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### Research Interests

- Microbiological mechanisms of nutrient cycling in soil-plant interactions
- Microbial regulation mechanism of soil plant interaction
- Silicon nutrition and silicon cycling

### Publication

**Microbial mechanisms of the contrast residue decomposition and priming effect in soils with different organic and chemical fertilization histories**, Soil Biology and Biochemistry, 2019, DOI: 10.1016/j.soilbio.2019.05.001

**Substrate-driven microbial response: A novel mechanism contributes significantly to temperature sensitivity of N<sub>2</sub>O emissions in upland arable soil**, Soil Biology and Biochemistry, 2018, DOI: 10.1016/j.soilbio.2017.11.021

**The effects of silicon fertilizer on denitrification potential and associated genes abundance in paddy soil**, Biology and Fertility of Soils, 2017, DOI: 10.1007/s00374-017-1206-0

**The role of silicon in enhancing resistance to bacterial blight of hydroponic- and soil-cultured rice**, Scientific Reports, 2016, DOI: 10.1038/srep24640

**The potential for carbon biosequestration in China's paddy rice (*Oryza sativa* L.) as impacted by**



**slag-based silicate fertilizer**, Scientific Reports, 2015, DOI: 10.1038/srep17354

**The effect of silicon on photosynthesis and expression of its relevant genes in rice (*Oryza sativa* L.) under high-Zinc stress**, Plos one, 2014, DOI: 10.1371/journal.pone.0113782

**Probing microbial coupling of carbon and nitrogen cycling during decomposition of maize residue by <sup>13</sup>C-DNA-SIP**, Soil Biology and Biochemistry, 2014, DOI: 10.1016/j.soilbio.2013.12.002

**Silicon ameliorates manganese toxicity by regulating manganese transport and antioxidant reactions in rice (*Oryza sativa* L.)**, Plant and Soil, 2012, DOI: 10.1007/s11104-011-1076-4

**The alleviation of Zn toxicity by Silicon is related to zinc transport and antioxidative reactions in rice**, Plant and Soil, 2011, DOI: 10.1007/s11104-011-0749-3

**Silicon-enhanced resistance to cadmium toxicity in pakchoi is attributed to Si-suppressed cadmium uptake and transport and Si-enhanced antioxidant defense capacity**, Journal of Hazardous Materials, 2009, DOI: 10.1016/j.jhazmat.2009.06.143