

## **Bang-Xiao Zheng**

PhD student (bxzheng@iue.ac.cn)

### **Supervisors**

Yong-Guan Zhu

Professor of Environment Soil Science/Biogeochemistry

Josep Peñuelas

Professor of Global Ecology Unit CREAM-CSIS-UAB

### **Education**

2007-2011	B.E.	Bioengineering	Fuzhou University (China)
2011-2014	M.S.	Biochemistry and Molecular Biology	Fuzhou University (China)
2014-now	PhD	Environment Science	Chinese Academy of Sciences

### **Research area**

My research primarily deals with soil phosphorus mobilization and the impact of microbial diversity on nutrient element biogeochemistry. My postgraduate works focus on the biogeography of phosphate solubilizing bacteria in croplands and the mechanism of high-efficient phosphate solubilization. I am skillful with experimental work regarding on soil bacteria, stable isotope determination, genetic modification, chip design, high-throughput sequencing and related statistics analysis.

### **Publications in peer reviewed journals.**

1. Qing-Lin Chen, Xin-Li An, Hu Li, **Bang-Xiao Zheng**, Yong-Guan Zhu, Jun Ye, Yi-Bing Ma, Jian-Qiang Su. Bacterial community change drives shifts in antibiotic resistance genes in the phyllosphere after organic amendments in soil. *The ISME Journal*. (in press)
2. Qing-Fang Bi, Qiu-Hui Chen, Xiao-Ru Yang, Hu Li, **Bang-Xiao Zheng**, Wei-Wei Zhou, Xiao-Xia Liu, Pei-Bin Dai, Ke-Jie Li, Xian-Yong Lin. Effects of combined oxidizers in an intensive vegetable soil. *AMB express*. (in press)
3. Qing-Fang Bi, **Bang-Xiao Zheng**, Ke-Jie Li, Xi-Peng Liu, Xiu-Li Hao, Han Zhang, Deb P. Jaisi, Jia-Bao Zhang, Yong-Guan Zhu. The microbial cycling of phosphorus on long-term fertilized soil: insights from phosphate oxygen isotope ratios. *Chemical Geology*. (in press)
4. Qing-Lin Chen, Xin-Li An, **Bang-Xiao Zheng**, Michael Gillings, Josep Peñuelas,

- Cui Li, Jia-Qiang Su, Yong-Guan Zhu. Loss of microbial diversity exacerbates spread of antibiotic resistance in soil. *The ISME journal*. (under review)
5. **Bang-Xiao Zheng**, Qing-Fang Bi, Xiu-Li Hao, Guo-Wei Zhou, Xiao-Ru Yang. *Massilia phosphatilytica* sp. nov., a phosphate solubilizing bacteria isolated from a long-term fertilized soil. *International Journal of Systematic and Evolutionary Microbiology*. 2017, 67(8): 2514-2519.
  6. Guo-Wei Zhou, Xiao-Ru Yang, Christopher Marshall, Hu Li, **Bang-Xiao Zheng**, Yan Yu, Jian-Qiang Su, Yong-Guan Zhu. Biochar addition increases the rates of dissimilatory iron reduction and methanogens in ferrihydrite enrichments. *Frontiers in Microbiology*. 2017, 8: 589.
  7. **Bang-Xiao Zheng**<sup>\*</sup>, Xiu-Li Hao<sup>\*</sup>, Kai Ding, Guo-Wei Zhou, Qing-Lin Chen, Jia-Bao Zhang, Yong-Guan Zhu. Long-term nitrogen fertilization decreased the abundance of inorganic phosphate solubilizing bacteria in an alkaline soil. *Scientific Reports*. 2017, 7: 42284. (\*Co-first author)
  8. Guo-Wei Zhou, Xiao-Ru Yang, Hu Li, Christopher Marshall, **Bang-Xiao Zheng**, Jian-Qiang Su, Yong-Guan Zhu. Electron shuttles enhance anaerobic ammonium oxidation coupled to iron(III) reduction. *Environmental Science & Technology*. 2016, 50(17), 9298-9307.
  9. **Bang-Xiao Zheng**, Xiang-Ping Yu, Xiu-Yun Ye, Juan Lin, Jie Yang. Gene cloning heterologous expression and decolorization study of a novel laccase gene from *Cerrena* sp.. *Journal of Fuzhou University (in Chinese)*. 2015, 43(2): 285-292.

### Patent

Yong-Guan Zhu, **Bang-Xiao Zheng**, Jian-Qiang Su, Hu Li, Huai-Ying Yao. A high-throughput chip method for microbial functional genes detection. Chinese Patent Application No. 201610537546X.