features for soil microbiota at continental scale in eastern China. *The ISME Journal, 2016,*10(8): 1891-1901.
3. Yu. Luo; M. Durenkamp; M. De Nobili; Q. Lin; B.J. Devonshire; P.C. Brookes. Microbial biomass growth, following incorporation of biochars produced at 350 C or 700 C, in a silty-clay loam soil of high and low pH. *Soil Biology and Biochemistry, 2013,* 57, 513-523.
4. Mengjie Yu; Weiqin Su; Laibin Huang; Parikh Sanjai; Caixian Tang; Dahlgren Randy; Jianming Xu. Bacterial community structure and putative nitrogen-cycling functional traits along a charosphere gradient under waterlogged conditions. *Soil Biology and Biochemistry, 2021,* 162, 108420.
5. Zhongmin Dai; Guofei Liu; Huaihai Chen; Chengrong Chen; Jingkuan Wang; Shaoying Ai; Dan Wei; Daming Li; Bin Ma; Caixian Tang; Philip C. Brookes & Jianming Xu. Long-term nutrient inputs shift soil microbial functional profiles of phosphorus cycling in diverse agroecosystems. *The ISME Journal, 2020,* 14(3): 757-770.
6. Xiuming Zhang; Baojing Gu; Hans van Grinsven; Shu Kee Lam; Xia Liang; Mei Bai; Deli Chen. Societal benefits of halving agricultural ammonia emissions in China far exceed the abatement costs. *Nature Communications, 2020,* 11(1): 4357.
7. Jianming Xu; CaixianTang; Zili Chen. The role of plant residues in pH change of acid soils differing in initial pH. *Soil Biology and Biochemistry, 2006,* 38(4), 709-719.
8. Yu Luo; Mark Durenkamp; Maria De Nobili; Qimei Lin; Philip Brookes. Short term soil priming effects and the mineralisation of biochar following its incorporation to soils of different pH. *Soil Biology and Biochemistry, 2011,* 43(11), 2304-2314.
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| 主要完成人 | 徐建明，排名1，教授，工作单位：浙江大学；完成单位：浙江大学罗煜，排名2，副教授，工作单位：浙江大学；完成单位：中国农业大学戴中民，排名3，副研究员，工作单位：浙江大学；完成单位：浙江大学马斌，排名4，研究员，工作单位：浙江大学；完成单位：浙江大学谷保静，排名5，教授，工作单位：浙江大学；完成单位：浙江大学 |
| 主要完成单位 | 1.单位名称：浙江大学2.单位名称：中国农业大学 |
| 提名单位 | 浙江大学 |
| 提名意见 | 该项目围绕土壤酸化的微生物生态效应和群落重构的科学问题，依托国家基金创新研究群体项目、国家973计划项目等，从酸化土壤的微生物群落与功能响应和酸化土壤健康重构与修复等方面进行深入探索，揭示了酸化土壤的微生物群落的退变规律，阐明了酸化土壤驱动的碳氮磷转化过程，发展了酸化土壤的微生物群落重构措施与修复途径。8篇代表性论著发表在The ISME Journal、Nature Communications、Global Change Biology、Soil Biology and Biochemistry等期刊，其中Web of Science高被引论文5篇。经审查，所填内容真实，特推荐申报浙江省自然科学一等奖。 |